1st

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Identifies and describes the male reproductive system and its major parts.

Values: sex education, honesty, respect for others

II. Subject Matter:

Reproductive System (Male's Reproductive System)

A. Science Concept/Idea:

- The parts of the male reproductive systems are the penis, scrotum, testicles, vas deferens, epididymis, prostate gland and urethra.

B. Science Processes:

Identifying and describing

C. Materials:

Enlarged diagrams of the male's reproductive organ

References:

Into the Future: Science and Health 5 p. 3
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 14-15

III. Procedure:

A. Preparatory Activities:

Talk about photocopying center with the class. Then ask: Have you visited a photocopying center? How many copies of the original copy can a machine make?

B. Presentation:

1. ***Motivation:***

Show a picture of a family, then ask: How many are the members of the family? Do the children resemble their parents? In what ways do they look like their parents?

Introduce reproduction. How do human beings carry out the process of reproduction?

2. ***Activity:***

- Show the enlarged picture of the male's reproductive organs.
- Identify the parts
- Read the structure and function/s of each part from the book (Into the Future, p. 3)

C. Concept Formation:

- What are the parts of the male's reproductive organ?
- Describe the structure and function of each organ.
- What are produced in the testicles or testes?
- What part of the organ do sperm cells mature?

(For more information, let the pupils read the paragraphs on pp. 3-4 Into to the Future)

D. Application:

How are the parts of the male's reproductive organ related to their particular functions?

IV. Evaluation:

Sketch the male's reproductive organ. Label each part. Opposite the part, write its function.

V. Assignment:

Read further the structure of each part of the male's reproductive organ.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies and describes the female reproductive system and their major parts.

Values: honesty, respect for others

II. Subject Matter:

Reproductive System (Parts, Structure and Functions of the female's Reproductive System)

A. Science Concept/Idea:

- The parts of the female reproductive system are the ovaries, uterus, cervix, vagina, vulva and fallopian tube.

B. Science Processes:

Identifying, describing and communicating

C. Materials:

Enlarged diagram of the female reproductive system

References:

Into the Future: Science and Health 5 p. 2-4
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 14-15

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Identification Exercises:

- What are the parts of the male reproductive system?
- What are produced in the testes?
- What sac protects the testes?
- Where is the sperm produced in the testes stored?

b. Checking of Assignment

c. ***Motivation***

How do you differentiate a boy from a girl?

B. Presentation:

- Observing the enlarged picture of the female reproductive system.

- Identifying the parts.
- Describing the structure and functions of each part.

C. Concept Formation:

What are the parts of the female reproductive organ?
What is produced in the ovaries?
Describe the each part of the reproductive organ.

D. Application:

Are the reproductive systems of male and female alike? Why?
What are the important organs of the male and female reproductive systems?

IV. Evaluation:

Choose the letter of the correct answer:

1. Which reproductive organ manufactures millions of sperms?
   a. prostate gland
   b. epididymis
   c. testicles
   d. scrotum
2. Through what organ are sperm cells deposited into the vagina?
   a. penis
   b. scrotum
   c. urethra
   d. vas deferens
3. What is the function of the scrotum?
   a. It deposits sperm cells into the vagina.
   b. It acts as storage for sperm cells.
   c. It produces the semen.
   d. It holds the testicles.

V. Assignment:

Draw the picture of the female reproductive organ. Label the parts.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Relates the structure of the male/female reproductive system to its function in reproduction

Values: Respect for others, consideration, acceptance

II. Subject Matter:

Reproductive System (Structure of the Reproductive System)

A. Science Concept/Idea:

- Each part of the male and female reproductive systems play a vital role in human reproduction.
- The female's initial role in human reproduction is to produce the egg cells or ova in the ovaries.
- The male role in the human reproduction is to provide the sperm that fertilize the egg and deposit the sperm into the vagina of the female.

B. Science Processes:

Describing, comparing and inferring

C. Materials:

Models, illustrations, diagrams

References:

Into the Future: Science and Health 5 p. 2-4
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 14

III. Procedure:

A. Preparatory Activities:

a. ***Review***
Name Game
What are the major parts of the male reproductive system?
What are the major parts of the female reproductive system?
b. Checking of Assignment
c. ***Motivation***
Without the male reproductive organs, is reproduction possible?

Without the female reproductive organ, is reproduction possible?

B. Presentation:

Activity 1.1 - Into the Future: Science and Health 5 p. 2

C. Concept Formation:

- What is the male reproductive organ?
- What does it produce? What hormone does it produce?
- What are the other parts?
- What is the female reproductive organ? How many ovaries are there?
- What do the ovaries produce? What sex hormones are also produced in the ovaries? How important are the ovaries and testes? Why?

D. Application:

Can the male perform reproduction by himself?
Can the female perform reproduction by herself?
Do you realize the importance of having a sex organ?

IV. Evaluation:

Classify the following into female and male.

1. ovary
2. testicles
3. vas deferens
4. uterus
5. fallopian tube

V. Assignment:

Draw your sex organ and label its parts.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explains the process of fertilization in humans

Values: Attentiveness, enthusiasm, respect for others

II. Subject Matter:

Reproductive System (Fertilization in Human)

A. Science Concept/Idea:

- The union of an egg and a sperm cell is called fertilization.
- Fertilization occurs in one of the fallopian tubes as the egg moves toward the uterus. The moving sperm swims up through the uterus and enter the fallopian tube.
- The fertilized egg is called zygote.

B. Science Processes:

Describing and communicating

C. Materials:

Video tapes, television, VHS

References:

Into the Future: Science and Health 5 p. 5
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 20

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What do ovaries produce?..
What hormone do they produce?
What do the testes produce?
What hormones do they produce?

b. Checking of Assignment

c. ***Motivation***

Play the song of Freddie Aguilar "Anak".

B. Presentation:

Watching a film: Sine'skwela

Episode: Grade 5 - week 3 or Fertilization Britannica Human Reproductive

C. Concept Formation:

- What is fertilization? Where does it occur?
- What kind of egg goes to the fallopian tube?
- What fertilizes the egg?
- What is the fertilized egg called?

D. Application:

How many egg cells mature every month? How many sperm cells fertilized the egg cell?

IV. Evaluation:

Answer the following briefly:

1. How many sperm cells does an egg cell normally need in order to become fertilized?
2. When does fertilization occur?
3. Where does fertilization occur?
4. Define fertilization.

V. Assignment:

Why is fertilization in human important?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Relates structure of the male/female reproductive system to its function in reproduction

Values: Nature provided man and woman, special body parts to reproduce, a process that must be done out love.

II. Subject Matter:

Reproductive System (Cellular reproduction of Sex Cells)

A. Science Concept/Idea:

- Egg cells are formed in the female's reproductive organ, the ovary. Sperm cells are developed in the male's reproductive organ, the testes.
- In their first stage, they are called germ cells and look like any other cells in the human body with the same number of chromosomes and genetic information.,
- In the ovary and the testes, germ cells reproduce many times over by the process of mitosis,

B. Science Processes:

Describing and communicating

C. Materials:

Illustrations

References:

Into the Future: Science and Health 5
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 12

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What do ovaries produce?
What hormones are produced in the testes?
Why are egg cells and sperm cells important?
Why are ovaries and testes important?

b. Checking of Assignment

c. ***Motivation***

Do you know how sperm cells and egg cells are formed?

B. Presentation:

a. ***Observe the diagram:***

Cellular Reproduction of Sex Cells

b. ***Read the following:***

Egg and Sperm

Egg cells are formed in the female's reproductive organ, the ovary. Sperm cells are developed in the male's reproductive orn, the testes. In their first stage, they are called germ cell and look like any other cells in the human body with the same number of chromosomes and genetic information. In the ovary and the testes, germ cells reproduce many times over by the process of mitosis.

The transformation of an egg cell and sperm cells from their respective germ cells by the process of meiosis. In the ovary, the germ cell undergoes meiosis I producing one big haploid cell and one small haploid cell. After meiosis II, three small haploid cells and one big haploid cell are produced

C. Concept Formation:

- How do the germ cells divide?
- What happens in the ovary in meiosis I?
- What happens in the ovary in meiosis II?
- How do germ cells in the testes divide?

D. Application:

Compare the cellular reproduction of male with the female.

IV. Evaluation:

Illustrate the cellular reproduction of egg cell and sperm cell.

V. Assignment:

What are germ cells?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explains the process of fertilization in humans.

Values: Gratitude to the mothers who bore us and gave birth to us.

II. Subject Matter:

Reproductive System (The Fertilized Egg)

A. Science Concept/Idea:

- The fertilized egg is also called zygote.
- A fertilized egg continuous to undergo a series of cell division as it moves along the fallopian tube.
- By the time it reaches the uterus, it has become a many celled human embryo.
- During the first three months, the head and the brain of the embryo developed rapidly and the next three months, the growth of the body catches up with the head.
- Around the ninth week, most of the internal organs are formed, and so are its face, eyes, ears, nose, mouth and the beginnings of sex organs. At this point the embryo is called a fetus.
- The fetus continues to grow until the 38`h week protected by the amniotic sac.
- The umbilical cord connects the embryo and the placenta.

B. Science Processes:

Identifying and communicating

C. Materials:

Picture of the Development of the Human Embryo

References:

Into the Future: Science and Health 5 p. 6-7
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 20

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Define fertilization.

- Where does fertilization occurs?
- How many sperm cells does an egg cell normally use in order to become fertilized?

b. Checking of Assignment
c. ***Motivation***

Picture study: (The Development Of the Human Embryo)

What do you observe in the illustration?

Were you like this when you were inside the womb of your mother?

B. Presentation:

- Identify the stages of development of the human embryo
- Compare each stage of development

C. Concept Formation:

- What happens to the zygote after fertilization?
- Where does the fertilized egg stay?
- What happens to it in the uterus?
- How long does the fetus stay in the uterus?
- How is the fetus nourished while in the uterus?

D. Application:

What should the mother do during pregnancy? Why?

IV. Evaluation:

Differentiate the following:

Zygote
Fetus
Embryo

V. Assignment:

Interview a pregnant woman. Ask how she feels.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describes some physical changes during puberty

Values: The idea of adulthood may not be frightening if the person is aided during the stage of adolescence through understanding.

II. Subject Matter:

Reproductive System (Changes during Puberty)

A. Science Concept/Idea:

- At the ages of 11 - 14, the human body enters a period of dramatic physical and mental changes referred to as adolescence or puberty.
- During this period, the body begins to undergo changes in sexual
- Puberty means a young person has the ability to procreate or produce offspring.
- When puberty begins, the .girl start to menstruate. Boys start releasing sperms in the semen which can fertilize the female's mature egg.
- Changes in one's physical characteristics are mainly caused by chemical produced by the body, called hormones.
- The male sex organs produce testosterone while the female sex organs produce the hormone called estrogen and progesterone.

B. Science Processes:

Identifying, describing and comparing

C. Materials:

Chart, flashcards

References:

Into the Future: Science and Health 5 p. 8-10
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 16

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Describe the following:

- Zygote

- Embryo
- Fetus

b. Checking of Assignment

c. ***Motivation***

Picture study: (Pictures of a boy)

What changes do you notice in the picture of Romeo when from grade one to the present?
Do these changes happen to you?

B. Presentation:

- Recall the changes that have occurred in one's body since he/she was nine years old.
- Record changes in the notebook.
- Tally answers in a table as shown:

Changes	**Yes**	**No**
In females:		
Growth rate increase		
Hips begin to broaden		
Starts to look rounder and softer		
Breasts become big		
In males:		
Growth rate increases		
Shoulders begin to broaden		
Adam's apple becomes more prominent		

C. Concept Formation:

- Did all of you experience the same changes?
- How do you react to these changes?
- How many are surprised?
- How many are ashamed?

D. Application:

What other changes happen to male and female as they reach puberty?
If you menstruate any day today, should you be afraid? Ashamed to others?

IV. Evaluation:

Classify whether the following changes occur in boys or on girls. Rearrange the items under proper heading.

	Girls	**Boys**
1. The breast begins to form.		
2. The shoulders become broad.		
3. The body becomes muscular.		
4. The boys semen.		
5. The Adam's apple enlarges.		
6. The hips become broader		
7. The voice becomes deeper.		

V. Assignment:

Note other changes in your life.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describes bodily changes of a male/female at puberty.

Values: Personal Hygiene; Cleanliness; Eat the right kinds of food

II. Subject Matter:

When a Girl Becomes a Woman

A. Science Concept/Idea:

- The menstrual cycle involves the monthly changes in the female reproductive organs.
- The menstrual flow occurs when the egg is not fertilized by a sperm cell.
- Menstruation lasts some four to five successive days once every 28-day cycle after the egg is released by the ovary.
- As long as female experiences menstruation, she can get pregnant.

B. Science Processes:

Defining, enumerating, observing and inferring

C. Materials:

Enlarged diagram of the female reproductive system
Pictures showing the changes that occur in the female reproductive system during one month

References:

Into the Future: Science and Health 5
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Review the process of fertilization. Show a picture of a fallopian tube with an egg cell coming from the ovary and several sperm cells traveling in the tube.

b. Checking of Assignment

c. ***Motivation***

Ask what do you think will happen to the egg when a sperm cell unites with it? What happens to the other sperm cells that do not unite with the egg?

B. Presentation:

- What do you think will happen if the egg is not fertilized by any sperm cell? What is menstruation?
- Form 3 groups. Discuss as you work. Be sure to record your observations.

C. Concept Formation:

Use the chart on page 12 of the textbook. Each column in the chart represents the day. Discuss what happens to the reproductive organ (uterus, ovary) of a female within a month. Define menstruation based on your experience. Enumerate the symptoms on menstruation.

D. Generalization:

Based on their experiences, ask what happen when a mature egg is not fertilized by a sperm cell? What is menstrual cycle? What is its importance?

IV. Evaluation:

Choose the letter of the correct answer.

1. What happens when a mature egg is not fertilized by a sperm?
   a. The egg is absorbed by the body.
   b. The egg is broken into pieces (disintegrates) and is discharged as menstrual flow.
   c. The egg becomes mature and goes out as a fertilized ovum.
   d. The egg goes back to the fallopian tube.
2. Why is menstruation considered as a cycle?
   a. Because it occurs every month
   b. Because it goes round and round the uterus I
   c. Because it enables a woman to become pregnant every year
   d. Because it enables a woman to experience menopause once a year

V. Assignment:

How often does a woman experience menstruation?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies healthhabits to keep the reproductive organs healthy

Values: Care for the reproductive system, personal hygiene, cleanliness

II. Subject Matter:

The Human Reproductive System

A. Science Concept/Idea:

- Personal hygiene should be observed at all times to keep the reproductive system healthy.
- Exercise and balance diet are necessary to keep the reproductive system fit.

B. Science Processes:

Observing, identifying, inferring

C. Materials:

An enlarged chart of health practices Illustration of a healthy and a sick person

References:

Into the Future: Science and Health 5

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Describe certain physical changes in the body during puberty and tell how these changes affect the male and female body.

b. Checking of Assignment

c. ***Motivation***

Show pictures of a healthy and sick person. Ask the pupils to describe the characteristics of each person in the picture. Let them infer why the person becomes sick or healthy.

B. Presentation:

a. Relate the importance of healthy body.

b. Let the pupils accomplish the chart of health practices on page 14 of the textbook.

c. Discuss the pupils' answers and point out the health practices that fall under the category of personal hygiene, diet and exercise.

d. Mention the proper health practices that must be observed in order to prevent the onset of a disease in any pair of the reproductive system.
e. Using a big chart let the pupils classify the health habits under the categories of personal hygiene, diet and exercise.

Personal Hygiene	Diet	Exercise
Take a bath regularly everyday	Avoid salty foods Lots of fruits and vegetables.	Take a brisk walk

C. Concept Formation:

How can we keep our reproductive system healthy?

D. Application:

- Ask the pupils to make a chart of health habits to keep one's reproductive system healthy.
- Let them display their chart in the room. Discuss the reason why health habits in the chart is important.

IV. Evaluation:

Multiple choice. Choose the letter of the correct answer.

1. Alice likes salty snacks. What should you advice her if you were her friend?
   a. Advise her to eat fruits instead
   b. Advise her to consult a physician
   c. Advise her to consult a dietician
   d. Advise her to exercise more often
2. You notice that your older sister appears pale and weak. She has excessive menstrual flow. What would you tell her to do
   a. I'll tell her it's normal
   b. I'll tell her to consult a physician
   c. I'll tell her that maybe she is pregnant
   d. I'll tell her to eat more
3. Which of the following is the proper way to prevent a disease in the reproductive system?
   a. Practice personal hygiene at all times.
   b. Consult a family doctor every week.
   c. Eat delicious and expensive meals everyday.
   d. Enroll in an aerobics class to keep oneself trim and fit

V. Assignment:

List two diseases of the reproductive organs and write ways on how to avoid them.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Take precautionary/safety measures to keep the reproductive organs healthy

Values: Personal hygiene, cleanliness

II. Subject Matter:

The Human Reproductive System

A. Science Concept/Idea:

- Personal hygiene should be observed at all times to keep reproductive organs healthy.
- Exercise and balanced diet are necessary to keep the reproductive system healthy.
- A medical check-up is advisable if the reproductive organs do not function properly.

B. Science Processes:

Observing, identifying, inferring

C. Materials:

Manila paper, marking pens

References:

Science and Health V

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What are the different health habits to keep the reproductive organs healthy?.

b. Checking of Assignment

c.. ***Motivation***

What happens when you do not change your underwear everyday? If you don't take a bath regularly?

B. Presentation:

Form 3 groups. Each group will discuss the preventive measures that should be observed to prevent further complication of disease or order of any reproductive organ. Then each group will write what they have discussed on a Manila paper.

C. Concept Formation:

- Each group will present what they have discussed.
- Give other precautionary measures to keep the reproductive organs healthy.

D. Application:

What diseases will you get if you do not keep your reproductive system healthy?
What will you do if you are found to have a reproductive organ disorder?

IV. Evaluation:

Ask the pupils to list precautionary/safety measures to keep one's reproductive system healthy.

V. Assignment:

Ask the pupils to collect health brochures related to disorders of the reproductive system.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies the respiratory system and its major parts

Values: Care for the environment, cooperation

II. Subject Matter:

The Respiratory System

A. Science Concept/Idea:

- Respiration is the process by which the human body takes in oxygen, oxidizes to unlock the stored energy, and releases carbon dioxide and water vapor.
- The respiratory system is the energy department of the human body.
- The respiratory organs include the nostrils, the trachea, the bronchial tubes and the lungs.
- The nostrils allow air to pass in and out of the body.

B. Science Processes:

Observing, describing, inferring

C. Materials:

Diagram showing the respiratory organs, insect's e. g. butterfly, housefly, and spiders

References:

Into the Future: Science and Health 5

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Name the different organs of the reproductive system.

b. Checking of Assignment

c. ***Motivation***

- Tell the pupils to press their noses with their forefinger. Ask, "What have you felt?
- Get two empty bottles and two insects (butterfly, crickets, housefly).
- Place each of them in an empty bottle. Punch a hole on the cover of one bottle so air could enter.

- The bottle is closed tightly. Observe what will happen to the insect. Ask: Why did the insect in the closed bottle die?

B. Presentation:

1. Introduce the word respiration
2. Let the pupils study the illustration of the respiratory system.
3. Ask them to point to the different organs in the diagram.
4. Group the pupils into three
   Group I - Name the different organs of the respiratory system
   Group II - Name the body parts that protect the lungs
   Group III - Name the parts of the lungs

C. Concept Formation:

- Each group will present their work.
- What are the vital organs for respiration?

D. Application:

Now you know that the respiratory system takes care of our breathing. Air is very important for our respiratory system to function. How can we have a clean air to exhale?

IV. Evaluation:

Labeling the parts of the respiratory system

V. Assignment:

Draw the organs of the reproductive system n-your notebook and label its parts

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describes the function of each respiratory organ

Values: Being responsible, cooperation

II. Subject Matter:

The Respiratory System

A. Science Concept/Idea:

- The organs responsible for taking in oxygen and utilizing it to "burr," food in order to produce energy make up the respiratory system.
- The respiratory organs include the nose and nasal cavities, larynx, glottis, epiglottis, trachea and windpipe, bronchi, lungs and the diaphragm.

B. Science Processes:

Identifying, describing, inferring

C. Materials:

Illustration of the different parts of the respiratory system

References:

Science and Health V

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Naming the parts of the respiratory system

b. Checking of Assignment

c. ***Motivation***

Where does air enter?

B. Presentation:

Form three groups. Each group will perform specific activity.

Group I - Name the organs of the respiratory system and cite the functions of these organs by referring to the textbook.

Group II - Name the body parts that protect the lungs and infer how they protect the lungs.

Group III - name the parts of the lungs and describe each part.

C. Concept Formation:

- Each group will discuss about their work.
- Teacher adds information regarding the function of the organs of the respiratory system.

D. Application:

Each organ of the respiratory system has a specific function to perform in order for the system to work properly. Like the organs, each one of us has a function to perform. Do you do your job in order for the system to work properly? Do you cooperate?

IV. Evaluation:

Examine the organs of the respiratory system. Write the name of the part corresponding to each letter. State the function or brief description of each organ.

V. Assignment:

Find out which is healthier to breathe through the nose than through the mouth.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Constructs a model to demonstrate the mechanism of breathing

Values: Creativeness and orderliness

II. Subject Matter:

The Respiratory System

A. Science Concept/Idea:

- Air is taken in and pushed out by the ribs and the diaphragm.
- The diaphragm is an organ that aids in breathing. It is a muscular organ located across the bottom of the chest.

B. Science Processes:

Observing, describing, constructing, demonstrating

C. Materials:

Plastic jar, small rubber balloons, plastic bags, rubber band, plastic tube

References:

Into the Future: Science and Health 5

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Ask the pupils to name the parts of the respiratory system.

b. Checking of Assignment

c. ***Motivation:***

Instruct the pupil to close their lips tightly and pinch their nose so that no air can enter the lungs. Then instruct them to breathe in and out. Have them feel the lower part of their ribs.

Ask: "Can you feel diaphragm going up and down?"

Tell them that they will find out how air is forced in and out of their lungs.

B. Presentation:

1. Have the pupils perform activity 5 of the module page 33.
2. Guide them in constructing the chest-lung model.

C. Concept Formation:

- Have the pupils answer the questions in the activity.
- Guide them in forming the generalization.

D. Application:

Now that the pupils have made their chest-lung model, have them explain the mechanism of breathing.

Have them display their chest-lung model.

IV. Evaluation:

Choose the letter of the correct answer.

1. Why does the lung expand when one inhales?
   a. to accommodate the incoming air
   b. to increase the surface area of the lungs
   c. to liquefy air
   d. to heat air
2. How do you describe the condition of the diaphragm as one exhale?
   a. The diaphragm relaxes.
   b. The diaphragm goes down.
   c. The diaphragm contracts.
   d. Both a and c

V. Assignment:

Draw the respiratory system, draw arrows to trace the movement of air as one inhales and exhales.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Traces the path of air and what happens to it in different parts of the respiratory system

Values: Care for the environment Appreciation of the importance of air in our life Cleanliness

II. Subject Matter:

The Respiratory System

A. Science Concept/Idea:

- We breathe in air (oxygen) and breathe out carbon dioxide.
- Air enter the nose, passes down into the back of throat to the windpipe. In the lungs, the capillaries pick up the oxygen and goes with blood at the same time, carbon dioxide from the capillaries into the air in the lungs and is given out.

B. Science Processes:

Observing, identifying

C. Materials:

Chest-lung model
Diagram showing the respiratory organs Arrows to be used to trace the path of air

References:
Into the Future: Science and Health 5 BEC 4.3

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
Have the pupils show the mechanism of breathing through the use of the chest-lung model.
b. Checking of Assignment
c. ***Motivation:***
Do you know what happen to the air when it enters your nose?
What kind of air do we breathe in, do we breathe out?

B. Presentation:

Form 3 groups: Each group will perform specific activity

Group I - The pupils will trace the path of air using the chest-lung model
Group II - Trace the path of air by breathing in and breathe out and the illustration of the respiratory system.
Group III - Fill one half of a test tube with lime water and then blow into the limewater through a drinking straw.

Fill a glass jar with water. Cover it with your palm and invert it into a water bath. Insert a drinking straw through the mouth of the inverted jar and blow until all the water is displaced. Cover the jar with a cardboard strip and remove it from the water bath. Light a candle and slowly lower the burning candle into the glass jar.

- What happens to the limewater after blowing for several minutes?
- What happens to the burning candle as it is lowered into the jar of exhaled air?

C. Concept Formation:

- Each group will report about their work.
- Make conclusions regarding their activity. Teacher may ask question that may lead to the generalization pointing out how and what air enters and leaves the body.

D. Application:

Have the pupils trace the path of air using the illustration of the respiratory system.

IV. Evaluation:

Choose the letter of the correct answer.

1. Which of the following "filters" the dirt from the air we breathe?
   a. hair from nostrils
   b. mucus lining the bronchial tube
   c. trachea
   d. lung
2. Where does the exchange of gaseous oxygen and carbon dioxide take place?
   a. bronchioles
   b. alveoli
   c. epiglottis
   d. tonsils

V. Assignment:

Have the pupils find out if the size of the chest cavity affects the volume of the air drawn.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Names and describes some common ailments affecting the respiratory system

Values: Taking care of oneself, cleanliness and sanitation

II. Subject Matter:

Common Ailments of the Respiratory System

A. Science Concept/Idea:

- Cold - cold is marked by sneezing, runny nose, coughing, sore throat and headache. 2. Bronchitis - is the inflammation of the bronchial tubes due to infection by ba4eria or virus.
- Pneumonia - is the inflammation of the lungs due to bacteria; cough that produces yellow green phlegm, fever accompanied by chills.
- Pharyngitis - is characterized by sore throat and coughing. It is accompanied by a cold or flu.
- Asthma - is a condition where a person has a difficulty in breathing and accompanied by coughing and wheezing sound when breathing out.
- Tuberculosis - it is caused by bacteria known as Tubercle bacilli. The common symptoms are loss of appetite, fever, sweating at night, loss of weight, chest pain and blood sputum.

B. Science Processes:

Describing and observing

C. Materials:

Charts/ pictures of person suffering from common ailments of the respiratory system

References:

Into the Future: Science and Health 5 Teacher's Module in Science and Health 5,
Science and Health 5 by Jessie A. Villegas, pp. 38

III. Procedure:

A. Preparatory Activities:

a. ***Review:***

1. What are the mechanics of breathing?
2. What do we inhale, exhale?
3. What is the breathing center of the body?

b. Checking of Assignment
c. ***Motivation:***

Who among you have colds now? How do you feel?

B. Presentation:

1. Group the children into six.
2. Each group will present a common ailment.
3. Interview some health personnel in nearby places regarding the common ailments.
4. Report to the class.

C. Concept Formation:

1. Each group will present their report.
2. What are the common ailments of the respiratory system?
3. How does cold develop into bronchitis?
4. Which of these ailments are contagious?
5. Which of these ailments are allergies?

D. Application:

How is Tubercle bacilli acquired by a person?
How about pneumonia, bronchitis and asthma?

IV. Evaluation:

On a 1/2 cartolina, draw a person suffering from a respiratory ailment. Match the respiratory ailment in A with the description in B.

A		B
1.	asthma	a. caused by viral or bacterial infection of the mucous membrane
2.	pneumonia	b. cased by the inflammation of the bronchial tubes due to virus.
3.	pharyngitis	c. caused by the inflammation of the lungs, high fever, chest pain
4.	bronchitis	d. caused by a bacteria called Tubercle bacilli with poor appetite, loss of weight
5.	cold	e caused by allergy to dust and fumes, which wheezing sound when breathing

V. Assignment:

Recall how many times you suffered from colds. What do you do?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describes the causes, symptoms, prevention and treatment of common ailments of the respiratory system

Values: Care of one's body; Cleanliness and sanitation; Working cooperatively

II. Subject Matter:

Causes, symptoms, prevention and treatment of common ailments of the respiratory system

A. Science Concept/Idea:

- Each common ailment has causes and symptoms and can be prevented and treated.
- The causes, symptoms, prevention and treatment of these ailments are: (See Science and Health V by Jose Llarinas, p. 26 and 38)

B. Science Processes:

Observing, comparing, inferring

C. Materials:

Charts or pictures of persons suffering from these ailments

References:

Into the Future: Science and Health 5 p. 26 BEC 5.2
Science and Health 5 by Jessie A. Villegas, pp. 38

III. Procedure:

A. Preparatory Activities:

a. ***Review***
   What are the common ailments of the respiratory system?
b. Checking of Assignment
c. ***Motivation:***
   What do you feel when you have a cold?
   What do you do when you have a cold?

B. Presentation:

1. Group the children into six.

2. Each group will represent a common ailment of the respiratory system and report to the class the symptoms, causes, prevention and treatment of the ailment

C. Concept Formation:

What are the causes, symptoms, prevention and treatment of the following common ailments of the respiratory system?

a. asthma
c. bronchitis
d. pneumonia
e. tuberculosis
f. pharyngitis

D. Application:

How can you relieved from the discomforts brought about by these ailments?

IV. Evaluation:

Fill the box with the missing words.

Ailments	Causes	Symptoms	Prevention and treatment
Colds	Virus and Bacteria		Prescribed medicine Plenty of liquid intake and rest
Asthma		Breathing	Balanced diet Exercise, rest
Pneumonia		Breathing difficulty	Plenty of liquid intake Antibiotics, Rest Professional medical supervision.

V. Assignment:

1. Give three general ways to minimize or prevent respiratory ailments.
2. Lung cancer has been related to smoking. How can you inform\the public about the dangers of smoking?
3. Why do traffic aides and factory workers wear masks?
4. Why does your rate of breathing increase in crowded area?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Practices good health habits to keep the respiratory system healthy

Values: Care of one's health Cleanliness and sanitation

II. Subject Matter:

Good health habits to keep the respiratory system healthy

A. Science Concept/Idea:

- Good health habits to keep the respiratory system healthy.

B. Science Processes:

Observing, Inferring and comparing

C. Materials:

Charts/pictures of clean surroundings, checklists

References:

Into the Future: Science and Health 5 Teacher's Module in Science and Health 5
Science and Health 5 by Jessie A. Villegas, BEC 6

III. Procedure:

A. Preparatory Activities:

a. Review
   1. What are the symptoms of a person with asthma?
   2. Why do traffic aides wear masks?

b. Checking of Assignment

c. ***Motivation:***

What do you do when you are in a dusty area?
Why do you cover your mouth when you sneeze?

B. Presentation:

Show pictures/charts of congested areas and dirty surroundings and another chart with clean surroundings and checklist.

Do activity 8 P. 39 (Science and Health V by Jessie A. Villegas).

C. Concept Formation:

1. Why are the good health habits to keep the respiratory system healthy?

IV. Evaluation:

Put a check(✔) if the statement is good practice and (x) for the bad practice before each number.

_____ 1. Clean your nose regularly.
_____ 2. Eat junk foods everyday.
_____ 3. Open the windows to allow fresh air in.
_____ 4. Wear mask in busy streets.
_____ 5. Consult your doctor regularly.

V. Assignment:

What are the proper ways in taking care of the respiratory system?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describes the proper ways of caring for the respiratory system

Values: Caring for the environment Cleanliness and sanitation

II. Subject Matter:

Proper ways of caring for the respiratory system

A. Science Concept/Idea:

- One should take good care of the respiratory system. There are different ways of keeping our respiratory system healthy such as staying in a clean environment.

B. Science Processes:

Observing, comparing, inferring and communicating

C. Materials:

Charts/pictures of person showing proper care of the respiratory system, checklist

References:

Into the Future: Science and Health 5 BEC 6.1
Teacher's Module in Science and Health 5 Science and Health 5 by Jessie A. Villegas, pp. 39

III. Procedure:

A. Preparatory Activities:

a. ***Review***
   Why do we yawn?
   Why do we have hiccups?
b. Checking of Assignment
c. ***Motivation:***
   Can we avoid getting sick?
   What do you do when you are in a dusty area?

B. Presentation:

1. Give ways on how to take care of our respiratory system.

2. Demonstrate some ways of taking care of The respiratory system like covering your nose and mouth when coughing, avoiding crowded areas and staying away from people who smoke.

C. Concept Formation:

What are the proper ways of caring for the respiratory system?

D. Application:

Describe the proper ways of taking care of the respiratory system? Answer activity 8 p. 39

IV. Evaluation:

Put a check on the statement showing proper way of caring for the respiratory system before each number.

_____ 1. Take a bath everyday.
_____ 2. Eat the right kind and amount of food.
_____ 3. Have enough sleep and exercise.
_____ 4. Avoid dirty areas.
_____ 5. Avoid direct contact with people suffering from contagious respiratory diseases.

V. Assignment:

Make a poster that shows and describes the proper of caring for the respiratory system.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Demonstrates ways of caring for persons affected by asthma, common cold and influenza.

Values: Working harmoniously and cooperatively in a group, handling of materials carefully, taking a data accurately

II. Subject Matter:

Ways of caring for persons with asthma, common colds and influenza

A. Science Concept/Idea:

1. For persons with asthma:
   a. During an asthma, give the patient a warm drink and steam inhalation to. help him breathe more easily.
   b. Let the patient avoid the cause of his attack as pollens, dust, feather, fur or food.
2. For persons with Common colds
   a. Let the patient stay in bed
   b. Let him drink much water and fruit juice
   c. Apply hot compress to his face and chest
3. For persons with Influenza
   a. Let the patient rest in bed.
   b. Apply ice bag on the patient's forehead to relieve his headache.
   c. Let the patient drink plenty of water and juices.

B. Science Processes:

Observing, inferring and communicating

C. Materials:

Pictures, thermometer

References:

Into the Future: Science and Health 5 p. 31-32

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What are the different common cold ailments of the respiratory system?

b. Checking of Assignment
c. ***Motivation:***

Show a picture of a patient who is sick of influenza, asthma and cold. How will you take care of these patients?

B. Presentation:

1. Group the children.
2. Ask them to list down the proper care for asthma, influenza and common colds.

C. Concept Formation:

How do you care for the persons with Influenza? With asthma? With common colds?

D. Application:

Your sister is suffering from common colds, what will you do?

IV. Evaluation:

To which patient will you give the following care? Write the common ailment.

_____ 1. Get his or her body temperature every hour
_____ 2. Give the patient warm drink and steam inhalation.
_____ 3. Let patient stay in bed and let him or her drink plenty of fruit and juices.
_____ 4. Apply hot compress to his face and chest.

V. Assignment:

Interview a nurse or a doctor. Find out more about on how to care for persons with common colds, influenza and asthma.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Demonstrates ways of caring for persons affected by bronchitis, tuberculosis and pneumonia

Values: Keeping oneself healthy

II. Subject Matter:

Ways of caring for persons with bronchitis, tuberculosis and pneumonia

A. Science Concept/Idea:

1. For persons with Bronchitis:
   a. Consult doctor for suspected bronchitis.
   b. Give patient steam inhalation and hot foot bath.
2. For persons with Tuberculosis:
   a. Medical attention is necessary.
   b. Patient is given antibiotics, vitamins, good diet.

3. For persons with Pneumonia:
   a. Medical treatment is necessary.
   b. Patient is given antibiotics, dextrose infection and artificial respiration.

B. Science Processes:

Observing, inferring and communicating

C. Materials:

Pictures showing proper ways of caring for persons affected by bronchitis, tuberculosis and pneumonia.

References:

Science and Health 5 by Dr. Abrasia pp. 29-30

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
   What are the proper ways to care of patients with asthma, common colds and influenza?
b. Checking of Assignment
c. ***Motivation:***
   Suppose a member of the family has tuberculosis, how will you care for him or her?

B. Presentation:

1. Show pictures showing proper care for patients with bronchitis, tuberculosis and pneumonia.
2. Divide the class into three numbers. Let each group get a picture.
3. Let the pupils prepare a dramatization - on how to care for person with
   a. Bronchitis
   b. Tuberculosis
   c. Pneumonia
4. Group work to be followed by presenting their dramatization.

C. Concept Formation:

How do you care for the persons with bronchitis? Tuberculosis? Pneumonia?

D. Application:

If you are sick with tuberculosis how can you prevent spreading the germs to the other member of the family?

IV. Evaluation:

Put a check on the proper ways of caring for persons with bronchitis, tuberculosis and pneumonia and x for not.

_____ 1. Give the patient antibiotic, oxygen and enough water.
_____ 2. Let him eat plenty of meat.
_____ 3. Give the patient enough rest, good diet and fresh air.
_____ 4. Give the patient a hot foot bath.
_____ 5. Let the patient take plenty of fats, sweet, starch and fried foods.

V. Assignment:

1. On your way to and from school you pass by your neighbor's house with a patient who is sick of bronchitis. What will you advice to the patient?
2. One of the members of your family was diagnosed to have tuberculosis. What will you do, so that the other members of the family will not be infected?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Demonstrates how cigarettes affect the lungs.

Values: Health Consciousness Cooperation and cleanliness

II. Subject Matter:

People (How Do Cigarettes Affect The Lungs)

A. Science Concept/Idea:

- Cigarette smoking is dangerous and hazardous to health not only to smokers but also to non-smokers as long as they are exposed to the smoke.

B. Science Processes:

Observing, experimenting and inferring

C. Materials:

Lung - Chest Model; Cigarette and Alcohol

References:

Science and Health V by: Jessie A. Villegas, p. 40

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What are the proper care for patients with Bronchitis? With Tuberculosis? With Pneumonia?

b. Checking of Assignment

c. ***Motivation:***

Have you tried smoking cigarette? Have you seen your father or mother smoking? Would you like to find out how cigarette affect the lungs?

B. Presentation:

Activity Card:

Moisten two swabs of cotton with alcohol. Replace each bag of the lung - chest model with the moistened swab of cotton, Insert a lighted cigarette into the tube that leads to the cotton swabs. Alternately pull and push the diaphragm a number of times.

a. Each group will receive a lung model and perform the procedure in the activity card.
b. Giving of standards in performing an activity.
c. Let the group work on the activity.
d. Reporting the result of the activity.
e. Discussion and Analysis:
    1. What happens to the cotton swabs after the diaphragm is alternately pulled and pushed a number of times?
    2. What can you infer from this observation?
    3. How 'does this observation relate the effect of tobacco on the lungs?

C. Concept Formation:

How do cigarettes affect the lungs?

D. Application:

Your father is a chain smoker. He could smoke two (2) packs of cigarette a day. What will you tell him? Are nonsmokers affected even though they do not smoke? Why?

IV. Evaluation:

Do you know that smoking does you great evil than good? Write five (5) bad effects of smoking to your health.

V. Assignment:

1. Why is smoking Marijuana very dangerous to the lungs?
2. Give five (5) dangerous effect of cigarette smoking to the lungs.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies the urinary system and its major parts

Values: Every member is effective, cooperative that will result efficiency.

II. Subject Matter:

People (Urinary System)

A. Science Concept/Idea:

- The parts of the urinary system are kidneys, ureter, urinary bladder and urethra.

B. Science Processes:

Observing, identifying and inferring

C. Materials:

Diagram of the urinary system

References:

Science and Health V by: Jessie A. Villegas, p. 43

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What is the effect of cigarette smoking to the lungs?

b. Checking of Assignment

c. ***Motivation:***

Once of our liquid waste is in the form of urine. It is excreted through the urinary system. What are the major parts of the urinary system? Let's find out.

B. Presentation:

a. Expose the pupils with a diagram of the urinary system.

b. Let the pupils identify the parts of the urinary system.

c. Present the diagram of the kidney showing its major parts. Identify the major parts.

d. Group work:

1. Dissect or slice the pig's kidney lengthwise.

2. Examine the main organ, the kidney and describe its size, shape and appearance.

3. Compare the parts of pig's kidney with the parts found in the illustration or diagram.
4. Work out the urinary system jigsaw puzzle and answer the following. What are the parts of the urinary system?
5. Reporting of findings by each group.

C. Concept Formation:

a. What are the parts of the urinary system?
b. What are the main organ of the urinary system?
c. Identify the parts of a kidney

D. Application:

a. Draw the urinary system and label the parts.
b. Draw the kidney and label the parts

IV. Evaluation:

Examine the drawing below. Each part is labeled with a letter. Write the parts corresponding to each letter.

V. Assignment:

Answer the following question:

1. How can you take good care of your urinary system?
2. What foods are good to the urinary system?
3. Why are salty foods not good to eat?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Discusses the structure and function/s of the urinary system and the main organ called the kidneys.

Values: Appreciate the work of the urinary system; Cleanliness and neatness.

II. Subject Matter:

People (Urinary System)

A. Science Concept/Idea:

- Kidneys are two bean shaped organs. Nephrons filter device of the kidney. Ureter is the passage way tube. Urethra carries off urine from the bladder. Cortex holds the glomerus of each nephron in the center.

B. Science Processes:

Observing, describing and inferring

C. Materials:

Table 1.5 and Table 1.6 Chart

References:

Into the Future Science and Health V pp. 34-35
Science and Health V by: Jessie A. Villegas, p. 42

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
   What are the parts of the urinary system?
   What are the parts of the kidney?
b. Checking of Assignment
c. ***Motivation:***
   What is the shape of the kidney?
   Where are the kidneys located? Would you like to find out about their structure and function/s? Let's find out.

B. Presentation:

a. Show table 1.6 - Parts of the Urinary System and Functions.
b. Discuss the structure and function/s
c. Show table 1.5 - Parts of the Kidney and Functions.
d. Discuss the structure and function/s.

C. Concept Formation:

a. What are the structure and function/s of the urinary system?
b. What are the structure and function/s of the kidneys?

D. Application:

Your mother sent you to the market to buy a cow's kidney. Would you be able to buy a cow's kidney by pointing the kidney to the meat vendor? Can you tell the function of the kidney?

IV. Evaluation:

Choose the letter of the correct answer:

1. What carries waste from the kidney to the bladder?
   a. Urethra c. Cortex
   b. Ureter d. Medulla
2. What protects the kidney?
   a. Nephron c. Urethra
   b. Ureter d. Medulla
3. Which of the following are the filter devices of the kidneys?
   a. Nephron c. Ureter
   b. Glomerulus d. Cortex

V. Assignment:

1. Do most people have two (2) kidneys?
2. Can a person live normally with only one kidney?
3. What is the function of the kidney?
4. What part of the urinary system stores urine?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies some common ailments of the urinary system and its symptom/s and treatment.

Values: Health consciousness, cooperation in group work.

II. Subject Matter:

People (Common Ailments of the Urinary System)

A. Science Concept/Idea:

- The Common Ailments of the Urinary System include the formation of the kidney stones, bladder tumor, kidney infections, bladder infection, urethritis, nephritis.

B. Science Processes:

Identifying and inferring

C. Materials:

Table of Ailments, symptoms and treatment of the urinary system.

References:

Into the Future Science and Health V p. 37

III. Procedure:

A. Preparatory Activities:

a. ***Review:***

How is liquid waste removed through the skin?

b. Checking of Assignment

c. ***Motivation:***

Have you experience difficulty in urinating? Some people experience difficulty in urinating while others are bothered by the need to frequently urinate. Do you know why?

B. Presentation:

a. ***Activity:***

1. Allow pupils go to the library and research on the common ailments of the urinary system. Tell them to follow the table below:

Ailment	Symptom/s	Cause	Treatment
Kidney Stone	Colic or stabbing pain	Too much salty foods	Consult a doctor

b. Reporting by group.
c. Discussion/Analysis:
   1. What are the common ailments of the urinary system?
   2. What symptom/s occurs when suffering from bladder infection?
   3. What treatment is given to the patient suffering from kidney stones?

C. Concept Formation:

What are the common ailments of the urinary system?

D. Application:

Show table 1.7 ailments of the urinary system their symptoms and treatment. Name an ailment, its symptom/s and its treatment.

IV. Evaluation:

Check (✔) if it is common ailments of the urinary system and (X) if is not.

_____ 1. Kidney stones
_____ 2. Pneumonia
_____ 3. Nephritis
_____ 4. Tuberculosis
_____ 5. Bladder infection

V. Assignment:

Find out about kidney transplants. How is this done? Is it always successful? Why does a patient with kidney disease resort to this kind of treatment.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Describes how urine is formed and eliminated from the body.

Values: Keeping the urinary system healthy. Sanitation, Cleanliness, Attentiveness

II. Subject Matter:

People (How Urine is Formed and Eliminated)

A. Science Concept/Idea:

- The waste materials in the body - excess water, fats, sugar, salts and urea are collected by the blood.
- The mixture of water and waste taken from the blood by the kidneys is called Urine.

B. Science Processes:

Observing and describing.

C. Materials:

Diagram of the Urinary System, Projector

References:

Science and Health V For Better Life Series p. 57

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What are the structure and functions of the following parts:

a. Ureter	d. Bladder
b. Nephron	e. Urethra
c. Glomerulus	f. Kidney

b. Checking of Assignment

c. ***Motivation:***

Have you ever wonder why you urinate and where these urine come from? Lets find out.

B. Presentation:

a. Show and study the picture of the Human Urinary Tract.

b. Trace the path of the urine through the diagram of the urinary system.

C. Concept Formation:

a. What collects waste materials like excess water, fats, sugar, salts and area?
b. What is urine?
c. How are body waste removed through the urinary system?

D. Application:

- After drinking 2-3 glasses of water, what happens after an hour or two (2) hours?
- Where will you go to dispose your urine?
- Is it proper to urinate anywhere? Why?
- How can you keep your urinary system healthy?

IV. Evaluation:

Answer the following questions:

1. What path is taken by urine in the urinary system?
2. What are the waste materials in the body that are collected by the blood?
3. What is urination?

V. Assignment:

1. Ask your mother or a doctor or a nurse, why most children urinate more often on cold days than on warm days?
2. Drink eight (8) glasses of water before-" going to bed. Observe and count how many times you urinated during the night.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Experiments the presence of sugar in urine

Values: Health consciousness Cooperation and cleanliness

II. Subject Matter:

People (Urinalysis (Urine Test))

A. Science Concept/Idea:

- Sugar can be detected in urine with the use of Benedict's solution.

B. Science Processes:

Experimenting, observing and inferring

C. Materials:

Test tube, test tube holder, alcohol burner, urine sample and Benedict's solution

References:

Science and Health V by: Jessie A. Villegas p. 45

III. Procedure:

A. Preparatory Activities:

a. ***Review***

How is urine formed and eliminated from the body?

b. Checking of Assignment

c. ***Motivation:***

Have you ever heard of a patient suffering from diabetes? What is present in their urine? How can we detect the presence of sugar in the urine? How would you like to find out?

B. Presentation:

a. Distribution of activity card and materials.

Activity Card:

Problem - How is the presence of sugar in urine detected?

Materials - Test tube, test tube holder, alcohol burner, urine sample and Benedict's solution

Procedure **-** Place one (1) teaspoon of Benedict's solution in a test tube and add a few drop of the urine sample being tested. Heat the mixture to boiling.

Observation -Does the mixture of urine and Benedict's solution produce a brick red color when boiled? Wt can you refer from this observation?

Questions:

a. Why is the urine is being tested for excess sugar?
b. What disease is cause by excessive sugar in the blood?
c. What diet is prescribed for patients with such as disease?

b. ***Group Work***
   1. Pupils performed the activity in the activity card.

c. Reporting by each group.
d. ***Discussion/Analysis***
   1. What happens to the color of the urine?
   2. Is it good to eat too much sugary?

C. Concept Formation:

What is present in the urine? How is the presence of sugar in urine detected?

D. Application:

Your neighbor is a diabetic patient, what advice can you give him?

IV. Evaluation:

Recording of experiment.

V. Assignment:

1. What will happen if too much sugar is present in your body?
2. Make a list of foods that diabetic patient should not eat.
3. Record some proper ways to prevent too much sugar in the body.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explains how solid wastes are removed through the digestive system.

Values: Eating the right kind of food Practice proper health habits

II. Subject Matter:

People (Solid Waste Remove through the Digestive System)

A. Science Concept/Idea:

- The undigested food is stored in the large intestines and excreted through the anus.

B. Science Processes:

Observing describing and describing.

C. Materials:

Diagram of the Digestive System, Chicken's large intestine, Activity card

References:

Science and Health VI by: Dr. Abrasia p. 18
Exploring Science and Health VI p. 34 Science and Health for Better Life Series p. 55

III. Procedure:

A. Preparatory Activities:

a. ***Review***

How is sugar in urine detected?

b. Checking of Assignment

c. ***Motivation:***

Present a picture of a boy going to the toilet. What is the boy doing? Upon waking in the morning everyday beside urinating, do you also go to the toilet to get rid of what you have eaten during the night? Do you want to find out where this waste come from?

B. Presentation:

a. ***Activity:***

1. Show a diagram of the digestive system and recall the process of digestion.
2. Infer where the undigested food goes.
3. a. Observe and examine a chicken's large intestine using a magnifying lens.

b. Describe what is inside the chicken's intestine.

4. That aids in the movement of the undigested food out of the body through the anus.
5. a. Go to the vegetable garden of the school and examine the stems of celery or pechay and the leaves of spinach or mustard and camote.
   b. Describe their stems and leaves.
   c. Explain that the strong tough fiber of vegetable and fruits are called Cellulose or Roughage that helps in the regular bowel movement.

b. ***Analysis/Discussion:***

1. What body waste goes through the large intestine?
2. How does the large intestine get rid of this waste?
3. What can you do to help the large intestine to function properly?
4. What would happen if this waste are not remove from the body?

C. Concept Formation:

How are solid waste remove through the digestive system?

D. Application:

Do you eat fruits and vegetables everyday?
Why is it proper to eat fruits and vegetable everyday?

IV. Evaluation:

Answer the following questions:

1. What happens to the undigested food in the body?
2. What organ get rid of waste materials in the body?
3. How long do these waste materials stay in the large intestine?
4. What is bowel movement?

V. Assignment:

Make a list of ways on how to have a regular bowel movement.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explains how gaseous wastes are removed through the respiratory system.

Values: Listening attentively Proper care for the lungs

II. Subject Matter:

People (Gaseous Waste Removed through the Respiratory System)

A. Science Concept/Idea:

- Lungs give off carbon dioxide.

B. Science Processes:

Observing, describing and inferring

C. Materials:

Mirror, lime water, straw, glass

References:

Into the Future Science and Health V p. 40
Exploring Science and Health VI; Science and Health V for Better Life Series p. 53

III. Procedure:

A. Preparatory Activities:

a. ***Review***
   What organ excrete solid wastes materials out of the body?
b. Checking of Assignment
c. ***Motivation:***
   Inhale, Exhale (3x).
   What did you inhale? What did you exhale?
   Lets find out.

B. Presentation:

a. Study the picture of the lungs. Talk about the parts and their functions.
b. Let pupils work an activity 1.12 your breath. Point out that carbon dioxide is a waste product of respiration.

c. Read the textbook page 40 of Into the Future Science and Health and Science and Health V for Better Life Series page 35 for verification.

C. Concept Formation:

What organ give off carbon dioxide?

D. Application:

Draw the lungs and put arrows to indicate where the waste passes out.

IV. Evaluation:

Explain how gaseous waste are removed through the respiratory system.

V. Assignment:

1. Where does carbon dioxide excreted by the lungs come from?
2. What happens to the abdomen and chest when carbon dioxide is breath out?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explains how liquid waste is removed through the skin.

Values: Cleanliness; Working harmoniously and cooperatively; Proper care of the skin

II. Subject Matter:

People (Liquid Waste is Removed through the Skin)

A. Science Concept/Idea:

- The skin gives of perspiration through the pores of the skin.

B. Science Processes:

Observing, describing and identifying

C. Materials:

Cross section of the skin

References:

Science and Health V by: Jessie A. Villegas pp. 46-47; Science and Health V pp. 51-52

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
   What organ excrete carbon dioxide?
b. Checking of Assignment
c. ***Motivation:***
   Go out into the yard and play. Feel your skin. What do you noticed? It is moist? Why? Where does these moist came from? Lets find out?

B. Presentation:

a. Show the cross section of the skin and identify the parts.
b. Explain the function of its part.
c. Let the pupils read the text on page 52
d. Perform an experiment on how does perspiration help regulate body temperature.
   Problem How does perspiration help regulate body temperature?
   Materials U-tube air thermoscope, water and alcohol

Procedure:

a. Inject colored water into the U- tube of the U-tube air thermoscope. Connect the U-tube to the rubber/plastic tube. Adjust the water columns to equal level by means of the disposable syringe. Moisten the test tube with water or alcohol and blow gently over the moisten surface.
b. Moisten your skin with water and blow gently over the moisten surface.

Observation and Inference:

a. How is the liquid in the U-tube displaced when the moistened test tube is blown gently?
b. What happens to the water/alcohol on the surface of the test tube when it is blown?
c. What can you infer from these observation?

Generalization

a. Discussion of the experiment

C. Concept Formation:

How is liquid waste remove through skin?

D. Application:

Draw the cross section of the skin. Name the parts and their functions.

IV. Evaluation:

Which of these correctly how sweat or perspiration is removed. Put a (✔) for yes and (x) for not.

_____ 1. Perspiration is excreted through the anus.
_____ 2. Sweat is excreted through the nose.
_____ 3. Sweat is excreted through large intestine.

V. Assignment:

1. Stretch the skin on your hands. Examine your skin very closely. What do you, see on the surface? What function do the pores perform?
2. Have you heard of a person who does not perspire at all? How does this person look? Does he look healthy or sickly? Is there something wrong with a person who does not perspire? Find out from your doctor. Report the information to your class.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Practice desirable health habits that help prevent/control common ailments affecting the urinary system

Values: Health habits, cleanliness Health consciousness

II. Subject Matter:

People (Desirable Health Habits that Help Patient/Control Common Ailments at the Urinary System)

A. Science Concept/Idea:

- Some of the ailments can be prevented by practicing strict health hygiene, eating a balance diet, exercise regularly and drinking 8 glasses of water everyday, avoid eating salty foods.

B. Science Processes:
Observing and inferring

C. Materials:
Pictures showing desirable health habits to keep the urinary system healthy.

References:
Science and Health VI p. 35; Science and Health into the Future p. 38

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
   Name some of the common ailments affecting the urinary system.
b. Checking of Assignment
c. ***Motivation:***
   What should you do to keep the urinary system healthy?

B. Presentation:

a. ***Activity:***
   Group Activities:

1. Divide the class into three (3) groups, each group will be given 3 pictures showing the practice on the health habits to prevent/control common ailments affecting the urinary system.
2. Observe the pictures and answer the question. What healths habits help prevent/control common ailments affecting the urinary system?
3. Reporting of findings by each group.
4. ***Discussion:***
   a. Why should you avoid eating very salty foods?
   b. How many glasses of water and juices do you drink everyday?
   c. Why should you urinate at once?

C. Concept Formation:

How can you prevent/control common ailments affecting the urinary system?

D. Application:

Draw a poster showing the different health habits that help to control/prevent common ailments of the urinary system.

IV. Evaluation:

Put a check (4) if it control/prevent common ailment of the urinary system and (x) if not.

_____ 1. Eat a balance diet
_____ 2. Drink soft drinks every two (2) hours.
_____ 3 Exercise daily
_____ 4 Urinate regularly
_____ 5 Eat salty foods

V. Assignment:

Write a slogan regarding the health habits that help control/prevent common ailments of the urinary system.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explains why animals live in a particular habitat.

Values: Animal protection

II. Subject Matter:

Animals (Animals Live in a Particular Habitat)

A. Science Concept/Idea:

- Animals live in place where they can find food.

B. Science Processes:
Observing, identifying and inferring

C. Materials:
Pictures of different animals

References:
Science and Health for Better Life pp. 56-63

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Write a short paragraph about your pet animals at home

b. Checking of Assignment

c. ***Motivation:***

Present a picture of animals in different environment. Identify the animals they see in the pictures.

Would you like to find out why they live in these particular environment?

B. Presentation:

a. ***Activity:***

Form four (4) groups. Each group will perform specific activity. Each group will receive picture of animals in different habitat.

Group I - Identify animals that live in pond and the food they eat.

Group II - Identify animals that live in forest and the food they eat.

Group III - Identify the animals that live in the sea and the food they eat.
Group IV - Identify animals that live in the desert and the food they eat.

b. Introduce the word habitat.
c. Let the pupils follow the format below in writing their observations.

Animal	Food Eaten	Source of Food	Habitat
Monkey	Fruits	Plants	Forest

d. Reporting of observations
e. ***Discussion/Analysis:***
   1. What animals live in the pond? Forest? Sea? Dessert?
   2. Why do animals live in a particular habitat?

C. Concept Formation:

Where do animals live? Why do they live in a particular habitat?

D. Application:

Fish live in water. Why can it live in the water? What food does it eat? What would happen to the fish if taken out of eater?

IV. Evaluation:

Have the pupils fill in this table:

Animal	Habitat	Food Eaten
1. Snails 2. Snakes 3. Sharks		

V. Assignment:

1. Write two (2) or three (3) sentences about an animal you want your classmates to guess. This includes the food its eats and its habitat.
2. Each group bring a pet animal and the food it eats.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Describes how animals get/eat their food using certain body parts.

Values: Love of animals

II. Subject Matter:

Animals (How Animals Get and Eat Food)

A. Science Concept/Idea:

- Animals have different ways of getting/eating their food.

B. Science Processes:
Observing, describing and identifying

C. Materials:
Pictures of different animals

References:
Science and Health for Better Life pp. 64-67

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
Why do animals live in a particular habitat?

b. Checking of Assignment

c. ***Motivation:***
Present pictures of different animals. How do these animals get food? What body parts does each animal use in getting food? Let's find out.

B. Presentation:

Activity and Group Activity:

a. Let each group bring out the food and feed their pet animals. Observe.

b. Distribute and lead the pupils to observe the pictures showing how they get/eat food.

c. Tell the pupils to write their observations by following the table.

Animals	Its Food	Body parts in getting/eating Food

d. Group reporting of the observations.
e. ***Discussion:***
Compare the observation of the different group.
f. Let pupils read the text pages 64-67.

C. Concept Formation:

How do animals get/eat their food?

D. Application:

Draw the body parts an animal use in getting/eating food. Explain your drawing how it is used to get/eat food.

IV. Evaluation:

Match Column A with Column B

A	B
____ 1. Cat	a. tiny tube called proboscis
____ 2. Frog	b. strong hooked beaks
____ 3. Dog	c. tongue
____ 4. Butterfly	d. claws
____ 5. Hawks	e. Forepaws

V. Assignment:

Observe other animals in your locality. Write how they get/eat their food and its food.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies the body parts of some animals in getting their food and infer the kind of food that said animals eat from the appearance of their mouth parts

Values: Love for the animals Work harmoniously and cooperatively

II. Subject Matter:

Food (Getting Adaptation)

A. Science Concept/Idea:

- Animals have adaptations that enable them to get food. Herbivore have specialized teeth and stomachs to help them extract nutrients from plants and break down the cellulose cell walls. Carnivores are often fast runners and have sharp claws and teeth.

B. Science Processes:

Identifying, analyzing and classifying

C. Materials:

Pictures of different animals eating their food; Toy animals

References:

Module in Science V, pp. 66-67
Manual of Enhancement Activities and Experiments, p. 18
Into the Future: Science and Health V, pp. 47-51 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
What do body parts tell about an animals?
b. Checking of Assignment:
c. ***Motivation:***
Why does a giraffe have a long neck?

B. Presentation:

By looking at the picture choose one animal and tell what that animal used in getting its food.

C. Concept Formation:

1. What food-getting adaptation does each animal in the picture have?
2. What food does it eat?
3. Give examples of other animals and tell what body part they use in getting their food.

D. Generalization:

How do animals get their food?

E. Application

Give one example of animal and tell the body part of that animal in getting its food and the kind of food that it eats. Use the simple form of the verb in your sentences.

IV. Evaluation:

What is the food-getting of each of the following.

1. bird
2. snail
3. octopus
4. snake
5. shrimp

V. Assignment:

Name all animals that use their claws to get their food.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Classifies animals according to the food they eat

Values: Love of animals; Working harmoniously and cooperatively

II. Subject Matter:

Classification of Animals According to the Food they eat

A. Science Concept/Idea:

- Animals are classified according to the food they eat.
- Some animals share 'the same kind of food. This can be a basis of grouping them according to what they eat.
- Many animals hunt for food. These animals eat meat only. They belong to carnivorous group.
- Animals that eat plants belong to the herbivorous group.
- The third group is the omnivorous group. Animals that belong to this group eat both plants and meat.

B. Science Processes:

Classifying, observing, inferring and describing

C. Materials:

Picture showing animals that eat grass, flesh/meat

References:

Module in Science and Health V, pp. 72-73
Into the Future: Science and Health V, pp. 52-54 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
How do birds get their food? Cows and carabaos? Insects? Tiger and lions?

b. Checking of Assignment

c. ***Motivation:***
Look at the pictures of animals; can you classify these animals into their proper heading? How?

B. Presentation:

The pupils will be grouped into 3

Group I List all animals shown in the picture that eat plants/ grass

Group II Animals that eat meat/flesh

Group III Animals that eat both flesh and plants/grass

C. Concept Formation:

Observations and Inferences:

Look at the animals in your activity classify them according to the food they eat.

D. Generalization:

What do you call those animals that eat grass/plants?
Those that eat flesh or meat?
Those that eat both plants and flesh/meat?

E. Application

Give other examples of herbivorous, carnivorous and omnivorous animals.

IV. Evaluation:

Classify the following animals according to the food they eat.

camel	crocodile	cobra	goat
turkey	fish	frog	grasshopper
bird	shrimp	caterpillar	rabbit
	chicken		

V. Assignment:

Draw 2 examples of animals that belong to the herbivores, carnivores and omnivores group.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describes how animals adapt to a particular environment for protection and survival.

Values: Love for the animals Work harmoniously and cooperatively

II. Subject Matter:

Protective Adaptations of Animals to their Environment

A. Science Concept/Idea:

- Various animals live and survive in different environments.
- The body covering of animals in the tropics is not thick. They come in a vas Iety of colors that blends with their surroundings.
- Polar animals like the bear have body structure that enables them to live and reproduce in this cold environment.
- Desert animals can withstand high temperature. They can go without water or food for a longer period of time than others. An animal which can travel only under the heat of the sun in a desert is the camel.
- Animals that live in cold places have layers of fats and feathers or hair to keep their body warm. Their body color is usually white, enabling them to blend with their surroundings.

B. Science Processes:

Describing, observing and inferring

C. Materials:

Pictures of animals that live in different environments; toy animals

References:

Module in Science V, pp. 69-71
Into the Future: Science and Health V, pp. 56-58 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Give examples of animals that eat grass, meat and animals that eat both plants and meat. What do you call these group of animals?

b. Checking of Assignment

c. ***Motivation:***

Do you know how animals protect themselves in the environment where they live?
How do animals adapt themselves in very cold places? In the tropics? In very hot place?

B. Presentation:

There are toy animals in front, choose one then tell to the class the name of the animal, and where it lives.

Activity Proper.

How do animals protect/adapt themselves in their environment?

C. Concept Formation:

a. How do bears adapt in very cold place? How do they get their food?
b. The pupils will group the animals in the pictures according to the environment where they live, how they survive and protect themselves from their enemies.

D. Application:

Where will you put the newly hatched chicks if their mother is not there?
How do cats survive? What environment do they belong?
How do fish in the sea/ocean adapt themselves for protection and survival?

IV. Evaluation:

Describe how the following animals survive/adapt themselves to an environment for protection and survival:

Animal	Environment where they live	Protective Adaptation
1. horse 2. deer 3. tiger		

V. Assignment:

Cut pictures of animals living in different environments pasts them in a coupon bond and below each animal describe how they protect themselves for survival.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Classifies animals into vertebrates and I invertebrates

Values: Show care and concern to animals

II. Subject Matter:

Vertebrates and Invertebrates

A. Science Concept/Idea:

- There are two big groups of animals the vertebrates and invertebrates

B. Science Processes:

Classifying, inferring, observing and describing

C. Materials:

Toy animals, pictures of animals

References:

Module in Science and Health V, pp. 72-73
Into the Future: Science and Health V, pp. 63-67 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review***

Give one example of animal; tell its protective adaptation and how it survives.

b. Checking of Assignment

c ***Motivation:***

Look at the picture/poster of animals, what structure do you think these animals have in common?

B. Presentation:

1. How are animals classified?
2. The pupils will be grouped into 2
3. They will group themselves according to the animals that each pupil will pick up in the box.
4. Then they will give a name for their group as their proper headings.

Activity Proper:

Problem: How are animals classified?

C. Concept Formation:

Classify animals into vertebrates and invertebrates.

Animal	Vertebrate	Invertebrate

centipede, alligator, snake, chicken, frog, grasshopper, fish, shrimp etc.

D. Application:

What are the two groups of animals?

IV. Evaluation:

Classify the following animals into vertebrates and invertebrates.

1. rats
2. lizards
3. butterfly
4. starfish
5. earthworm
6. bangus
7. centipedes
8. chameleon
9. heron
10. goose

V. Assignment:

Give pictures of vertebrates and invertebrates and paste them in coupon bonds

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Classifies vertebrates into mammals, birds, reptiles, amphibians and fishes.

Values: Care for animals

II. Subject Matter:

Classification of Vertebrates

A. Science Concept/Idea:

- Vertebrates are classified into five groups. These groups are classified according to their similarities in their body structure. These five groups are the fishes, amphibians, reptiles, birds and mammals.

B. Science Processes:

Classifying, observing and inferring

C. Materials:

Pictures of animals with backbones

References:

Module in Science and Health V, pp. 74-76
Into the Future: Science and Health V, pp. 63-64 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
What are the two big groups of animals?
What is the difference of the two groups?

b. Checking of Assignment

c. ***Motivation:***
Observe the groupings of the animals in the picture; give your idea about their similarities in each group.

B. Presentation:

I'll group you into five. Let's have a game. I will tell clue words and you're going to arrange the jumbled chips of words to form an answer to the clue words that I'm going to tell you.

- animals with mammary glands
- only animals with feathers
- they live in the water and nearly all these animals have scales
- they can live both on land and in water
- scaly animals that are hatched from eggs with hard shells

C. Concept Formation:

What are the five classifications of vertebrates?
What characteristics do these animals have in each group?

D. Application:

Give other examples of each of these groups of animals?

IV. Evaluation:

Classify the following animals under proper heading;

whale	crocodile	bangus	maya
heron	seahorse	piranha	lizard

V. Assignment:

Give five examples of each group

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies characteristics of each group of animals

Values: Care for animals

II. Subject Matter:

Characteristics of Each Group of Vertebrates

A. Science Concept/Idea:

- Each group of vertebrates has their own characteristics.
- Mammals are the only animals with fur or hair; they are also the only animals with mammary glands that give milk to their young. They breathe with their lungs.
- Birds are the only animals with feathers. They have lungs for breathing. All birds come out of an egg with a hard shell.
- Fish have fins, scales which are thinking bony sheets arranged all over its body. All fish with the exemptions of the lung fish have gills.
- Amphibians are so called because they can live both on land and water. They live in water when they are still babies and on land when they grow up.
- Reptiles are scaly animals that are hatched from eggs with hard shells and the eggs are always laid on land.

B. Science Processes:

Identifying, classifying, observing and inferring

C. Materials:

Pictures of animals in each group of vertebrates

References:

Module in Science and Health V, pp. 74-76
Into the Future: Science and Health V, pp. 63-66 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What are the five groups of vertebrates? Give examples of each group.

b. Checking of Assignment

c. ***Motivation:***

Let's have a guessing game. I'm going to show you a picture of animal and give one characteristic of this animal. You have to work in group so you can help each other.

1. kangaroo
2. dolphin
3. tilapia, etc.

B. Presentation:

The pupils will be grouped into 5 and they will work on the activity problem:
What are the characteristics of each group of vertebrates?

C. Concept Formation:

- Each group will present and report what they have made.
- What are the characteristics of mammals? Fishes? Amphibians? Reptiles? and Birds?
- Why are crocodiles called amphibians? Dolphins-mammals? Seahorse a fish?

Animal	Vertebrate	Invertebrate

centipede, alligator, snake, chicken, frog, grasshopper, fish, shrimp etc.

D. Generalization:

What are the characteristics of each group of vertebrates?

IV. Evaluation:

Identify the following whether they are mammals, reptiles, birds, fishes, amphibians

1. They live in water; have scales and gills for breathing.
2. They live both on land and water, scaly animals that are hatched from eggs with hard shells.
3. They have mammary glands and the only group of animals with fur or hair.

V. Assignment:

Give 2 examples of each group of vertebrates and tell the characteristics of these animals.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identifies characteristics of vertebrates and invertebrates

Values: Care for animals

II. Subject Matter:

Characteristics of Vertebrates and Invertebrates

A. Science Concept/Idea:

- Some vertebrates are warm-blooded animals or endothermic vertebrates.
- Some vertebrates are cold-blooded animals or ectothermic vertebrates.
- Invertebrates are animals without backbone. Some have jointed feet, no bones, they have hard covering called exoskeleton, some are soft-bodied animals, segmented body, have tentacles and pore-bearing animals.

B. Science Processes:

Identifying, observing inferring

C. Materials:

Posters of vertebrates and invertebrates

References:

Module in Science and Health V, pp. 72-82
Into the Future: Science and Health V; pp. 63-71 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review***

What are the two big groups of animals?
Give examples

b. Checking of Assignment

c. ***Motivation:***

Arrange the chips of jumbled letters to form a new word. Refer to the clue statement or phrase below

The pupils in each group will work cooperatively to arrange the chips of letters following the clue phrases:

1. animals with backbones
2. animals without backbones
3. warm blooded animals
4. cold blooded vertebrates

B. Presentation:

1. The pupils will form groups of 4 and each will have an activity to do.
2. They will group the animals into vertebrates and invertebrates.
3. They will work on the characteristics of these groups of animals
   Group I - Vertebrates
   Group II - Invertebrates

C. Concept Formation:

1. Each group will present their work and discuss them.
2. Some pupils may ask questions why they have different characteristics.
3. The pupils will make a summary of their work.
4. Give other characteristics of these groups of animals.

D. Generalization:

What are the characteristics of vertebrates? Invertebrates?

IV. Evaluation:

Identify the characteristics of the following animals.

1. horse
2. carabao
3. snake
4. earthworm
5. snail

V. Assignment:

What are warm blooded animals? Cold blooded animals?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

Classifies invertebrates into arthropods, coelenterates, annelids, crustaceans, echinoderms, insects, arachinids and mollusks.

Values: Appreciation of the beauty of marine life

II. Subject Matter:

Classifications of Invertebrates

A. Science Concept/Idea:

The invertebrates can be subdivided into different phyla. These are the arthropod porifer, coelenterates, flatworms, roundworms, segmented worms and mollusks.

B. Science Processes:

Classifying, observing, inferring

C. Materials:

Pictures of marine animals

References:

Module in Science and Health V, pp. 80-83
Into the Future: Science and Health V, pp. 67-71 BEC

III. Procedure:

A. Preparatory Activities:

a. ***Review:***
What are the five groups of vertebrates? Give the characteristics of . these animals.
b. Checking of Assignment
c. ***Motivation:***
What do you call those animals without backbones? Can you give examples of this group of animals?

B. Presentation:

1. The pupils will be group into 7 groups.
2. They will group the animals according to their similarities.

3. Can you classify these animals into their own group?

C. Concept Formation:

1. The pupils will present their work.
2. The leader will tell something about the animals in each group.
3. What are the classification of invertebrates?

D. Application:

Where can you find these animals?

If you happen to see earthworms or even centipedes, are you going to kill them? Why?

IV. Evaluation:

What are the classification of invertebrates?

Group the following animals into arthropod, porifer, coelenterates, flatworms, segmented worms and mollusks.

shrimp, centipedes, butterfly, bee, starfish, clam, snail, octopus, corals, earthworm, ascaris sponges, blood suckers

V. Assignment:

Give other examples of animals in each group.

2nd

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Perform experiment to determine what plants need to make food.

Values: *Industriousness, cleanliness and sanitation*

II. SUBJECT MATTER:

What Plants Need to Make Food

A. Science Concepts/Ideas:

1. Tropism - plant responses
    a. Phototropism - response to light
    b. Hydrotropism - response to water
    a. Geotropism - response to gravity
2. Photosynthesis - the synthesis of chemical substances with the aid of light especially the formation of carbohydrates; producing their own food.

B. Processes:
Observing, describing, experimenting, comparing

C. Materials:
Mongo seedlings in 4 separate cans, water, box

References:
Science and Health V Module by Jessie A. Villegas pp. 88-89
Into the Future: S/H V by Jose F. L1arinas

III. PROCEDURE:

A. Preparatory Activity:
Checking of Assignment
Review:
1. What are the classifications of living things?
2. How do they differ from each other?

3. What do plants need in order to grow?

B. Developmental Activities:

1. Motivation
   What do animals need in order to grow? How about plants?

2. Presentation/Activity
   Group the children into four.
   Each group will plant a mongo seedling in a can labeled A, B, C & D. Water can A regularly. Do not water can B. Place both cans where there is ample air and light.
   Label C & D two other cans of mongo seedlings. Place C in the light and D in a closed box. Water both cans regularly.
   Observe the growth of the seedlings daily for two to three days. There are two set ups in each experiment. The experimental set up and the control.

3. Concept Formation
   Each group will present their report. What are the factors needed in plant in order to grow? Describe the growth of the seedlings. How can these variables help by plant growth?

4. Application
   What do plants need to grow and stay alive?

IV. EVALUATION:

Answer the following questions:

1. In which can or cans are the seedlings healthy?
2. Describe the growth of each.
3. What is the manipulative variable in can # 1? can # 2, can #3 and can # 4?
1. What are the constants?

V. ASSIGNMENT:

How do plants respond to water?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the variables in the experiment.

Values: *Cooperation, industriousness*

II. SUBJECT MATTER:

The Food Factory (Photosynthesis)

A. Science Concepts/Ideas:

1. Chlorophyll - the green pigment in plants
2. Cuticle - transparent skin of a leaf
2. Chloroplast - small green packages found inside the cells.
3. Xylem - are veins and venules which are made up of bundles of microscopic tubes.
4. Stomata - tiny openings found on leaves.
5. Phloem - another bundle of microscopic tubes distributed to all the cells of the plant.

B. Processes:
Observing, experimenting

C. Materials:
Chlorophyll extraction apparatus, denatured alcohol, alcohol burner, leaf

References:
Science and Health V Module by Jessie A. Villegas pp. 92-95
Into the Future: S/H V

III. PROCEDURE:

A. Preparatory Activity:
Checking of Assignment
Review:
1. How do plants respond to water and gravity?
1. How do plants respond to sunlight?
2. How do the plants grow?

B. Developmental Activities:

1. Motivation

   Look at the surroundings. What do you observe on plants? Why are the leaves green?

2. Presentation/Activity

   Group into two.

   Each group will fill one-half of the chlorophyll extraction apparatus as shown in Fig. 5.2 with denatured alcohol. Cut a green leaf into smaller pieces and immerse then in the denatured alcohol.

   Fill one-fourth of the enameled dish with water to immerse the bottom of the test tube.

   Heat the water both with an alcohol burner and allow the denatured alcohol to boil for 10 to 15 minutes.

   Repeat the above steps using a non-green leaf.

3. Concept Formation

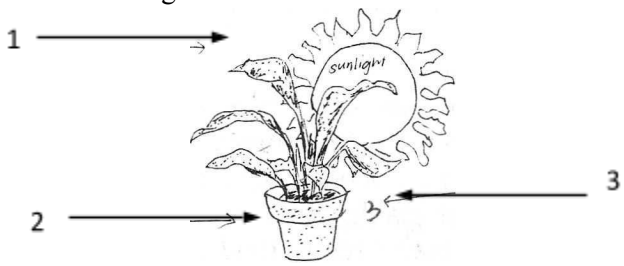
   Each group will present their experiment.
   What are the variables in the food factory?
   What chemical equation is done in photosynthesis?
   Draw the food factory.

4. Application

   What are the elements of photosynthesis?

IV. EVALUATION:

Identify the variables in the diagram.



Chemical Equation of photosynthesis:

$$6H_2O + 6CO_2 \xrightarrow{\text{sunlight}} C_6H_{12}O_6 + 6O_2$$

V. ASSIGNMENT:

Why are leaves green?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Explain the process of photosynthesis using a diagram; enumerate the raw materials needed by green plants in order to make their own food. Identify the products of photosynthesis.

Values: *Eat green and leafy vegetables that are nutritious*

II. SUBJECT MATTER:

Photosynthesis

A. Science Concepts/Ideas:

- Photosynthesis is the process of manufacturing food in green plants. It involves the synthesis of carbon dioxide and water in the presence of sunlight.
- The raw materials needed in food making process are chlorophyll, carbon dioxide, and water in dissolved minerals from the soil.
- The end product of photosynthesis is a form of sugar. The by-product of photosynthesis is oxygen.
- Green plants can manufacture their own food because of chlorophyll.

B. Processes:
Defining, describing

C. Materials:
Charts, posters, diagram showing how photosynthesis takes place, flannel board

References:
Module V - J. A. Villegas
Into the Future: S/H V

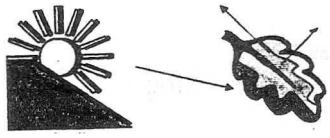
III. PROCEDURE:

A. Preparatory Activity:
Checking of Assignment
Review:
1. How do animals get their food?
2. How do plants get their food?

B. Developmental Activities:

1. Motivation
   Can you name some green plants found in the community?
   Identify the substance that gives the green color to these plants.

2. Presentation/Activity



a. Present the words sunlight, carbon dioxide and water on the board.
b. Tell that sunlight is the source of energy.
c. Tell that plants get energy from the sun. This pigment traps solar energy.

3. Application
   Draw and study the diagram and explain the process of photosynthesis.

1. What is the source of energy in photosynthesis?
2. What traps sunlight or light energy?
1. What happens to chlorophyll when energy from the sun is trapped?
4. What raw materials are combine to form glucose?

Study the different chemical reactions involved in the phase;

IV. EVALUATION:

Choose the letter of the best answer.

1. Which of the following plants can manufacture their own food.
   a. mushroom b. grass c. corn d. both b & c
2. What causes water particles to split into hydrogen and oxygen?
   a. glucose b. oxygen c. hydrogen d. carbon dioxide

V. ASSIGNMENT:

Can we keep indoor plants all the time and still be healthy? Why or why not?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe what happens to plants that grow in the absence of any of the factors needed for photosynthesis;

Values: *Helpfulness and cleanliness*

II. SUBJECT MATTER:

Plant Needs

A. Science Concepts/Ideas:

- Variables are conditions in an experiment that can be manipulated.
- Variables can either be controlled or experimented.
- Plants need air, water and sunlight in order to grow.

B. Processes:
Manipulating and identifying

C. Materials:
Potted plants of the same age, height and state of health, 10 mongo seedlings, water

References:
Module V - S. A. Villegas
Into the Future S/H p. 51-52

III. PROCEDURE:

A. Preparatory Activity:
- Let them examine the underside part of the leaves.
  - Ask them to identify the tiny holes or openings on the surface of the leaves using a magnifying lens.
  - Introduce the word stomata.

B. Developmental Activities:
1. Motivation
   What will happen to plants if certain materials block the stomata?

2. Presentation/Activity

   Let the pupils work by groups on the Activity 3.1 Stomata, Activity 3.2 Water, and Activity 3.3 Chlorophyll.

   Ask them to identify the variables used in the experiment. Let them differentiate the controlled variables from the experimental variable.

   Point out that controlled variables are those that are manipulated to make the conditions constant or similar for all the potted plants used in the experiment.

   Those that are manipulated in order to determine the effect of a variable in an experiment is called experimental variables.

3. Concept Formation

   What do plants need in· order to 9 row and make their own food?

   Discuss the findings of each group in class.

   What are variables?

IV. EVALUATION:

1. Choose the letter of the correct answer. Why are stomata necessary in green plants?
   a. Because this is where the exchange of gases between the plant and the environment occurs.
   a. Because it is the organ for getting water.
   b. Because they make plants more attractive.
   c. Both a & b.
2. What gas in the air is needed by plants in order to grow?
   a oxygen
   b. carbon dioxide
   c. helium
   d. argon

V. ASSIGNMENT:

Enumerate the different requirements for a plant to grow healthy.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Explain the importance of plants to human beings and other animals.

Values: *Appreciation of the usefulness of plants; Patience in performing a task*

II. SUBJECT MATTER:

The Importance of Plants

A. Science Concepts/Ideas:

- The oxygen that our body needs come from plants.
- Plants are useful to humans and animals. They provide habitat, medicines food and clothing.
- Many of the products that people use come from plants such as wood, paper, rubber, chewing gum.
- Plants make our environment beautiful.

B. Processes:
Describing, observing, identifying

C. Materials:
Samples of plants used for food
Samples of the products that people used from plants

References:
Teacher's Module Science and Health V Jessie A. Villegas
Into the Future: Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Checking of Assignment
Review:
Present advertising materials related to clean environment. Identify the gaseous pollutants.
Recall the importance of carbon dioxide to plants and oxygen to animals and humans.

B. Developmental Activities:

1. Motivation

2. Presentation/Activity
   Form two groups. Each group will perform specific activity.

   Group I
   - Present the diagram - of oxygen carbon dioxide cycle. Let the pupils identify the two processes involved in this cycle (respiration and photosynthesis).
   - Ask them what gas is given off as a by-product of respiration (carbon dioxide) and photosynthesis (oxygen).
   - Explain that the continuous and repeated exchange of gases during respiration and photosynthesis produces a cycle.

   Group II
   - Let the pupils cite examples of pfant products, such as food, paper and clothing.
   - Discuss many of the products that people use which come from plants.

3. Concept Formation
- Each group will present their findings.
- Make conclusions regarding their activity. Teacher may ask questions that may lead to the conclusions that most of our products we, use come from plants.
- Each group will give the products and their uses.

4. Application
- Now that they have learned the benefits we can derive from plants, they will discuss on how are certain parts of plants used by man.
  - To draw the generalization, ask: Why are plants useful to humans and animals?
  - After discussion, they will make collage using mixed media from plants to know the result of their discussion. (Teacher to give guidelines on preparation of collage.)

IV. EVALUATION:

Make an essay about what would happen if there would be no trees/plants. Explain the importance of plants to humans and lower form of animals.

V. ASSIGNMENT:

Enumerate the parts of plant used for food.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify plant parts used for food, medicine, etc.

Values: *Appreciation of the usefulness of plants; Participation in campaigns like Clean and Green.*

II. SUBJECT MATTER:

The Plant Parts Used for Food

A. Science Concepts/Ideas:

Certain parts of plants such as leaves, barks, roots, flower or fruits are sources of food and medicine.

B. Processes:
Observing, describing

C. Materials:
Samples of medicinal plants

References:
Teacher's Module Science and Health V Jessie A. Villegas
Into the Future: Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Checking of Assignment
Review:
Identify the products derived from plants.

B. Developmental Activities:
1. Motivation

2. Presentation/Activity
Show some lagundi leaves, sabila, mayana and guava leaves. Show some banaba and calamansi fruits. Have the pupils identify garlic gloves and gumamela buds.

- Ask the pupils: How are these plants used by man?
- Divide the class into 4 groups. Each group will be given activity card. They will discuss the preparation and dosage of medicines derived from medicinal plants. Point out that most of these plants are manufactured in form of capsules, ointment or syrup.
- Let them discuss the different edible parts of plants which we used as food.

3. Concept Formation

- The class will come up with their own definition of medicinal plants.
- Give other samples of medicinal plants.
- Take one example of plants and identify all the edible parts.
- Draw the edible parts of plants and medicinal plants.

4. Application

- Now that they have learned some plants that are considered as medicinal plants and some plants are good source of food, they will form two groups.
- Group I. will discuss how they could propagate and take good care of medicinal plants.
- Group 2 will discuss how they could propagate and take good care of root crops. Fruit bearing trees and vegetables.
- After discussion, they will make posters to show the result pf their discussion. (Teacher gives guidelines on preparation of posters).

IV. EVALUATION:

Encircle the letter of the correct answer.

1. Which of these plants is used to treat burns?
   a. Lagundi c. sabila
   b. pineapple d. rose
2. Which of these flowers is used to treat boils?
   a. gumamela c. sampaguita
   b. rose d. ilang-ilang
3. Which of these fruits is used to treat diarrhea?
   a. calamansi c. water melon
   b. ampalaya d. banana
4. What part of sugarcane?
   a. roots c. stem
   b. leaves d. flowers
5. What part of guyabano is served as delicious desert?
   a. bark c. roots
   b. fruits d. leaves

V. ASSIGNMENT:

How plants protect themselves?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer that plants have specific structures and characteristics for adaptation and survival.

Values: *Patience in performing a task; Cooperation in group activities*

II. SUBJECT MATTER:

How Plants Protect Themselves

A. Science Concepts/Ideas:

Plants have special structures that allow 'them to protect themselves.

B. Processes:
Observing, comparing, inferring

C. Materials:
Rose plant, cactus, garlic, mushrooms or any plant available in the community

References:
Teacher's Module Science and Health V Jessie A. Villegas
Into the Future: Science and Health V

III. PROCEDURE:

A. Preparatory Activity:

1. Review medicinal plants and parts of plants which are good sourc~ of food.
2. Let the pupils bring small potted plants to class. Ask them to describe their color, smell and other' features distinct to each particular plant.

B. Developmental Activities:

1. Motivation
   Let the pupils visit a garden where plants live in their natural habitat.
   Ask: How do plants protect themselves against organisms that can harm them?

2. Presentation/Activity
   Activity 1

1. Examine and observe structures peculiar to these plants.
2. Infer how these structures help keep their enemies away.
3. Record your findings using the table below.

Name of Plant	Protective Structure	Purpose for Such Structures

Activity 2

- Discuss the plant parts with bark, sharp thorns, or secrete substances that are poisonous, have repugnant smells, or are sticky.

3. Concept Formation

- The class will come' up with their own list of plants with protective structures.
- Give other samples of plants with protective structures.

4. Application

Based on the activities, how do plants protect themselves?

IV. EVALUATION:

Match column A with column B. Write the letter in the blank before each number.

	A. Plants	B. Protective Structures
_____	1. gumamela	a. spines
_____	2. mushroom	b. thorns
_____	3. onion	c. foul odor
_____	4. cactus	d. bright color
_____	5. rose	e. poison

V. ASSIGNMENT:

1. What are the different adaptive structures of plants?
2. What is the purpose of pollination in flowers?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe the special characteristics of plants which help them adapt to the environment and reproduce their own kind.

Values: *Appreciation of the usefulness of plants; Caring for plants; Cooperation in group activities*

II. SUBJECT MATTER:

Plant Adaptations

A. Science Concepts/Ideas:

- Plants have different adaptive structures that allow them to live in specific environment.
  - Flowers and seeds are the reproductive organs of plants. They have structural and behavioral adaptation to perform their reproductive functions, such as pollination of flowers and the dispersal and germination of seeds.

B. Processes:
Describing, observing

C. Materials:
Leaves, stems, roots, flowers, fruits and seeds of some common plants

References:
Teacher's Module Science and Health V Jessie A. Villegas
Into the Future: Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Checking of Assignment
Review:
Protective structures of plants

B. Developmental Activities:
1. Motivation

2. Presentation/Activity

- Look for the following plants in the garden: patola, gumamela, cactus, grass and coconut.
- Examine their leaves, stems and roots.
- Describe their parts as to their structure, color and hardness.
- Infer how these structures help them adapt to their environment.
- Record your observations using the table below.

Name of Plant	Leaves	Adaptations Stems	Roots
Patola			
Gumamela			
Cactus			
Grass			
Coconut			
Pine tree			

Ask: What kind of leaves grow in places where there is abundant sunlight? Where there is rainfall?

3. Concept Formation

Divide the class into four groups. Let them discuss specific plant structures that they have observed.

Group 1: photophilic plants
Group 2: photophilic plants
Group 3: hydrophytes
Group 4: different shapes and sizes of leaves

Explain how these plants adapt to the certain environment.

4. Application

Teacher will discuss that aside from certain protective structures, there are different adaptations of plants for propagation of species. These are the reasons why they grow in big numbers.

Divide the class into two and do specific activity:
Group 1: How are flowers pollinated?
Group 2: How are seeds dispersed?

IV. EVALUATION:

A. Write the letter of the correct answer on your paper.

1. If a plant has very thick and fleshly stem with very thin and sharp leaves
   a. its mode of reproduction is by ~ cuttings
   b. it is probably not doing any photosynthesis
   c. its habitat is definitely a dry place, such as desert
   b. it is definitely an edible plant
2. Why do some seeds have strong shells?
   a. So that they will not be eaten by birds and other animals.
   b. To withstand seasonal changes, so they can germinate at the right time and season.

c. If and when they are swallowed, they will not be digested.
d. All of these

B. Name 3 examples of plants having the following characteristics:

a. dull and smooth leaves
b. small leaves
c. woody stems
d. tendrils
e. bright-colored flowers

V. ASSIGNMENT:

Give some example of plants that can grow in specific environments.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Cite example of plants that can grow in specific environments.

Values: *Cooperation in group activities; Participation in campaigns like Clean and Green.*

II. SUBJECT MATTER:

Plants That Can Grow in Specific Environments

A. Science Concepts/Ideas:

- Plants continue to thrive in their environment because they have adapted to it.
- Plants have different adaptive structures that allow them to live in specific environment.

B. Processes:
Observing, classifying, communicating

C. Materials:
Leaves, stems, roots of some common plants

References:
Teacher's Module Science and Health V Jessie A. Villegas
Into the Future: Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Review the different adaptations of plants and how they produce their own kind.

B. Developmental Activities:

1. Motivation
What will happen if cactus will be transferred into snow? What will happen if water lily will be planted on air? What if orchids are submerged in water? Why?

2. Presentation/Activity

a. Show the different adaptations of plants. Let them infer where do plants with certain adaptations live.
   a. Pair with a classmate. Give as many examples of plants that survive under or floats on water,

on air or in land.

3. Concept Formation

   Show the illustration of different habitats of plants. Teacher will explain how do these environment provide essential needs of certain plants in order that they will survive.

4. Application

   Divide the class into four groups.

   Their leaders will guide their members on what art work they could make out of sample seeds, flowers, or leaves of certain plants grown in specific environment.

5. Enrichment

   Discuss guidelines on beautifying the Science garden. By groups, they will bring medicinal and ornamental plants which grow in specific environment. They will take good care of them up to the end of the school year.

IV. EVALUATION:

Give five examples of plants that are considered as:

a. aerial plants
b. terrestrial plants

a. aquatic plants

V. ASSIGNMENT:

Give the classification of plants into major groups.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Classify plants into major groups: flowering plants, cone-bearing plants, ferns and mosses.

Values: *Appreciation of the usefulness of plants; Caring of plants; Cooperation in group activities*

II. SUBJECT MATTER:

Classifying Plants

A. Science Concepts/Ideas:

- Plants maybe grouped into flowering (angiosperm) and non-flowering (gymnosperms or conifers)
- Flowering plants bear flowers while non-flowering ones such as ferns reproduce by spores.
- Moses are called bryophytes. They are non-vascular plants.

B. Processes:
Classifying, describing

C. Materials:
Sample of flowers and fruits, pine branch with cones, fern, moss

References:
Teacher's Module Science and Health V Jessie Villegas
Into the Future: Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Review the different parts of a flower

B. Developmental Activities:

1. Motivation
Ask this question: Do all plants bear flowers?
   - Let the pupils work on activity 3.11 p. 105 of Into the Future: Science and Health, discuss their answers in class.

2. Presentation/Activity

Form 4 groups. Each group will perform specific activity.

Group 1

- Examine the flowering plants. Answer the flowering plants. Answer the following questions:

  Do all flowers have bright colored petals? Do all flowers release pleasant colors? Where do seeds of flowering plants come from?

Group 2

- Examine the underside surface of the fern leaf (or frond).

  Answer the following questions:

  What do we call these dark brown cases? What do they contain?

Group 3

- Examine the cone-bearing plants.

  Answer the following questions:

  What do cones carry?

  When those male and female spores unite, what do they form?

Group 4

- Examine the Non Vascular Plants

  Answer the following questions:

  How will you describe the structures of non vascular plants?

  How are food and water transported to different parts of the body?

3. Concept Formation

- Each group will present their findings.
- Make conclusions regarding their activity. Teacher may ask questions that may lead to the conclusion how do flowering, fern, cone-bearing and nonvascular plants live?

4. Application

- Let the pupils refer to the Going Further Section of the book. Point out why it is important to classify plants. Ask: How are we going to take care of these plants?

IV. EVALUATION:

Multiple Choices. Encircle the letter of the correct answer.

1. Which of the following plants bear flowers?
   a. acasia c. fern
   b. mosses d. liver worth
2. Which reproduces through spores?
   a. pine tree c. orchid
   b. rose d. ferns
3. Which plant does not belong to the group?
   a. mosses c. macopa
   a. corn d. mango

V. ASSIGNMENT:

Identify the characteristic of certain plants.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Identify characteristics of certain plants.
- Group plants according to common characteristics.

Values: *Appreciation of the usefulness of plants; Caring for plants*

II. SUBJECT MATTER:

Classification of Plants

A. Science Concepts/Ideas:

- There are two groups of' flowering plants, namely monocotyledons, (monocots) and dicotyledons (dicots)
- The classification is based on their number of cotyledons.

B. Processes:
Describing, classifying

C. Materials:
Leaves and flowers of monocots and dicots

References:
Teacher's Module Science and Health V Jessie Villegas
Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Review plants belonging to each group

B. Developmental Activities:

1. Motivation

2. Presentation/Activity

Ask the pupils to identify the habitat of these plants: orchids, mosses, grass, lotus, water lily, dapo, cadena de amor. Tell the pupils how these plants can be grouped according to their habitat.

3. Concept Formation
   Divide the class into three groups. Each will give as many examples as they can.
   Group 1 aquatic plants
   Group 2 terrestrial plants
   Group 3 aerial plants

4. Application
   Ask: Why is it important to classify plants according to their common characteristics?

IV. EVALUATION:

Write the letter of the correct answer.

1. Why is it important to classify plant?

a. to provide work for scientists
b. to pass the test
c. to preserve them
d. to show how they are similar and different from each other

2. Which plants does not belong to the group?
   a. pine tree
   b. mahogany
   c. orchids
   d. yellow bells

3. How are kangkong and lotus alike?
   a. they are terrestrial plant
   b. they are aerial plants
   c. they are aquatic plants
   d. they are desert plants

V. ASSIGNMENT:

Explain the other ways of grouping plants and describe the importance of grouping plants.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Explain the other ways of grouping plants
- Describe the importance of grouping plants

Values: *Appreciation of the beauty of plants; Caring for plants*

II. SUBJECT MATTER:

Classification of Plants

A. Science Concepts/Ideas:

- Plants may also be grouped according to their habitat.
- It is important to classify plants so that there is a systematic way of identifying them.

B. Processes:
Describing, classifying

C. Materials:
Various species of plants

References:
Teacher's Module Science and Health V Jessie Villegas
Into the Future: Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Ask the pupils to observe the different plant specimens.

B. Developmental Activities:

1. Motivation

2. Presentation/Activity
Tell the pupils to describe the arrangement of veins in their leaves. Point out that the mango leaf has parallel vein arrangement.

3. Concept Formation
Form 2 groups. Each group will perform specific activity.

Group 1

- Examine closely the seeds of monocots and their seedlings. Describe them. Ask: How will you describe the flowers of monocots? In what Region are the following plants common?

Group 2

- Observe the seeds of dicots and seedlings. Describe them. Ask: What is the common thing about the number of petals that dicots have? In what Region are the following plants common?

4. Application

Illustrate monocots and dicots, write description about the two classifications.

IV. EVALUATION:

Group plants according to their vein formation and number of cotyledon.

Mango	Banana	Guava
Cogon	Santol	Corn

MONOCOTS	DICOTS

V. ASSIGNMENT:

Describe simple physical and chemical changes in materials.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe simple physical and chemical changes in materials.

Values: *No two people are exactly alike/uniqueness*

II. SUBJECT MATTER:

Changes in Materials

A. Science Concepts/Ideas:

Changes in matter maybe physical or chemical

B. Processes:
Describing, classifying

C. Materials:
None

References:
Into the Future: Science and Health 5
Module J. A. Villegas

III. PROCEDURE:

A. Preparatory Activity:
Give example of other ways of grouping plants aside from having no seeds and having seeds.

B. Developmental Activities:

1. Motivation
Look at the illustration. Can you identify the changes shown in it?

2. Presentation/Activity
Form 2 groups: Observing Physical and Chemical Changes in materials. Each group will perform specific activity.

Group 1. Classify each change as physical or chemical.

_____ a. drying of wet laundry
_____ b sewing of lumber
_____ c. burning of paper
_____ d. melting of ice

_____ e. solidifying of wax

Infer the reason for your classification

Group 2. Classify each change as physical or chemical

_____ a. souring of milk
_____ b. electrolysis of water
_____ c. corrosion of metals
_____ d. explosion of gun powder
_____ e. expansion of air

Infer the reason for your classification

3. Concept Formation

- Each group will present their findings.
- Make conclusion regarding their activity. Teacher may ask question that may lead to the conclusion.
- When do you consider a change to be physical?
- When do you consider a change to be chemical?
- Therefore, what is Physical Change? Chemical Change?

4. Application

Guess which of tile following undergo Physical and Chemical Change. Fill the Chart.

Physical Change	Chemical Change
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

1. Make vinegar from pineapple juice.
2. Make water to ice
3. Rusting of iron
4. Stretching a rubber band
1. Make a candle flow

IV. EVALUATION:

Choose the letter of the correct answer.

1. Which of the following conditions can cause physical change in a material?

a. pounding
b. cutting
c. melting
d. all of the above

2. Which is an example of physical change?

a. Water freezes to ice
b. Naphthalene balls turn to vapor
c. Wood turns to alcohol
d. Both a and b

3. It is the change of matter in form only not in composition

a. Physical change
b. Chemical change
c. Environmental change
d. None of the above

V. ASSIGNMENT:

Differentiate chemical change from physical change in terms of:

a. condition involved
b. kinds of products

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Observe that no new material is formed in physical change.
- Show examples of physical change.

Values: *Performing an activity with care and accuracy; Cleanliness and orderliness; Working harmoniously and cooperatively*

II. SUBJECT MATTER:

Identifying Physical Change

A. Science Concepts/Ideas:

Physical change occurs when materials undergo a change in shape, size, etc. but not in composition.

B. Processes:
Observing, identifying, inferring

C. Materials:
Aluminum base and stand, I-beam, enameled dish, test tube, water, ice cubes, alcohol burner, rubber balloon, rubber stopper, laboratory thermometer, ring support

References:
Into the Future: Science and Health 5
Science and Health 5 (Module) Jessie A. Villegas

III. PROCEDURE:

A. Preparatory Activity:
What are some factors that may cause changes in materials?

B. Developmental Activities:

1. Motivation
When the butter melted, did it change to another substance?

2. Presentation/Activity
Form 3 groups: Observing physical change in some materials. Each group will perform

specific activity.

Group I

1. Fill one-third of the test tube with water. Place some ice cubes into the enameled dish of the phase change apparatus.
2. Heat the water to boiling.
2. Observe.

Group II

1. Heat the test tube of the apparatus and observe the rubber balloon. Allow the test tube to cool down after heating.
2. Allow the test tube to cool down after heating.
3. Observe.

Group III

1. Fill the test tube with 5 ml of the liquid. Suspend a thermometer from an I-beam and immerse its bulb in the liquid. Heat the liquid to boiling. Record the temperature at 2 minute intervals. Use a water bath when boiling on alcohol.
1. Observe.

3. Concept Formation

a. Each group will present their findings.
b. Make conclusions regarding their activity. Teacher may ask question that may lead to the conclusions. For Group I: What change in state occurs when water is boiling? What happens to the steam as it reaches the cold surface of the enameled dish? What change in state occurs in the ice?
c. For Group II, What happens to the balloon when the test tube is heated? What happens to the balloon when the test tube cools down?
d. For Group III, What are the boiling points of water and alcohol? Describe the group when the boiling point of each liquid is reached?
a. What changes were affected on the materials? Was there new materials formed?

4. Application

a. Now that they have learned that no new materials is formed in a physical change. They form into two groups.
b. Group I will give some example of home activities that involve physical change.
c. Group II will give some examples that changed in size, shape or state.

IV. EVALUATION:

Multiple Choice: Write the letter of the best answer.

1. Physical change happens when materials undergo a change in ...
   a. size
   b. shape
   c. phase
   d. all of them
2. Which of the following activities does not show physical change?
   a. shaping a piece of clay
   b. cutting strips of paper
   c. bending a piece of wire
   a. baking bread
3. Which of the following is NOT a result of Physical Change?
   a. small pieces of paper after cutting a piece
   b. different sizes of rocks after pounding
   c. ashes after burning
   d. strips of cloth after tearing

V. ASSIGNMENT:

Identify the condition when physical change occurs in the following activities.

1. fixing a broken chair
2. cutting of woods to build a house
3. slicing ampalaya
4. making pots from clay

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Observe that a new material is formed in a chemical change.
- Show examples of chemical change.

Values: *No two individuals are the same; Mood of an individual changes*

II. SUBJECT MATTER:

Identifying Chemical Change

A. Science Concepts/Ideas:

New materials are formed chemical change occurs. These materials are called products.

B. Processes:
Observing, identifying, inferring

C. Materials:
Chemical products, cut-outs, rusted nails, batteries, paper, leaves, wood

References:
Into the Future: Science and Health 5
Science and Health 5 (Module) Jessie A. Villegas

III. PROCEDURE:

A. Preparatory Activity:
Give an example of physical change

B. Developmental Activities:

1. Motivation
Let the pupils sing the motivation song about matter.
   - Why do we need to keep milk, meat, eggs and vegetables in a refrigerator?

2. Presentation/Activity
Activity 1 - Observing nails
   1. Why do they rust?
   1. Recalling activities on burning paper.
   3. What happened to these materials?

Activity 2 - Describing products of chemical change

1. Burning paper or wood = ashes
2. Mixing nail polish or paint with thinner = another substance wetting iron = rusts

Activity 3 - Discussion

1. Foods like milk, meat, eggs and vegetable turn sour when left them for several days outside the refrigerator. This is due to the formation of the acid substance in the food. Acid is sour.
   2. Identify the chemical products and discuss how these substances can be returned to their original state and composition.
3. Other products of chemical change are:
   a. Chemical Change in batteries producing electricity.
   b. Chemical Change in gasoline supply power for motor vehicles.

3. Concept Formation
   1. What is formed when a material undergoes chemical change?
   2. Therefore, what is the difference between physical and chemical change?

4. Application
   Why do doctors and pharmacists keep some medicines in refrigerator?

IV. EVALUATION:

Match the original materials with its product after the chemical change.

1. burned wood	a. vinegar
2. left over food for a week	b. rust
3. coconut water in a bottle left for a week	c. ash
4. wet iron nails	d. spoiled food

V. ASSIGNMENT:

List 5 chemical changes, their products and their uses.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe that the product of a chemical change cannot be brought back to its original form.

Values: *Performing an activity with care and accuracy; Working harmoniously and cooperatively: Cleanliness and orderliness*

II. SUBJECT MATTER:

Identifying Chemical Change

A. Science Concepts/Ideas:

- When a chemical change takes place, the characteristics/properties of the original materials also change. These characteristics may include color, odor, or taste and the product of a chemical change is another material or substance that cannot be brought back to its original form.

B. Processes:
Observing, identifying, experimenting

C. Materials:
Tissue paper, sugar, vinegar, ammonia, dropper, match, alcohol lamp, spoon, beaker or test tube, flour yeast

References:
Into the Future: Science and Health 5
Science and Health 5 (Module) Jessie A. Villegas

III. PROCEDURE:

A. Preparatory Activity:
What happens in a chemical change that is unlike in a physical change?

B. Developmental Activities:

1. Motivation
Display pictures of people cooking, sitting around a bonfire, as well as an illustration of a burning house. Ask: What is common to all these pictures?

2. Presentation/Activity

Tell your pupils that these pictures show burning materials. Burning materials is an example of change. Form 2 groups. Observing chemical change in some materials. Each group will perform specific activity.

Group I

1. Get a piece of tissue paper. Examine it carefully, noting its characteristics.
1. Burn the tissue paper. Observe what takes place as the paper burns. Do the characteristics of paper change? Is there any smoke formed?
2. Put a small amount of sugar into a spoon or clean can. Taste it, Note its color and texture.
3. Light the alcohol lamp. Put the spoon or can over the flame. What happen to the sugar? Do you notice other substances being formed?
4. Put one spoonful of ammonia into a beaker or bottle. Dilute it with one more spoonful of water. Do not taste it. Hold the bottom of the test tube.
5. Now, add vinegar drop by drop into the bottle. Take note of its temperature. Why do you think the temperature change?

Group II

1. Get a piece of charcoal. Examine it carefully.
2. Describe the charcoal's appearance.

- Where does charcoal come from?
- Can you bring back the charcoal to its original form?
- Why or why not?

3. Get a cup of flour, a little amount of water, and a teaspoonful of yeast, a common leavening agent.
4. Mix the ingredients thoroughly to form dough.
    - What happens to the dough after an hour?

- Why did this happen?
- What kind of change was involved in the making of dough?
- Can you bring back the dough to its original form? Why? Wr.y not?

3. Concept Formation
    a. Each group will present their findings.
    b. Make conclusions regarding their activity. Teacher may ask questions that may lead to the conclusions. For Group I, What conditions are necessary for the chemical change to take place?
    c. For Group II, What did the foregoing activity prove?
    d. To generalize ask: What kind of change did you observe in your activity?
    e. How did the original materials that undergo change differ from the products?

4. Application
    Now that they learned that product of chemical change cannot be brought back to its original form, pupils will now discuss the nature of change (composition). They will give other examples of chemical change.

IV. EVALUATION:

Tell whether the change that occurs is chemical or not. If the change is chemical, write C and if it is not, write O.

_____ 1. cutting a piece of wood
_____ 2. making vinegar
_____ 3. drying fish
_____ 4. evaporation of water

_____ 5. photosynthesis

V. ASSIGNMENT:
List down chemical changes that usually take place at home.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer that everything in the environment is changing.

Values: *Care for the environment*

II. SUBJECT MATTER:

Changes Occur in our Environment

A. Science Concepts/Ideas:

1. Through Science and Technology chemical changes are used to make our work easier and our ways better.
2. Many of the changes that occur in the environment are a combination of physical and chemical changes.

B. Processes:
Observing, describing, identifying and inferring

C. Materials:
Pictures of modern building, modern technology, jig-zaw puzzle

References:
Into the Future: Science and Health 5
Science and Health 5 (Module) Jessie A. Villegas

III. PROCEDURE:

A. Preparatory Activity:

Identify the pictures and group them either Physical change or chemical change.

B. Developmental Activities:

1. Motivation

Play a Jigsaw puzzle (Note: The puzzle shows old and modern technology and modern buildings)

2. Presentation/Activity

- What information do you get from the puzzle.
- List all your observations. Write as many inferences as you can think based on what you observed.

Observation	Inferences
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

3. Concept Formation

Make a conclusion regarding their observations and inferences. Teacher may ask question that may lead to the conclusions that through science and technology, chemical change are used to make our work easier and our ways better and the changes that occur in the environment are combination of physical and chemical changes.

4. Application

Now that they have learned that everything in the environment is changing, ask the pupils to make posters showing changes that occur in our environment.

IV. EVALUATION:

A. Rearrange the letters first to come up with terms related to changes in the environment.

1. zeano relay
1. diac nira
2. ballog wingram
3. burignn
4. nobraco coulfloroch

B. What pieces of evidence can prove that everything in the environment changes?

V. ASSIGNMENT:

Ask the pupils to interview their parents and other grown ups who can help them to, list down at least 5 changes in the environment.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer the effects of changes in the environment

Values: *Chemical changes, when used properly can bring many benefits to human kind.*

Strive to choose only those changes that can be tolerated by our natural environment

II. SUBJECT MATTER:

Changes Occur in our Environment

A. Science Concepts/Ideas:

Many of the· changes that occur in the environment are a combination of physical and chemical changes. Many of the environmental problems/issues are chemical in nature such as air and water pollution, acid, rain, global warming and ozone layer depletion.

Changes in the environment have both useful and harmful effects.

B. Processes:
Investigating and inferring

C. Materials:
Pictures, white plate, oil

References:
Into the Future: Science and Health 5
Science and Health 5 (Module) Jessie A. Villegas

III. PROCEDURE:

A. Preparatory Activity:

Ask the pupils to report on their interview stating changes in the environment. (Write them on the board)

B. Developmental Activities:

1. Motivation

Present 2 sets of pictures label it BEFORE and AFTER. Ask the pupils to describe the changes.

2. Presentation/Activity

Prepare a table in a manila paper. The table shows the kind of changes occurring in the environment and the good/bad effect of such changes.

Based on our daily observation and past knowledge about the environment, complete the table with the necessary information/inferences.

Kinds of Changes in the environment	Good Effect	Bad Effect
Change in living organism/ Population		
Change in the weather Change in the shape of land		
Change in the atmospheric condition		
Change in water condition		

- What will happen to the plants and animals affected by the harmful substances?
- What will happen to people living in such environment?
- What will happen to the weather?

3. Concept Formation

Lead the pupils to the conclusion that the effects of changes in the environment may be good or bad. Ask them to cite examples of good and bad effects of certain changes in the environment.

4. Application

How can awareness of the causes and effects of changes in the environment help us save mother earth?

IV. EVALUATION:

Identify whether the effects of changes in the environment is good or bad.

1. _____ crop damage
2. _____ innovative radio
3. _____ global warming
4. _____ painting of iron grills
5. _____ acid rain

V. ASSIGNMENT:

Ask the pupils to give 5 suggestions on how they can help in minimizing our environmental problems.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the good effect of certain changes in the environment.

Values: *Care for the environment; Cleanliness and orderliness*

II. SUBJECT MATTER:

The Good Effects of Certain Changes in the Environment

A. Science Concepts/Ideas:

Some changes of matter have a good effect in the environment and useful to us in many ways.

B. Processes:
Observing, describing and identifying

C. Materials:
Table, chairs, and other furniture and appliances

References:
Into the Future: Science and Health 5
Science and Health 5 (Module) Jessie A. Villegas

III. PROCEDURE:

A. Preparatory Activity:
Name some products change and their uses.

B. Developmental Activities:

1. Motivation
Play the puzzle game "Where is the Change" Make two sets of playing cards, one set portrays changes and the other the action causing each change. Distribute the cards to two groups of pupils. Ask the pupils to look for their partners in other group based on the card they receive.

2. Presentation/Activity
Activity 1
Identify materials/products that are useful to people and in the environment brought about by physical and chemical changes.
Activity 2. *Discussion*
Good Effects of certain changes in the environment
1. Changes in technology helps the country grow and becomes progressive.
2. Changes in electricity makes the environment bright at night.
3. Changes in machineries and vehicles keep country on moving fast.
4. Using materials such as wood, cement and metal help the people build and construct roads and houses.
5. Innovative radio, television and telephone keep the individuals in touch.
4. Painting of Iron grills is a preventive change against rusts.
5. Keeping of food clean and fresh we need refrigerator.

3. Concept Formation
Teacher will show an illustration of good effect of a certain change in the environment. The pupils will give some good effects of changes in the environment.

4. Application
After learning some good effects of changes in the environment. The pupils will give other changes they observe in their surroundings. Ask the pupils to predict what would have happened if these changes did not occur

IV. EVALUATION:
Put a (✔) check on the good effect of change and (x) on bad effect.
1._____ smoke from motor vehicle
1._____ metals used to build bridges
3._____ tiles crushed into small pieces

4._____ decayed vegetables and fruits
5._____ burning of plastics and some other garbages

V. ASSIGNMENT:

1. Make a list of files of the good effects of certain changes in the environment.
2. Cut pictures that will identify the good effects of certain changes in the environment.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the bad effect of certain changes in the environment.

Values: *Care for the environment; Cleanliness; Working harmoniously and cooperatively*

II. SUBJECT MATTER:

Changes in the Environment

A. Science Concepts/Ideas:

Some changes of matter have a bad effect in the environment.

B. Processes:
Observing, comparing and inferring

C. Materials:
Glass, petroleum jelly, masking tape, marking pen, magnifying, lens, white sock, any vehicle

References:
Science and Health V

III. PROCEDURE:

A. Preparatory Activity:
Give samples of physical and chemical changes.

B. Developmental Activities:

1. Motivation
Ask what kind of change is involved when a car used gasoline to be able to move? What do you feel when they accidentally inhale the smoke that comes from car?

2. Presentation/Activity
Form 3 groups. Each group will perform specific activity.

Group 1

- Choose several test sites. One test site should be an area where you think the air is clean. Another site should be an area that might be polluted
- Put an air-particle collector at each site. To make the collector smear a thin layer of

petroleum jelly on the outside of the drinking glass.
- Write the name of the test site on a small piece of masking tape and stick inside the glass.
- Place the glass upside down at the test site
- Check your collectors after two days using a magnifying lens
- Describe what you see on the glass
- Which test site you think is most polluted.

Group 2
- Put a white sock over the tail of a car.
- An adult should turn on the car and allow it to run for a minute or so. Then turn the car off.
- The adult should remove the sock from the hot tail pipe.
- Examine the sock with a magnifying lens
- Describe what you see on the sock. Imagine millions of cars giving off the same into the air Why is this a problem?

Group 3
- Does anyone of you live near a river?
- If yes, describe the river and its banks.
- If no, your teacher will give you a picture to study. Describe the river and the things you see in it. Do you think the water is safe for use by humans?

3. Concept Formation
   - Each group will present their findings.
   - Make conclusions regarding their activity. Teacher may ask questions that may lead on the conclusion that some changes in the environment have bad effect.
   - Give other changes in the environment that may have bad effects.

4. Application
   - Now that they have learned some bad effects of changes in the environment they will form two groups.
   - Group 1 will discuss how they can protect themselves from these bad effects.
   - Group 2 will discuss how they can protect the environment from these bad effects.
   - After discussion they will make posters to show the result of their discussion. (Teacher to give guidelines on preparation of posters.)

IV. EVALUATION:

Ask pupils to pair with a classmate. Ask them to go around the school and find changes that could have a bad effect on them or the environment. Identify these and think of ways on how they can protect themselves and the environment. Make a write-up.

V. ASSIGNMENT:

Give some bad effects of changes of matter.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Compare the ability of land and water to absorb and release heat.

II. SUBJECT MATTER:

Land and Water Absorb and Release Heat

A. Science Concepts/Ideas:

The earth's surface is made up of land masses and bodies of water, air masses acquire uneven temperatures. Bodies of water heat and cool off more slowly than land.

B. Processes:
Observing, inferring and comparing

C. Materials:
Differential Thermoscope

References:
Science and Health Grade V by Jessie Villegas
Into the Future: S/H 5 pp. 229-230

III. PROCEDURE:

A. Preparatory Activity:
Ask the pupils to give the importance of sunlight.

B. Developmental Activities:

1. Motivation
Where do people likely to go during summer? (beaches) Have you experienced night swimming? How does the water feel?

2. Presentation/Activity
- Infer to pupils which heats faster and cools quickly.
- Do activity 2, page 88 of Science and Health 5 by Jessie Villegas
- How are land masses and bodies of water heated by the sun?

3. Concept Formation
- Which heats up quietly and cools off slowly, land or water? Why?
- Teacher asks questions that will lead the pupils to the conclusion that unequal heating of land masses and bodies of water is largely responsible for the unequal temperature

of air masses over the earth's surface.

4. Application
    - Relate the unequal heating of the earth's surface to the influence of environment to people.
    - People with good moral character do not easily get affected by bad influences than those with weak moral foundation.

IV. EVALUATION:

Answer briefly the following questions.

1. Which heats up rapidly, land or bodies of water?
2. Which cools off quickly, land or bodies of water?
3. What is the effect of unequal heating of land and bodies of water?

V. ASSIGNMENT:

Draw to illustrate how land and water absorb and release heat.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Investigate why there are differences in atmospheric pressure
- Identify wind as product of interaction between hot air and cold air.

II. SUBJECT MATTER:

Unequal Heating of Earth's Surface Causes Differences in Atmospheric Pressure

A. Science Concepts/Ideas:

An air mass takes the temperature of the earth's surface over which it is located, the unequal heating of the earth's surface causes an unequal atmospheric temperature and therefore unequal atmospheric pressure.

The interaction of hot air mass and cold air mass over a surface produces a convection current that generates a movement of air called wind.

B. Processes:
Observing, identifying and investigating

C. Materials:
Hot - Cold Air Balance

References:
Science and Health Grade V by Jessie Villegas pp. 91-92

III. PROCEDURE:

A. Preparatory Activity:
Which absorbs and releases heat slowly, land or water?

B. Developmental Activities:

1. Motivation
Look outside and observe the trees and plants. What makes them move? (Wind)

2. Presentation/Activity
   - Group the class into 6 groups.
   - Do activity No. 4 p. 92 of Science and Health 5 by Jessie Villegas
   - Relate the investigation to the interaction of hot air mass to cold air mass.

3. Concept Formation
   - Make conclusion regarding the activity.
   - What causes the difference in atmospheric pressure of a place? How?

- How is wind formed?

4. Application

   Relate the effect of heat to air to an argument with a friend. How would you handle the situation?

IV. EVALUATION:

Briefly explain the effect of unequal heating of the earth's surface to the difference in atmospheric pressure.

V. ASSIGNMENT:

Draw to illustrate the effect of unequal heating of the earth's surface to the atmospheric pressure.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Describe how atmospheric pressure affects the weather.
- Identify the instrument use to detect the atmospheric pressure

II. SUBJECT MATTER:

Atmospheric Pressure Affects Weather Condition

A. Science Concepts/Ideas:

Atmospheric pressure is a major element of weather. When there is a high pressure over the place, good weather is expected. But when there is low pressure, rain or storm may occur.

A Barometer is used to detect atmospheric pressure.

B. Processes:
Identifying and describing

C. Materials:
U- Tube Barometer

References:
Science and Health Grade V by Jessie Villegas pp. 93-94

III. PROCEDURE:

A. Preparatory Activity:

What is the interaction of hot air mass and cold air mass called?
What causes the differences in atmospheric pressure?

B. Developmental Activities:

1. Motivation

How can PAGASA tell what kind of weather we will experience from day to day?

2. Presentation/Activity
   - Divide the class into 3 groups.
   - Do Activity 8.5 on page 43 of Science and Health V by Jessie Villegas.
   - Relate the findings to atmospheric pressure

3. Concept Formation
   - Make conclusion regarding the activity.
   - When do we expect a good weather? Rainy or stormy weather?
   - How does atmospheric pressure affects the weather?

4. Application

A barometer detects good and bad weather. Which serve as barometer to our selves? (conscience) Is it important to have a conscience? Why?

IV. EVALUATION:

Fill in the blanks with the correct answer.

____ affects the weather condition of a place. Good weather is expected when there is pressure. A rain or storm may occur when there is _____pressure. To detect atmospheric _____pressure, an instrument called _____ is used. Change in atmospheric pressure is due to _____ heating of the earth's surface.

V. ASSIGNMENT:

Listen to the weather report on television or radio tonight and take note of the weather condition we will experience tomorrow.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the different kinds of cyclone.

II. SUBJECT MATTER:

Kinds of Tropical Cyclone

A. Science Concepts/Ideas:

Tropical cyclones are classified into tropical depression, tropical storm, and typhoon.

B. Processes:
Predicting and identifying

C. Materials:
Weather report chart

References:
Into the Future: S/H 5 pp. 235 - 236

III. PROCEDURE:

A. Preparatory Activity:
What is cyclone? What does it bring?

B. Developmental Activities:

1. Motivation
Do you listen to weather reports? How do you know that there is a cyclone or not?

2. Presentation

- Show a weather report chart. Do Activity 8.6 on page 235 of Into the Future: SCIENCE AND HEALTH V textbook.
- Show the Table of Classification and Description of tropical cyclones.
- Pupils identify the different kinds of cyclone.
- The class will predict the effects of each kind of cyclone in the environment.

3. Concept Formation
What are the different kinds of cyclones? Describe each kind. How are they classified?

4. Application
Group the class into 3 groups. Each group will represent each kind of cyclone. They will interpret each kind by means of body movements like walking, jogging, or running.

IV. EVALUATION:

Name and describe the different kinds of cyclone

V. ASSIGNMENT:

List down at least 5 tropical cyclones which visited the Philippines.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe each kind of cyclones.

II. SUBJECT MATTER:

Kinds of Tropical Cyclone

A. Science Concepts/Ideas:

- A tropical cyclone has a maximum wind of less than 63 kph.
- A tropical storm has a maximum wind of 63 to 113 kph near the center.
- A typhoon has a maximum wind of greater than 118 kph.
- Tropical cyclones which hit the Philippines usually form over the Pacific Ocean and the South China Sea.

B. Processes:
Describing, communicating and inferring

C. Materials:
Pictures depicting the 3 kinds of cyclones

References:
Into the Future: SCIENCE AND HEALTH V textbook, pp. 235-236

III. PROCEDURE:

A. Preparatory Activity:
What are the different kinds of cyclones? How are they classified?

B. Developmental Activities:

1. Motivation
Show pictures depicting the 3 kinds of cyclone. Ask what do they see in the pictures.

2. Presentation
- Divide the class into 3 groups.
- Each group will be assigned one kind of cyclone and discuss what could happen to a place hit by it.

3. Concept Formation
- Each group will present their output.
- Ask questions that will lead the pupils to formulate conclusions on the description of

each kind of cyclone.

4. Application
   Suppose that a typhoon is coming tonight, what would the people expect?

IV. EVALUATION:
Describe briefly each kind of cyclone.

V. ASSIGNMENT:
Choose one kind of cyclone and make a poster that will show its effect to the environment.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe the conditions in the environment before, during, and after a cyclone.

II. SUBJECT MATTER:

Conditions in the Environment Before, During, and After a Cyclone.

A. Science Concepts/Ideas:

Conditions of land, water and air differ before, during, and after cyclone.

B. Processes:
Observing, inferring

C. Materials:
Pictures showing the condition of the environment before, during, and after a cyclone.

References:
Into the Future: S/H V pp. 237-238

III. PROCEDURE:

A. Preparatory Activity:
What are the different kinds of cyclones? Describe each.

B. Developmental Activities:

1. Motivation
Have you experienced a typhoon? What would be the condition of land, water and air before, during, and after a typhoon?

2. Presentation
- Group the class into 3 groups.
- Each group will brainstorm on the condition of the environment before, during and after a typhoon.
- Each group will present their ideas about the topic

3. Concept Formation

- Make conclusion regarding the activity.
  - Teacher shows pictures of the condition of land, water, and air before, 'during, and after a typhoon.

4. Application

Each group will make a poster of the condition of land, water, and air during a typhoon assigned to them.

IV. EVALUATION:

- Presentation of outputs of each group.
  - Describe the assigned condition in the environment during a typhoon.

V. ASSIGNMENT:

List down at least 5 conditions in the environment before, during, and after a cyclone.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Explain the meaning of typhoon signals.

Values: *Alertness; Observing precautionary measures*

II. SUBJECT MATTER:

Typhoon Signals

A. Science Concepts/Ideas:

- Typhoon signals issued by PAGASA warns the public of the coming cyclones.
- Typhoon signals are raised according to the strength and speed of the wind and the times when such kind of wind is expected.

B. Processes:
Inferring, describing

C. Materials:
Electric fan, Anemometer

References:
Into the Future: S/H V pp. 239-240

III. PROCEDURE:

A. Preparatory Activity:
Describe the condition of the environment before, during, and after a cyclone.

B. Developmental Activities:

1. Motivation
   How would you know that a typhoon coming is strong?

2. Presentation
   - Divides the class into 3 groups.
   - Do Activity 8.8 on page 239 of Into the Future.
   - Relate the findings on the typhoon signals.

3. Concept Formation
   - Show the class the table of description of typhoon signal.
- Describe each typhoon signal.
   - Infer the effect of each typhoon signal.

4. Application
   - Each group will present a skit on the typhoon signal assigned to them. They will portray the following roles: PAGASA/Weatherman, DepEd Secretary, Community people.

IV. EVALUATION:

Identify what typhoon signal is depicted in each situation.

_____ 1. Classes in the elementary and high school level are suspended.
_____ 2. Very strong winds of more than 185 kph are expected at least within 12 hours.
_____ 3. Strong winds of 60 kph maybe expected within at least 36 hours.
_____ 4. Classes in all levels are suspended. Work in government offices are likewise suspended.
_____ 5. Be alert and observe precautionary measures before, during, and after cyclone.

V. ASSIGNMENT:

List down at least 5 precautionary measures before, during and after a cyclone.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Practice precautionary measures before, during, and after a typhoon.

Values: *Brotherhood and Cooperation*

II. SUBJECT MATTER:

Precautionary Measures Before, During, and After a Typhoon

A. Science Concepts/Ideas:

To save lives and properties, before, during, and after a typhoon, strictly follow all safety measures

B. Processes:
Inferring, communicating

C. Materials:
Chart

References:
Into the Future: SCIENCE AND HEALTH V textbook, pp. 241-242

III. PROCEDURE:

A. Preparatory Activity:
What are typhoon signals? How is it raised?

B. Developmental Activities:

1. Motivation
What would you do when there is a typhoon coming in your place?

2. Presentation
   - Divide the class into 3 groups.
   - Each group will be assigned to brainstorm on a specific task on the precautionary measures whether before, during, or after a typhoon.
   - Do Activity 8.9 on page 241 of Into the Future

3. Concept Formation
   - Each group will present their output.
   - Teacher asks questions that will lead the pupils to the precautionary measures before, during, and after a typhoon.

4. Application

   Each group will present a typhoon scene following all the precautionary measures to be practiced before, during and after a typhoon. Put emphasis on brotherhood and cooperation.

IV. EVALUATION:

List down at least 5 precautionary measures before, during and after a typhoon.

V. ASSIGNMENT:

Interview some community officials on the precautionary measures they post to community people before, during and after a typhoon.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify ways to conserve the environment to lessen the harmful effects of cyclones/floods.

II. SUBJECT MATTER:

Ways on how to Conserve the Environment to Lessen the Harmful Effects of Cyclone/Floods

A. Science Concepts/Ideas:

There are several ways to help conserve our resources at the same time lessen the destructive effect of cyclones.

B. Processes:
Identifying, communicating, describing

C. Materials:
Pictures of 2 areas with different environment

References:
Into the Future: SCIENCE AND HEALTH V textbook pp. 243-246

III. PROCEDURE:

A. Preparatory Activity:
How do air and water services affected by bad weather condition?

B. Developmental Activities:
1. Motivation

Show pictures of two areas under bad weather condition. One area is overcrowded and polluted, and the other is clean and full of plants and trees. Ask the pupils to describe the areas.

2. Presentation

- Group the class into 3 groups.
- Each group will think of ways on how to conserve the environment and lessen the harmful effects of cyclone/ flood. They will present it in a form of skit.

3. Concept Formation

- Make conclusions regarding their activity.
- Teacher asks questions that will lead the class to the conclusion that conservation of the environment prevents harmful effect of cyclone or flood.

4. Application

Each group will make a poster or slogan on how to conserve the environment to lessen harmful effects of cyclone or flood.

IV. EVALUATION:

Write at least 5 ways on how to conserve the environment to lessen harmful effects of cyclone or floods.

V. ASSIGNMENT:

Interview 10 community members and list down the practices they have adopted to lessen the occurrence of flood.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Relate weather conditions to planning family and community activities

II. SUBJECT MATTER:

Relating Weather Conditions to Planning Family and Community Activities

A. Science Concept:

B. Processes:
Inferring, identifying

C. Materials:
Pictures of different activities done under different weather conditions, chart

References:
Into the Future: SCIENCE AND HEALTH V textbook p. 243

III. PROCEDURE:

A. Preparatory Activity:
Name some precautionary measures before, during, and after a typhoon.

B. Developmental Activities:

1. Motivation
Show pictures of different weather conditions and ask the class what activities are done under each weather condition.

2. Presentation
- Group the class into four groups.
- Ask the Class to prepare a skit on the activities they do or observe that are done in the community under different weather conditions.
- 'Presentation of Skits

3. Concept Formation
- Make conclusion regarding the activity.
- Post the chart of weather and activities.
- Ask the pupils to draw from the magic box one activity card and paste it on the right column in the weather and activity chart.
- Ask why is it important to _____the activities for a particular weather conditions.

4. Application

What activities do you do during rainy days? Why?

What are the common activities done in your community during rainy days? Why?

IV. EVALUATION:

Put a (✔) if the activity done suits the weather condition, and (x) if not.

_____ 1. Go swimming in a stormy day:
_____ 2. Fly kites in a rainy day.
_____ 3. Farming starts on rainy days.
_____ 4. Play ball games on fine days.
_____ 5. Go hiking on fair days.

V. ASSIGNMENT:

Fill in the table of different activities done on different weather conditions.

Fine Day	Fair Day	Rainy Day	Stormy Day

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Relate observations of weather conditions to air, and water transportation services.

II. SUBJECT MATTER:

Weather Conditions Affect Air and Water Transportation Services

A. Science Concept:

B. Processes:
Inferring, communicating

C. Materials:
Pictures of air and water crafts accidents

References:
Into the Future: SCIENCE AND HEALTH V textbook pp. 243-244

III. PROCEDURE:

A. Preparatory Activity:

Name some activities done under the following weather conditions:

rainy days	fair day
fine day	stormy day

B. Developmental Activities:

1. Motivation

Recall some accidents met by sea and air crafts because of bad weather conditions.

2. Presentation

- Draw from the class what would happen to sea and water transportation under different weather conditions.
- Which weather condition is destructive to air and water transportation? Why?

3. Concept Formation

Lead the class to form conclusion on the importance of observing weather condition before going to travel by sea or air.

4. Application

You and your family will go for a 3-day vacation trip to Cebu as a prize on a raffle draw.

Suddenly, you heard over the radio that there is an approaching typhoon over the Visayas region. What would you do?

IV. EVALUATION:

Give at least 5 reasons why is it important to observe weather conditions for air and water transportation services.

V. ASSIGNMENT:

Cut newsprint or articles about sea and aircraft accidents due to bad weather conditions.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe static electricity.

Values: Working harmoniously and cooperatively; Appreciation of nature

II. SUBJECT MATTER:

Energy - Static Electricity

A. Science Concept:

A static electricity is an electricity that does flow. It stays fixed on a location until a conductor provides a route through which the charges can escape.

B. Processes:
Describing, inferring, generalizing

C. Materials:
Tissue papers, plastic sheet, comb

References:
Module in Science & Health V pp. 152-153;
Into the Future: Science and Health V pp. 136-138

III. PROCEDURE:

A. Preparatory Activity:
What is electricity?
What appliances do you have at home that can be operated by electricity?

B. Developmental Activities:

1. Motivation
Do you know what will happen to the plastic sheet when you rub it?

2. Presentation
The pupils will be grouped into 4 and they will do an activity using the materials to be given by the teacher.

3. Concept Formation

By using the plastic sheet and the tiny bits of tissue papers the pupils will rub the plastic sheet with a sheet of paper and put it above the tiny bits of tissue papers.

The pupils will observe what will happen.

4. Application

Observation and Inferences:

What happens when the charged plastic sheet is brought near the tiny bits of tissue paper?

What kind of electricity is present there?

C. Generalization:

What is a static electricity?

D. Application

Do the same activity using a comb to be rubbed in your hair.

What do you feel when the charged comb is brought close to your skin?

IV. EVALUATION:

Describe what a static electricity is using a simple sentence.

V. ASSIGNMENT:

Do the same activity at home using other materials that have static electricity.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify ways of producing static electricity.

Values: Working harmoniously and cooperatively; Cleanliness

II. SUBJECT MATTER:

Static Electricity

A. Science Concept:

Rubbing, pounding and pressing are some ways of producing static electricity.

B. Science Processes:
Identifying, observing, experimenting

C. Materials:
Plastic sheet, comb, Styrofoam balls, tiny bits of tissue paper

References:
Module in Science & Health V pp. 152-153;

III. PROCEDURE:

A. Preparatory Activity:
What is static electricity?

B. Developmental Activities:

1. Motivation
What activity did we do yesterday to produce static electricity? Do it again using your materials. (The pupils will do the activity group.)

2. Presentation
We have materials here again. Aside from rubbing, what other activities can you do to produce static electricity?

3. Concept Formation

The pupils will experiment other ways of producing static electricity.

4. Application

The pupils will-report by group. The leader will lead the group.
What other ways did you find/do to produce static electricity?

C. Generalization:

We can produce static electricity by _____, _____, and _____.

IV. EVALUATION:

What are some ways of producing static electricity?

V. ASSIGNMENT:

Do the same activities at home with your brothers and sisters using other materials.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe the effect of static electricity

Values: *Performing an activity with care and accuracy. Working harmoniously and cooperatively in a group*

II. SUBJECT MATTER:

Static Electricity
Effects of Static Electricity

A. Science Concept/Idea:

When two appropriate materials such as plastic and paper are rubbed or pressed together, some of the loosely held electrons .are transferred *from* one material to the other. And if the two bodies are abruptly separated, the electrons cannot return to their original atoms and so the two bodies become electrically charged because one body has more electrons than protons, while the other has more protons than electrons. If the bodies are excellent insulators or are insulated, they will remain electrically charged. We call these charges static electricity.

B. Science Processes:
Observing, inferring

C. Materials:

Plastic sheet, Styrofoam balls, piece of paper

References:
Module in Science and Health V p. 152
Into the Future: Science and Health V pp. 136-137

III. PROCEDURE:

A. Preparatory Activity:

Give some ways on how to produce static electricity.

B. Developmental Activities:

1. Motivation

Are there any effects of static electricity?

2. Presentation

The pupils will be grouped into 4 and they will do again some activities where they can observe some effects of static electricity.

3. Concept Formation

3.1. Lay a plastic sheet on a clean table and rub it with a sheet of paper or simply press it firmly against the table. Hold the sheet on both edge and then rapidly lift it vertically upward.
3.2. Place the plastic sheet over tiny bits of Styrofoam balls.
3.3. Hold the sheet close to you but not touching your skin.

4. Concept Formation:

What are the effects of static electricity?
What happens when you put the charged plastic sheet near your skin?
What happens when you put the plastic sheet over the tiny bits of paper? Styrofoam balls? Etc.

5. Application:

What happens when a spark due to static electricity strike the ground? What is produced when you touch a metal doorknob?

IV. EVALUATION:

Tell what happens when-

1. You put a charged plastic sheet near your skin.
2. When you wear a silk dress.
3. When you touch a metal doorknob.
2. When you walk across a carpeted room.
3. When you rub two objects.

V. ASSIGNMENT:

In what way is static electricity useful?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe an electric circuit.

Values: *Working harmoniously cooperatively in a group cooperatively in a group*

II. SUBJECT MATTER:

Electric Circuit

A. Science Concept/Idea:

An electric circuit path/route through flow which electrons flow.

B. Science Processes:
Describing, inferring

C. Materials:
Battery holder, lamp holder, dry cells connecting wire, 2.5 v bulb

References:
Module in Science and Health V p. 166

III. PROCEDURE:

A. Preparatory Activity:

What is a static electricity?
What are the ways on how to produce a static electricity?
What are the effects of static electricity?

B. Developmental Activities:

1. Motivation

Why does the electric fan move? Why do we have lights?

2. Presentation

- What do you call these materials?
- What are these materials for?

3. Activity Proper

With a battery and a connecting wire, make a flashlight bulb light.
The pupils will do the activity by group.

4. Concept Formation
   - What do you call the entire path through which electrons flow?

5. Generalization:
   What is an electric circuit

IV. EVALUATION:

An electric circuit is the entire _____or _____ through which an _____.

V. ASSIGNMENT:

What are the parts of an electric circuit?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the parts of electric circuit

Values: *Working harmoniously and cooperatively in a group*

II. SUBJECT MATTER:

Parts of an Electric Circuit

A. Science Concept/Idea:

A simple circuit consists essentially of three parts, namely the source, the line, and the load.

B. Science Processes:
Observing, identifying, inferring

C. Materials:
Bulb, connecting wire, dry cell, bulb holder, switch, flashlight

References:
Module in Science and Health V p. 66
Into the Future: Science and Health V pp. 141-143

III. PROCEDURE:

A. Preparatory Activity:
What is an electric circuit?

B. Developmental Activities:

1. Motivation
Why do bulbs and fluorescent lamps glow? Where do electrons flow?

2. Presentation

The pupils will be grouped by 4. Each group will have chips of jumbled letters. They will arrange those letters to form new words as answers to the questions.

3. Activity Proper

   What are the parts of a simple electric circuit?

4. Concept Formation

   Each group will read their answers.

   1. What is a circuit?
   2. What are the parts of a simple circuit?
   3. It is the source of electromotive force.
   1. A device that can resist the flow of electricity
   2. The conductor which connect the loads to the source of the emf . etc.

5. Application:

   How can you make a bulb light?

IV. EVALUATION:

What are the parts of an electric circuit?

1.
2.
3.
4.
5.

V. ASSIGNMENT:

What happens in a short circuit?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Classify materials into conductors and insulators.

Values: *Work harmoniously and cooperatively in group. Appreciate the importance of things*

II. SUBJECT MATTER:

Conductors and Insulators

A. Science Concept:

A conductor is any material that allows the passage or flow of electrons.
An insulator is any material that prevents the flow of electrons.

B. Science Processes:
Classifying, observing, inferring

C. Materials:
Plastic, wood, rubber, pins, metals, electrical conductivity tester

References:
Module in Science and Health V pp. 72-73

III. PROCEDURE:

A. Preparatory Activity:
What are the parts of an electric circuit?

B. Developmental Activities:

1. Motivation
Do all materials conduct electricity?

2. Presentation
The pupils will be grouped into 4 and they will do an activity.
Classify the following materials under proper heading.

3. Activity Proper
Problem:
What are conductors and insulators? What are they usually made of?
Each group will do the activity with the supervision of the teacher.

4. Concept Formation

Cross out all the materials that are good conductors of electricity. Box all the materials that are considered insulators.

paper clip	rubber stopper	wire
paper	thumb tack	aluminum
glass tube	hairpin	rubber band
plastic ruler	coin	safety pin

- What are conductors? Insulators?

5. Application:
   - Do all materials conduct electricity?
   - What are conductors and insulators usually made of?

IV. EVALUATION:

Classify the following materials into conductors and insulators.

notebook	umbrella	container
aluminum	paper clip	ceramics
coin	frying pan	metals

V. ASSIGNMENT:

Give examples of conductors and insulators.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Construct a model of an electric Circuit.

Values: *Work harmoniously and cooperatively in group. Neatness and orderliness*

II. SUBJECT MATTER:

Model of an Electric Circuit

A. Science Concept:

A simple electric circuit is composed of a dry cell, connecting wire, bulb (1.5 v)

B. Science Processes:
Observing, constructing

C. Materials:
Dry cell, connecting wire, bulb, switch, bulb holder

References:
Module in Science and Health V p. 166
Into the Future: Science and Health V p. 141

III. PROCEDURE:

A. Preparatory Activity:
What are the parts of an electric circuit?
Describe each part.

B. Developmental Activities:

1. Motivation
Can you make a simple electric circuit out of these materials?

2. Presentation
The pupils will be grouped into 4 and the teacher will give them materials to assemble.
I will see who among you can make or construct a simple electric circuit. Remember, you have to help one another and make sure that every material will not scatter and they should be in their proper places.

3. Activity Proper
The pupils will work in a group. Each group will construct a simple electric circuit.

4. Concept Formation
    - Each leader in every group will report on their work.
    - What did you do to make the bulb light?
    - What are the materials that you used in constructing a simple electric circuit?
    - Show your model if they will light.

5. Generalization:
    - What is an electric circuit?
    - What are the parts of a simple electric circuit?
    - What will you do in order to make the bulb light?

IV. EVALUATION:

The pupils will display their work in front with bulb lighted.

V. ASSIGNMENT:

Construct your own simple electric circuit at home with your brothers and sisters.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Differentiate a parallel from a series connection.

Values: *Being attentive in every class discussion.*

II. SUBJECT MATTER:

Parallel and Series Connection

A. Science Concept:

When two or more loads are arranged one after the other, they are said to be connected in series. The electrons have to pass through one load before they can pass to another.

When two or more loads are arranged in such a way that each load has an independent circuit, they are said to be connected in parallel. The electrons pass through any load without having to pass through other loads.

B. Science Processes:
Differentiating, observing, inferring

C. Materials:
Sample/model of a series and parallel connections

References:
Module in Science and Health V p. 166
Into the Future: Science and Health V p. 144-146

III. PROCEDURE:

A. Preparatory Activity:
What is an electric circuit? What are the parts of an electric circuit?

B. Developmental Activities:

1. Motivation
What is a circuit? Do you know what kind of circuit do you have at home?

2. Presentation
The pupils will be grouped into 2 and each group will be given a model.

Group I - model of a series circuit
Group II - model of a parallel circuit

C. Activity Proper

What are the kinds of circuit? Can you differentiate the two?

D. Concept Formation

The leader in each group will write their observations on the board.
Their work will be discussed one by one.
How are the loads in series connected? How about in parallel?
How are the dry cells in parallel circuit arranged in series connection?

E. Generalization:

What is the difference between series and parallel connections?

F. Application

What connection do you have at home? Why do you use that kind of connection?

IV. EVALUATION:

Fill in the blanks

When two or more loads are arranged one after the other they are called _____circuit.
In this circuit, the _____will have to pass through _____ load before they can pass to the next.
When two or more cells are arranged in such a way that each load has an independent circuit they are connected in _____

V. ASSIGNMENT:

Differentiate parallel from connection in your own words.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Cite the advantages and disadvantages of parallel and series connection.

Values: *Work harmoniously and cooperatively in group; Speak clearly and correctly*

II. SUBJECT MATTER:

Advantages and Disadvantages of Parallel and Series Connection

A. Science Concept:

A break in the line or in one load in a series circuit will open the entire circuit. On the other hand, a break in branch of a parallel circuit will not affect the flow of current in other branches.

B. Science Processes:
Observing, inferring

C. Materials:
Models of parallel and series connections

References:
Module in Science and Health V p. 166
Into the Future: Science and Health V p. 144-145

III. PROCEDURE:

A. Preparatory Activity:
What is the difference between parallel and series connections?
How are the loads in each connection arranged?

B. Developmental Activities:

1. Motivation
Why do most homes used parallel connection?
What connection is used in Christmas lights?

2. Presentation
The pupils will be grouped into. two. Each group will make the lights of each connection glow. They will observe what happens.
Record your observation.

3. Activity Proper

   Each group will observe and infer what are the advantages and disadvantages of parallel and series connections.

4. Concept Formation

   What kind of connection do we use at home? Why?

   What happens when 1 bulb in a Christmas light will be destroyed?

5. Generalization:

   What are the advantages of using parallel connections?

   What about the disadvantages? What are the advantages of having series connection at home? Offices?

   What are the disadvantages?

C. Application

   Which do you prefer, using parallel or series connections in your homes? Why?

IV. EVALUATION:

   Give 2 advantages and 2 disadvantages of series and parallel connections.

V. ASSIGNMENT:

   Give some advantages and disadvantages of series and parallel connections

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how electrical energy is produced.

Values: *Be attentive in class discussions. Work harmoniously and cooperatively in a group.*

II. SUBJECT MATTER:

Electrical Energy

A. Science Concept:

Electrical energy is the energy that comes from the flow of electrons from one material to another.

B. Science Processes:
Describing, observing, inferring

C. Materials:
Dry cell, connecting wire, bulb, flashlight

References:
Module: Electrical Energy
Science and Health for Better Life

III. PROCEDURE:

A. Preparatory Activity:
What is the difference between parallel and series connections? Give examples.

B. Developmental Activities:

1. Motivation
Do you know why we have light in the room?
Do you know also why the television works?

2. Presentation
The pupils will be grouped into 4 and they will do an activity.
The teacher distributes the materials by group.

3. Activity Proper

Using only one dry cell/ and one connecting wire/ make a flashlight bulb light.
Draw a sketch that made the bulb light.

4. Concept Formation
   What are the essential energy? How is electrical energy produced/ formed?

5. Generalization:
   What is electrical energy?
   How is electrical energy formed/produced?

6. Application
   Electricity helps in our work at home. How should you use it?
   What are the precautionary measures that should be observed when using electricity?

IV. EVALUATION:
Draw an electric circuit. How does electrical produce/formed?

V. ASSIGNMENT:
How can you help your family in conserving electricity?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe transformation of energy to other forms.

Values: *Conserve electricity and energy. Work harmoniously in a group*

II. SUBJECT MATTER:

Transformation of Electrical Energy to Other Forms

A. Science Concept:

Energy transformation is governed by the law of conservation of energy. It starts that energy. It states that energy might change its form, but it does not disappear. In short, the total amount of energy is always the same.

B. Science Processes:
Observing, inferring, identifying

C. Materials:
Electric fan, radio, TV, calculator, light

References:
Module in Science and Health V pp. 209-210

III. PROCEDURE:

A. Preparatory Activity:
Describe what is an electrical energy?

B. Developmental Activities:

1. Motivation
Can you transform energy into other forms?
What happens to the chemical energy in the dry cells?

2. Presentation
The pupils will be grouped into 4. Each group will be in-charged of the appliances inside the room. They will observe what happens or what energy transformation happens when they switch on those appliances.

3. Activity Proper

Group I – flashlight
Group II - radio
Group III - television set
Group IV - electric fan

4. Concept Formation
   What energy transformation happens when you switch on the different appliances? Trace what happens to the energy in the following appliances.

5. Application
   What will you do if you see bulbs of fluorescent lamps still switched on during daytime? Why?

IV. EVALUATION:

Observe what energy happens to the following:

1. washing machine
2. oven toaster
3. karaoke
4. lampshade
5. calculator

V. ASSIGNMENT:

Give other examples on how energy is transformed to other forms.

Date: _____

I. OBJECTIVE:

Observe that energy can produce heat and light.

Values: *Conserve energy/electricity Work harmoniously and cooperatively in a group.*
Answer correctly with ease and confidence

II. SUBJECT MATTER:

Energy Produces Heat and Light

A. Science Concept:

Energy can produce heat and light.

Heat can come from several sources. Some of these are chemical reaction like burning, physical movement by rubbing, nuclear reaction, heat comes from inside the earth etc. It can also produce light through, bulbs, fluorescent lights, flashlight bulbs, television sets etc.

B. Science Processes:
Observing, inferring, experimenting

C. Materials:
Pictures showing heat and light energy flashlight, TV, fluorescent lamp, bulbs

References:
Module in Science and Health V Science and Health V pp. 204-207
Into the Future: Science & Health V pp. 155-159

III. PROCEDURE:

A. Preparatory Activity:

What energy transformation happens to the following materials? (Appliances television set, electric fan, flashlight, washing machine)

B. Developmental Activities:

1. *Motivati*on

Rub your hands. What do you feel? What is produced when you rub two things?

2. *Presentation*

The pupils will do some activities which they can produce heat and light.

3. *Concept Formation*

- What is produced when you burn materials?
- When you rub objects?

- What does nuclear reactor produce?
- Why do volcanoes erupt?
- What happens when you switch on

5. *Application*

   What can produce heat? light? What are the importance of these?

IV. EVALUATION:

Observe and tell what is produced to the following appliances.

1. flat iron
1. oven toaster
2. incandescent lamp
3. hair blower
4. gas stove
1. fluorescent lamp

V. ASSIGNMENT:

Give other examples of materials that can produce heat and light.

3rd

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Describe static electricity

Values: *Working harmoniously and cooperatively*

II. SUBJECT MATTER:

Energy - Static Electricity

A. Science Concepts/Ideas:

A static electricity is an electricity that does flow. It stays fixed on a location until a conductor provides a route through which the charges can escape.

B. Science Processes:

Describing, inferring, generalizing

C. Materials:

Tissue papers, plastic sheet, comb

References:

Module in Science & Health V, 152-153; Manual of Enhancement Activities and Experiments p. 93; Into the Future: Science and Health V, pp. 136-138 BEC

III. PROCEDURE:

A. Preparatory Activities:

What is electricity? What appliances do you have at home that can be operated by electricity?

B. Developmental Activities:

1. *Motivation:*

Dou you know what will happen to the plastic sheet when you rub it?

2. *Presentation:*

The pupils will be grouped into 4 and they will do an activity using the materials to be given by the teacher.

3. *Concept Formation:*

By using the plastic sheet and the tiny bits of tissue papers the pupils will rub the plastic sheet with a sheet of paper and put it above the tiny bits of tissue papers.

4. *Application*

Observations and Inferences:
What happens when the charged plastic sheet is brought near the tiny bits of tissue paper?

C. Generalization:
What is static electricity?

D. Application:
Do the same activity using a comb to be rubbed in your hair.
What do you feel when the charged comb is brought close to your skin?

IV. EVALUATION:

Describe what a static electricity is using a simple sentence.

V. ASSIGNMENT:

Do the same activity at home using other materials that have static electricity.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify ways of producing static electricity.

Values: *Working harmoniously and cooperatively; Cleanliness*

II. SUBJECT MATTER:

Energy - Static Electricity

A. Science Concept/Idea:

Rubbing, pounding and pressing are some ways of producing static electricity

B. Science Processes:
Identifying, observing, inferring, experimenting

C. Materials:
Plastic sheet, comb, Styrofoam balls, tiny bits of tissue paper

References:
Module in Science & Health V, 152-153;
Manual of Enhancement Activities and Experiments p. 93-94;

III. PROCEDURE:

A. Preparatory Activities:
What is static electricity?

B. Developmental Activities:

1. *Motivation:*

Plastic sheet, comb, Styrofoam balls, tiny bits of tissue paper

2. *Presentation:*

We have materials here again. Aside from rubbing, what other activities can you do to produce static electricity?

3. *Concept Formation:*

The pupils will experiment other ways of producing static electricity.

4. *Application*

The pupils will report by group. The leader will lead the group.
What other ways did you find/do to produce static electricity?

C. Generalization:

We can produce static electricity by _____, _____ and _____.

IV. EVALUATION:

What are some ways of producing static electricity?

V. ASSIGNMENT:

Do the same activities at home with your brothers and sisters using other materials.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe the effect of static electricity

Values: *Performing an activity with care and accuracy*

II. SUBJECT MATTER:

Static Electricity - Effects of Static Electricity

A. Science Concept/Idea:

When two appropriate materials such as plastic and paper are rubbed or pressed together, some of the loosely held electrons are transferred from one material to the other.

B. Science Processes:
Observing, inferring

C. Materials:
Plastic sheet, Styrofoam balls, piece of paper

References:
Module in Science & Health V, 152
Into the Future: Science and Health V, pp. 136-137 BEC

III. PROCEDURE:

A. Preparatory Activities:
Give some ways on how to produce static electricity.

B. Developmental Activities:

1. *Motivation:*

Are there any effects of static electricity?

2. *Presentation:*

The pupils will be grouped into 4 and they will do again some activities where they can observe some effects of static electricity

3. *Concept Formation:*

What are the effects of static electricity?
What happens when you put the charged plastic sheet near your skin?

4. *Application*

What happens when a spark due to static electricity strike the ground? What is produced when you touch a metal doorknob?

IV. EVALUATION:

Tell what happens when-

1. You put a charged plastic sheet near your skin.
2. When you wear a silk dress.
3. When you touch a metal doorknob.
4. When you walk across a carpeted room.
5. When you rub two objects.

V. ASSIGNMENT:

In what way is static electricity useful?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe an electric circuit

Values: *Working harmoniously cooperatively in a group*

II. SUBJECT MATTER:

Electric Circuit

A. Science Concept/Idea:

- An electric circuit path/route through flow.

B. Science Processes:
Describing, inferring

C. Materials:
Battery holder, lampholder, dry cells connecting wire, 2.5 v bulb

References:
Manual of Enhancement Activities and Experiments p. 99
Module in Science and Health V, p. 166 BEC

III. PROCEDURE:

A. Preparatory Activities:
What is a static electricity?
What are the ways on how to produce a static electricity?

B. Developmental Activities:

1. *Motivation:*

Why does the electric fan move? Why do we have lights?

2. *Presentation:*

- What do you call these materials?

- What are these materials for?

3. *Activity Proper:*

   With a battery and a connecting wire, make a flashlight bulb light.
   The pupils will do the activity by group.

4. *Concept Formation:*

   - What do you call the entire path through which electrons flow?

5. *Generalization*

   What is an electric circuit?

IV. EVALUATION:

An electric circuit is the entire _____ or _____ through which an _____. .

V. ASSIGNMENT:

What are the parts of an electric circuit?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the parts of electric circuit

Values: *Working harmoniously and cooperatively in a group*

II. SUBJECT MATTER:

Parts of an Electric Circuit

A. Science Concept/Idea:

A simple circuit consists essentially of three parts, namely the source, the line, and the load.

B. Science Processes:
Observing, identifying, inferring

C. Materials:
Bulb, connecting wire, dry cell, bulb holder, switch, flashlight

References:
Module in Science & Health V, 66; Manual of Enhancement Activities and Experiments p. 99; Into the Future: Science and Health V, pp. 141-143

III. PROCEDURE:

A. Preparatory Activities:
What is an electric circuit?

B. Developmental Activities:

1. *Motivation:*

Why do bulbs and fluorescent lamps glow? Where do electrons flow?

2. *Presentation:*

The pupils will be grouped by 4. Each group will have chips of jumbled letters. They will arrange those letters to form new words as answers to the questions.

3. *Activity Proper:*

What are the parts of a simple electric circuit?

4. *Concept Formation:*

Each group will read their answers.

1. What is a circuit?
2. What are the parts of a simple circuit?
2. It is the source of electromotive force?

5. *Application*

How can you make a bulb light?

IV. EVALUATION:

What are the parts of an electric circuit?

V. ASSIGNMENT:

What happens in a short circuit?.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Classify materials into conductors and insulators.

Values: *Work harmoniously and cooperatively in group.*

II. SUBJECT MATTER:

Conductors and Insulators

A. Science Concept/Idea:

- A conductor is any material that allows the passage or flow of electrons.
- An insulator is any material that prevents the flow of electrons.

B. Science Processes:
Classifying, observing, inferring

C. Materials:
Plastic, wood, rubber, pins, metals, electrical conductivity tester

References:
Module in Science and Health V, pp. 7273;
Manual of Enhancement Activities and Experiments, pp. 100-101

III. PROCEDURE:

A. Preparatory Activities:
What are the parts of an electric circuit?

B. Developmental Activities:

1. *Motivation:*

   Do all materials conduct electricity?

2. *Presentation:*

   The pupils will be grouped into 4 and they will do an activity.
   Classify the following materials under proper heading.

3. *Activity Proper:*

Problem:

What are conductors and insulators? What are they usually made of?

Each group will do the activity with the supervision of the teacher.

4. *Concept Formation:*

Cross out all the materials that are good conductors of electricity. Box all the materials that are considered insulators.

Paper clip paper glass tube rubber stopper thumb tack

5. *Application*

What are conductors and insulators usually made of?

IV. EVALUATION:

Classify the following materials into conductors and insulators.

Notebook aluminum coin umbrella paper clip frying pan, container

V. ASSIGNMENT:

Give examples of conductors and insulators

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Construct a model of an electric circuit.

Values: *Work harmoniously and cooperatively in group*

II. SUBJECT MATTER:

Model of an Electric Circuit

A. Science Concept/Idea:

A simple electric circuit is composed of a dry cell, connecting wire, bulb (1.5 v)

B. Science Processes:
Observing, constructing

C. Materials:
Dry cell, connecting wire, bulb, switch, bulb holder

References:
Module in Science and Health V, p. 166 Into the Future: Science and Health V, p. 141; BEC

III. PROCEDURE:

A. Preparatory Activities:
What are the parts of an electric circuit? Describe each part.

B. Developmental Activities:

1. *Motivation:*

Can you make a simple electric circuit out of these materials?

2. *Presentation:*

The pupils will be grouped into 4 and the teacher will give them materials to assemble.

3. *Activity Proper:*

   The pupils will work in a group. Each group will construct a simple electric circuit.

4. *Concept Formation:*

   What did you do to make the bulb light?
   What are the materials that you used in constructing a simple electric circuit?

5. *Generalization:*

   What is an electric circuit? What are the parts of a simple electric circuit?

IV. EVALUATION:

The pupils will display their work in front with bulb lighted.

V. ASSIGNMENT:

Construct your own simple electric circuit at home with your brothers and sisters.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Differentiate a parallel from a series connection.

Values: *Being attentive in every class discussion*

II. SUBJECT MATTER:

Parallel and Series Connection

A. Science Concept/Idea:

When two or more loads are arranged one after the other, they are said to be connected in series. The electrons have to pass through one load before they can pass to another.

B. Science Processes:

Differentiating, observing, inferring

C. Materials:

Sample/model of a series and parallel connections

References:

Module in Science & Health V, 166;
Into the Future: Science and Health V, pp. 144-146 BEC

III. PROCEDURE:

A. Preparatory Activities:

What is an electric circuit?
What are the parts of an electric circuit?

B. Developmental Activities:

1. *Motivation:*

What is a circuit? Do you know what kind of circuit do you have at home)

2. *Presentation:*

The pupils will be grouped into 2 and each group will be given a model.
Group I - model of a series circuit. Group II - model of a parallel circuit.

C. Activity Proper:

What are the kinds of circuit? Can you differentiate the two?

D. Concept Formation:

The leader in each group will write their observations on the board
How are the loads in series connected? How about in parallel?
How are the dry cells in parallel circuit arranged in series connection?

E. Generalization

What is the difference between series and parallel connections?

F. Application:

What connection do you have at home? Why do you use that kind of connection?

IV. EVALUATION:

Fill in the blanks

1. When two or more loads are arranged one after the other they are called _____circuit.
2. In this circuit, the _____ will have to pass through _____load before they can pass to the next.

V. ASSIGNMENT:

Differentiate parallel from connection in your own words.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Cite the advantages and disadvantages of parallel and series connection.

Values: *Work harmoniously and cooperatively in group*

II. SUBJECT MATTER:

Advantages and Disadvantages of Parallel and Series Connection

A. Science Concept/Idea:

A break in the line or in one load in a series circuit will open the entire circuit. On the other hand, a break in branch of a parallel circuit will not affect the flow of current in other branches.

B. Science Processes:
Observing, inferring

C. Materials:
Models of parallel connections

References:
Module in Science & Health V, 166;
Into the Future: Science and Health V, pp. 144-145 BEC

III. PROCEDURE:

A. Preparatory Activities:
What is the difference between parallel and series connections?

B. Developmental Activities:

1. *Motivation:*

Why do most homes used parallel connection?

2. *Presentation:*

The pupils will be grouped into two. Each group will make the lights of each connection glow. They will observe what happens. Record your observation.

3. *Activity Proper:*

Each group will observe and infer what are the advantages and disadvantages of parallel and series connections.

4. *Concept Formation:*

What kind of connection do we use at home? Why?

5. *Generalization*

What are the advantages of using parallel connections?

D. Application:

Which do you prefer, using parallel or series connections in your homes? Why?

IV. EVALUATION:

Give 2 advantages and 2 disadvantages of series and parallel connections

V. ASSIGNMENT:

Give some advantages and disadvantages of series and parallel connections

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how electrical energy is produced.

Values: *Work harmoniously and cooperatively in group*

II. SUBJECT MATTER:

Electrical Energy

A. Science Concept/Idea:

Electrical energy is the energy that comes from the flow of electrons from one material to another.

B. Science Processes:
Describing, observing, inferring

C. Materials:
Dry cell, connecting wire, bulb, flashlight

References:
Module: Electrical Energy; Science and Health for Better Life

III. PROCEDURE:

A. Preparatory Activities:

What is the difference between parallel and series connections? Give examples.

B. Developmental Activities:

1. *Motivation:*

Do you know why we have light in the room?
Do you know also why the television works?

2. *Presentation:*

The pupils will be grouped into 4 and they will do an activity.

The teacher distributes the materials by group.

3. *Activity Proper:*

Using only one dry cell and one connecting wire, make a flashlight bulb light. Draw a sketch that made the bulb light.

4. *Concept Formation:*

What are the essential energy? How electrical energy is produces; formed?

5. *Generalization*

What is electrical energy? How is electrical energy formed/produced?

D. Application:

Electricity helps in our work at home. How should you use it?
What are the precautionary measures that should be observed when using electricity?

IV. EVALUATION:

Draw an electric circuit. How does electrical produce/formed?

V. ASSIGNMENT:

How can you help your family in conserving electricity?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe that energy can produce heat and light

Values: Conserve energy/electricity Work harmoniously and cooperatively in a group.

II. SUBJECT MATTER:

Transformation of Energy Produces Heat and Light

A. Science Concept/Idea:

Energy transformation is governed by the law of conservation of energy. It states that energy might change its form, but it does not disappear. In short, the total amount of energy is always the same.

B. Science Processes:

Observing, inferring, identifying

C. Materials:

Electric fan, radio, TV, calculator, light

References:

Module in Science and Health V Science and Health V, pp. 209-210

III. PROCEDURE:

A. Preparatory Activities:

B. Developmental Activities:

1. *Motivation:*

Can you transform energy into other forms?

2. *Presentation:*

The pupils will be grouped into 4. Each group will be in charged of the appliances inside the room. They will observe what happens or what energy transformation happens when they

switch on those appliances.

3. *Activity Proper:*

Group I - flashlight	Group II - radio
Group III - television set	Group IV - electric fan

4. *Concept Formation:*

What energy transformation happens when you switch on the different appliances?

5. *Application:*

What will you do if you see bulbs or fluorescent lamps still switched on during daytime? Why?

IV. EVALUATION:

Observe what energy transformation happens to the following.

1. washing machine
2. oven toaster
3. karaoke
4. lampshade
5. calculator

V. ASSIGNMENT:

Give other examples on how energy is transformed to other forms.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe that energy can produce heat and light.

Values: *Conserve energy/electricity Work harmoniously and cooperatively in a group. Answer correctly with ease and confidence*

II. SUBJECT MATTER:

Energy Produces Heat and Light

A. Science Concept/Idea:

Energy can produce heat and light.

Heat can come from several sources. Some of these are chemical reaction like burning, physical movement by rubbing, nuclear reaction, heat comes from inside the earth etc.

B. Science Processes:

Observing, inferring, experimenting

C. Materials:

Pictures showing heat and light energy flashlight, TV, fluorescent lamp, bulbs

References:

Module in Science and Health V, Science and Health V, pp. 204-207; Into the Future: Science & Health V, pp. 155-159

III. PROCEDURE:

A. Preparatory Activities:

What energy transformation happens to the following materials? (Appliances television set, electric fan, flashlight, washing machine)

B. Developmental Activities:

1. *Motivation:*

Rub your hands. What do you feel? What is produced when you rub two things?

2. *Presentation:*

The pupils will do some activities which they can produce heat and light.

3. *Concept Formation:*

What is produced when you burn materials? When you rub objects? What does nuclear reactor produce?

4. *Application:*

What can produce heat? Light?
What are the importance of these?

IV. EVALUATION:

Observe and tell what is produced to the following appliances.

1. flat iron
2. oven toaster
3. incandescent lamp
4. gas stove
5. hair blower

V. ASSIGNMENT:

Give more examples of materials that can produce heat and light.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how electromagnet work

Values: *A person carrying an authority is like an electromagnet/ he has field of responsibility surrounding him.*

II. SUBJECT MATTER:

Electromagnetism

A. Science Concept/Idea:

When an electric current flows through a conductor, the moving charges create a magnetic field around the conductor. This field is called electromagnetism.

B. Science Processes:
Describing, observing, inferring, ,experimenting

C. Materials:
Big nail, magnet wire, dry cells, lead wires, cotton string, switch, aluminum tube

References:
Module in Science and Health V, Science and Health V, pp. 185-187; Into the Future: Science & Health V, pp. 152-154 BEC

III. PROCEDURE:

A. Preparatory Activities:
How does electricity make things move?

B. Developmental Activities:

1. *Motivation:*

Have you seen a magnet? What does it look like? Can you make your own magnet? How?

2. *Presentation:*

The leaders in each group will get the materials from the teacher.

Each group will do an activity following the procedure.

C. Activity Proper:

What can electromagnet do?

D. Observations and Inferences/ Concept Formation:

- Does the electromagnet pick up pieces of iron when it is switched on?
- Does electromagnet release the piece of iron when it is released?
- Can the electromagnet pick up materials other than iron or steel?

E. Generalization:

How do electromagnets work?

F. Application:

Make another activity using a big nail, magnetic wire and a dry cell/s

IV. EVALUATION:

What can an electromagnet do? How does an electromagnet work?

V. ASSIGNMENT:

Make your own electromagnet using a big nail, magnetic wire and dry cell/s.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Tell the use of electricity in the home and community

Values: *Conserving electricity; Self-discipline; Cooperation*

II. SUBJECT MATTER:

Uses of Electricity

A. Science Concept/Idea:

- Electricity has many uses in the home and community.
- It will help you wash clothes, iron clothes, makes you cool, cook your food and many others.

B. Science Processes:
Observing, inferring, communicating

C. Materials:
Electric fan, IV set, radio, pictures showing some uses of electricity

References:
Science & Health pp. 138-140 Module in Science and Health V

III. PROCEDURE:

A. Preparatory Activities:
What are electromagnets? What are the uses of electromagnets?

B. Developmental Activities:

1. *Motivation:*

What is electricity? Do you know some uses of electricity?

2. *Presentation:*

The pupils will be given pictures. Out of the pictures they will formulate sentences or concepts about the uses of electricity.
Group A

At home

Group B

In the community

3. *Activity Proper:*

Uses of electricity

4. *Concept Formation:*

The leader will report on the uses of electricity at home and community.

How does electricity work in industries? In transportation? In communication? In Science?

5. *Application:*

In what way is electricity is useful at home and in the community?

IV. EVALUATION:

What are the uses of electricity?

a. at home? b. in the community?

V. ASSIGNMENT:

What are the uses of electricity in your home? In your community?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer that simple machines make work easier and faster

Values: *Be attentive in Class discussions. Working harmoniously and cooperatively in group*

II. SUBJECT MATTER:

Simple machines

A. Science Concept/Idea:

Machines are part of our daily lives. Whatever we do, be it work or play, there is almost always a machine involved. Machines make our work easier and faster.

B. Science Processes:

Inferring, identifying, generalizing

C. Materials:

Claw hammer, nail, block of wood, drill, screw driver, screw, drill bit

References:

Module in Science and Health V; Manual of Activities and Enhancement and Experiments p. 73

Into the Future: Science & Health V, pp. 173

III. PROCEDURE:

A. Preparatory Activities:

What should you do to conserve electricity?

B. Developmental Activities:

1. *Motivation:*

What do you use when you sew? When you cut firewood? When you slice a fruit?

2. *Presentation:*

The pupils will prepare their materials given by the teacher. They will work in 3 groups.

C. Activity Proper:

Activity 1, page 73

D. Concept Formation:

1. Is it easy to drive a nail or a screw through a wooden block with your bare hand?
2. Is it easier to do the same job using a hammer or a screw driver?
3. Is it easier to hammer appointed nail or flattened nail through a wooden block?

E. Generalization:

What can machines do?

F. Application:

What other tools or materials do you use when you work in the garden? In the kitchen? In the shop? In the room?

IV. EVALUATION:

What can machines do?

V. ASSIGNMENT:

Bring examples of simple machines.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the kinds of simple machines

Values: *Work harmoniously and cooperatively in group*

II. SUBJECT MATTER:

Kinds of simple Machine

A. Science Concept/Idea:

There are different kinds of simple machines. They are lever, pulley, inclined plane, wedge, screw, wheel and axle

B. Science Processes:

Identifying, observing, inferring

C. Materials:

Samples of simple machine like wheel barrow, shovel, bottle opener, scissor, tong

References:

Into the Future: Science & Health V, pp. 174-189

III. PROCEDURE:

A. Preparatory Activities:

What are the importance of simple machines in our lives? Give some examples.

B. Developmental Activities:

1. *Motivation:*

Name the simple machine that you see in front.
Can you identify the kinds of simple machines out of these examples?

2. *Presentation:*

The pupils will be grouped into 4 and they will work on the activity given by the teacher.

How do you group these simples machines?

C. Concept Formation:

To what kind of simple machines do the following belong?

1. scissors
2. shovel
3. door knob
3. hand drill
4. seesaw

D. Generalization:

What are the different kinds of simple machines?

D. Application:

How do you take good care of the simple machines at home?

IV. EVALUATION:

Choose the letter of the correct answer.

1. It is a rigid bar that is free to rotate about its axis.

a. lever
b. screw
c. inclined plane
d. wedge

2. It is a grooved wheel with a rope around it. It is used to raise objects and/or change the direction of the force.

   a. wedge
   b. inclined plane
   c. screw
   d. pulley

3. It is a winding inclined plane.
   a. screw
   b. wedge
   c. pulley
   d. inclined plane

V. ASSIGNMENT:

What are the three classes of lever?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the main parts of a lever

Values: *Like a lever, a good character multiplies your face value.*

II. SUBJECT MATTER:

Simple machines - Lever

A. Science Concept/Idea:

- A lever is any rigid bar that is free to rotate about its axis.
- The main parts of a lever are fulcrum, resistance and effort.

B. Science Processes:
Observing, describing, generalizing, identifying

C. Materials:
Wheel barrow, toy seesaw, bottle opener, tong

References:
Module in Science and Health V; Into the Future: Science & Health V, pp. 174-177

III. PROCEDURE:

A. Preparatory Activities:
What can machines do? What are the kinds of simple machines?

B. Developmental Activities:

1. *Motivation:*

Do you play in the seesaw? How does a seesaw work?

2. *Presentation:*

Do Activity 3, p. 205

C. Concept Formation:

How much effort is needed to balance a resistance of 6 clips, 1 unit from the fulcrum, if the effort is applied 2, 3 and 6 units respectively from the fulcrum?

D. Generalization

How does a lever multiply a force?

E. Application

Make a seesaw balance using a heavy object and a light object.

IV. EVALUATION:

Complete the idea with filing in the blanks with correct word.

1. A fulcrum is the support on which the lever _____and _____.
2. The greater is the effort arm the greater is the _____.
3. If you push the lever down on one end the other end _____.

V. ASSIGNMENT:

Draw a seesaw.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how each kind of lever makes work easier and/or faster

Values: *Cleanliness, Orderliness*

II. SUBJECT MATTER:

Simple Machine - Lever

A. Science Concept/Idea:

The basis for classifying levers are
1. location of the fulcrum
2. point where the effort is applied
3. point where resistance acts.

B. Science Processes:
Describing, comparing, identifying

References:
Teacher's Module in Science and Health 5, Villegas, Nacpil pp. 73-74
Into the future 5 pp. 176-177

III. PROCEDURE:

A. Preparatory Activities:
1. Checking of assignment
2. Review
   What is a lever?
   What are the kinds of lever? Give the example of each kind.

B. Developmental Activities:
1. *Motivation:*

   Do you know how levers work?

2. *Activity:*

Activity 6.1

3. *Analysis and Discussion:*

   a. Which lever change the direction of the force?
   b. Which lever used less force but lifted the load a shorter distance that your hand moved?

4. *Generalization/Concept Formation:*

   How are the three kinds of lever different?

5. *Application:*

   What kind of lever is a can opener? A spoon or a fork?

IV. EVALUATION:

Classify the following materials used at home into the three types of lever.

1. fork
2. spade
3. hammer
4. wheel barrow
5. dustpan

V. ASSIGNMENT:

What kind of lever is your arm?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Demonstrate how pulley works

Values: *Cooperation, Working harmoniously*

II. SUBJECT MATTER:

Simple Machine - Pulleys

A. Science Concept/Idea:

A pulley is a machine made of a grooved wheel that turns about an axle which is stationary. A rope is passed over the grooved pulley wheel and a load, which is the resistance, is attached to one end of the rope. The force applied to lift the other end of the rope is the effort.

B. Science Processes:

Describing, identifying, defining

References:
Teacher's 'Module in Science and Health 5, Villegas, Nacpil pp. 74-75 ;
Into the future 5 pp. 178-179

III. PROCEDURE:

A. Preparatory Activities:

1. Quiz

2. Review

B. Developmental Activities:

1. *Motivation:*

How is the flag raised in flag pole?

2. *Activity:* Activity 6.2

3. *Analysis/Discussion:*

   a. without the pulley

      What is the direction of the effort?

      What is the direction of the resistance?

   b. with fixed pulley

      What is the direction of the effort?

      What is the direction of the resistance?

4. *Generalization /Concept Formation:*

   What is a pulley? What are the kinds of pulley?

5. *Application:*

   How does the flag move in the flagpole?

IV. EVALUATION:

Which of the statements tell about a pulley?

1. It is a simple machine.
2. It has sharp edge.
3. It has pointed edge.

V. ASSIGNMENT:

Draw a pulley and its kinds.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

- Describe how each kind of pulley makes work easier or faster and identify activities where each kind of pulley is used.

Values: *Cooperation, Cleanliness, Orderliness*

II. SUBJECT MATTER:

Simple Machine - Pulley

A. Science Concept/Idea:

- A fixed pulley is used' to change the direction of a force. There is no gain in force or distance with a fixed pulley. Both effort and resistance move at the same distance.
- A movable pulley does not change the direction of a force. The effort needed to lift objects with a movable pulley is about half the resistance.

B. Science Processes:

Describing, observing

References:

Teacher's Module in Science and Health 5, Villegas, Nacpil pp. 74-75
Into the future 5 pp. 179-181

III. PROCEDURE:

A. Preparatory Activities:

Review

What is an inclined plane? How does it make work easier?

B. Developmental Activities:

1. *Motivation:*

Which is easier to lift:

A pile of book through a pulley or pile of book without a pulley?

2. *Activity*

Activity 6.2

3. *Analysis/Discussion*

a. 1. What is the direction of the effort?

2. What is the direction of the resistance?

b. 1. What is the direction of the effort?

2. What is the direction of the resistance?

4. *Generalization /Concept Formation:*

What is pulley? What are the two kinds of pulley? Describe how each kind makes work easier and faster?

5. *Application:*

Identify some machines that use a series of pulleys.

If you will lift a heavy load with a pulley, what would you use: A fixed pulley or a movable pulley? Why?

IV. EVALUATION:

Answer the following questions

1. What kind of pulley enables you to raise and lower a flag?
2. How does a movable pulley make work easier?

V. ASSIGNMENT:

Describe the following:

Pulley

Fixed pulley Movable pulley

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how the wheel and axle make work easier and faster

Values: *Work harmoniously, cooperation, cleanliness*

II. SUBJECT MATTER:

Simple Machine - Wheel and Axle

A. Science Concept/Idea:

- A wheel and axle is usually any wheel that is firmly attached to a shaft or axle. It is used to raise or move objects.
- A wheel and axle multiplies force if the effort is applied at the wheel and the resistance is applied at the axle.

B. Science Processes:
Describing, identifying

References:
Teacher's Module in Science and Health 5, Villegas, Nacpil pp. 75-76
Into the future 5 pp. 182-185

III. PROCEDURE:

A. Preparatory Activities:
Review
What is the MA (mechanical advantage) of fixed pulley?
Movable pulley, block and tackle?

B. Developmental Activities:

1. *Motivation:*

How do you open a door with a doorknob?
How do you use a pencil sharpener?

2. *Activity*

Activity 6.3 TX p. 183

3. *Analysis/Discussion*

    a. Does the axle turn? How many times?
    b. Which way needs a greater force? Less force?
    c. Which way takes· more time-? Less time?

4. *Generalization /Concept Formation:*

    What is a wheel and axle?
    How does this simple machine make work easier and faster?

5. *Application:*

    Imagine a car without wheels. How would it run?
    When can you run faster or move faster, with a shoes with wheels or without? Why?

IV. EVALUATION:

List down objects/things that use wheel and axle

V. ASSIGNMENT:

Collect materials with wheel and axle.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Demonstrate how an inclined plane works

Values: *Cooperation, active participation*

II. SUBJECT MATTER:

Simple Machine - Inclined Plane

A. Science Concept/Idea:

- An inclined plane is a simple machine which has a fiat surface which slants at an angle to the ground.
- With an inclined plane; force is exerted over a great distance using less force.
- Less force is needed to move an object up a long inclined plane than up a short inclined plane.

B. Science Processes:
Identifying, describing, comparing

References:
Teacher's Module in Science and Health 5, Villegas, Nacpil pp. 76
Into the future 5 pp. 184-185

III. PROCEDURE:

A. Preparatory Activities:

1. Checking of Assignment
2. Review

What is a wheel and axle? Give examples of objects with wheel and axel?

B. Developmental Activities:

1. *Motivation:*

Picture study

2. *Activity*

   Activity 6.4 TX pp. 184-185

3. *Analysis/Discussion*

   a. When did you use more force to lift the book? Less force?
   b. Does an inclined plane require more or less force when you do the work?
   c. Does an inclined plane require greater distance or less distance when you do the work?

4. *Generalization /Concept Formation:*

   What is an inclined plane?
   Describe how an inclined plane makes work easier?

5. *Application:*

   Can you name other uses of inclined plane?
   Construct an inclined plane.

IV. EVALUATION:

Which of the following statements are true about the inclined plane?

1. The shorter the inclined plane is, the greater is the gain in force.
2. The longer the inclined plane is, the greater is the gain in force.
3. The lower the inclined plane is, the greater is the gain in force.
4. The higher the inclined plane is, the greater is the gain in force.

V. ASSIGNMENT:

Give other examples of inclined plane.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Demonstrate how wedge work

Values: *Cooperation, cleanliness, honesty*

II. SUBJECT MATTER:

Simple Machine - Wedges

A. Science Concept/Idea:

The wedge is a form of an inclined plane that moves. It is forced into an object to split or under an object to lift.

B. Science Processes:
Manipulation, describing, identifying

References:
Teacher's Module 54; Into the future 5 pp. 186-187

III. PROCEDURE:

A. Preparatory Activities:

1. Checking of Assignments
2. Review

Who often uses inclined planes in their work? Why?

B. Developmental Activities:

1. *Motivation:*

What does mother use in cutting or slicing fish, meat and vegetables?
What do we call this simple machine?

2. *Activity*

Activity 6.5 TX p. 186

3. *Analysis/Discussion*

   What happens to the book?
   Does the wedge exert effort on the book?

4. *Generalization /Concept Formation:*

   How does wedge help do work?
   Name objects in your home you consider wedge?

5. *Application:*

   What kind of a simple machine is wedge?

IV. EVALUATION:

Draw object with wedge.

V. ASSIGNMENT:

What are the kinds of wedges?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Use simple machine properly

Values: *Industry, Cleanliness, Orderliness*

II. SUBJECT MATTER:

Proper Use of Machines

A. Science Concept/Idea:

- Simple machines should be used properly and kept in good condition.
- There are different ways of using machines properly so they will stay in good condition.

B. Science Processes:

Describing, identifying

References:
Teacher's Module in Science and Health 5, Villegas, Nacpil
Into the future 5 pp. 190-191

III. PROCEDURE:

A. Preparatory Activities:

1. Checking of assignment
2. Review

MA: pulley, wheel and axle, inclined plane, wedge, screw, lever

B. Developmental Activities:

1. *Motivation:*

How useful are simple machines? How should we handle them?

2. *Activity*

Activity 6.7

3. *Analysis/Discussion*

What should you do with machines before using them?
How do you choose machines to use?
Where should you store simple machines?
How do you keep the tools/machine?

4. *Generalization /Concept Formation:*

What are some precautionary measures to be observed in using simple machines?
How can you maintain these machines in good condition?

5. *Application:*

How do you keep pliers, saw, head shears always in good condition?

IV. EVALUATION:

1. Name simple machines you have at home.
2. How do you use each of them?
3. How do you take care each of them?

V. ASSIGNMENT:

Observe carpenter, plumber, mechanic, and electrician at work.
What simple machines do they use? How do they use them?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe, describe and compare rocks as to color, shape, hardness and texture

Values: *Appreciation of the usefulness of rocks*

II. SUBJECT MATTER:

Characteristics of Rocks

A. Science Concept/Idea:

- Rocks differ in size, shape, color, weight, hardness, texture and size of particles.
- Rocks exhibit different characteristics

B. Science Processes:
Observing, describing, comparing

References:
Science and Health 5 Module by Jessie A. Villegas
Into the Future: Science and Health 5 by Jose F. L1arinas BEC

III. PROCEDURE:

A. Preparatory Activities:
Review the layers of the soil.

B. Developmental Activities:

1. *Motivation:*

Display pictures of places where rocks are usually found. Let the pupils identify the places.

Ask: Where will you go to look for different rocks? Why?

2. *Presentation/Activity*

a. Show the layers of the earth. Explain that the solid part of the earth's crust is made up of great masses of rocks. Tell them that rocks are found in many places even at the bottom of the ocean.
b. Ask.: How do rocks differ from one another?

c. Let the pupils bring out rock samples gathered from different places in the community.
Note: Collecting some rock samples should be given as an advance assignment

d. Have the pupils fill up the table below.

Rock	Shape	Color	Hardness	Texture
A				
B				
C				
D				
E				
F				
G				
H				
I				
J				

3. *Concept Formation:*

   a. Presenting the table

   b. How do rocks differ?

4. *Application:*

   If you were to describe the rocks you have collected, what properties of rocks would you mention?

IV. EVALUATION:

Write the letter of the correct answer.

1. Great masses of hard materials on Earth's crust

   a. soil

   b. magamaq

   c. rocks

d. sediment

2. Which physical characteristics of rocks can be observed with your eyes?

   a. texture

   b. color

   c. weight

   d. porosity

3. Round, smooth and fine rocks are usually found in

   a. mountains

   b. rivers

   c. oceans

   d. lakes

V. ASSIGNMENT:

Collect more rocks in different places and bring them tomorrow.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Differentiate rock as to shape and color.

Values: *Appreciation of the usefulness of rocks and carefulness.*

II. SUBJECT MATTER:

Classifying Rocks

A. Science Concept/Idea:

- Rocks can be classified in different ways. The can be classified according to color, shape, hardness, texture and crystals.
- The true color of rocks can be seen by observing the inner surface.

B. Science Processes:

Describing, classifying

C. Materials:

Rock samples, Piece of cloth, Salt , Glass slide, Hammer, Colored rocks, Water, Alcohol lamp, Unglazed porcelain tile, Magnifying glass, Glass jar

References:

Teacher's Module in Science and Health 5, Villegas
Into the future: Science and Healti1 5 by Jose F. L1arinas and Emily Pelobelio

III. PROCEDURE:

A. Preparatory Activities:

1. Get the rock samples brought by the pupils.
2. Review

   How do rocks differ?

B. Developmental Activities:

1. *Motivation:*

   Have you tried classifying rocks? How did you classify rocks? What did you do to classify rocks?

2. *Activity/Presentation:*

Group the pupils into two, let group 1 classify rocks according to color, group 2 to classify rocks according to shape.

3. *Generalization/Concept Formation:*

Have each group present their findings.
Make conclusion regarding the activity. Teacher may ask question that may lead to the conclusion.

4. *Application:*

Why do geologists break a rock before examining it?
How will you know if a rock is made up of one or more minerals?

IV. EVALUATION:

Write true if the statement is correct and false if it is not.

1. The streak test is the color test of minerals.
2. The true color of the rocks can be seen by observing the outer surface.
3. Rocks can be classified in different ways.
4. Minerals in rocks can be identified through their color.
5. The shape of a rock depends on the shape of its mineral contents.

V. ASSIGNMENT:

Look for rocks in your backyard and classify then according to shape and color.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Classify rocks according to hardness and texture

Values: *Appreciation of the usefulness of rocks and Carefulness*

II. SUBJECT MATTER:

Classifying Rocks

A. Science Concept/Idea:

1. The hardness of a rock is the ability of the rock is the ability of the rock to scratch another material. The hardness of a rock depends on the kind of mineral/minerals it is made up.
2. The hardness of rocks can be classified by using the Moh's Scale.
3. The texture of a rock refers to the size and shape of the mineral crystals or grains in a rock. Rocks may either have a coarse or rough texture, or a fine or glassy texture.

B. Science Processes:
Classifying, Comparing

C. Materials:
samples or rocks, steel knife, coin

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello.

III. PROCEDURE:

A. Preparatory Activities:

1. Checking of assignment
2. Review on how they can tell true color of rocks.

B. Developmental Activities:

1. *Motivation:*

Show the pupils some samples of rocks, ask them to compare their hardness. Ask: How can you tell the hardness of rocks?

2. *Presentation/Activity*

Present the Moh's Scale of Hardness and Equivalent Easy Test

Hardness Rank	Mineral	Easy Test
1	Talc	Touching the minerals leaves soft greasy flakes on fingers; it is easily scratched by the fingernail.
2	Gypsum	Fingernail barely makes scratch marks on mineral
3	Calcite	Mineral is easily cut by steel knife or scratched by a copper coin.
4	Fluorite	Steel knife edge easily make scratch marks on mineral but does not cut it; not hard enough to scratch glass.
5	apatite	Edge of a steel knife pressed or rubbed hard on mineral makes scratch marks; barely scratches ordinary glass.

b. Have the pupils perform Activity 7.5 on page 202 of the textbook.
c. Have the pupils compare also the texture of the rocks.

C. Concept Formation:

1. Presentation of findings
2. How can you tell the hardness of rocks?
3. How can you determine the texture of rocks?

D. Application:

1. Why do some rocks have crystals?
2. How are crystals formed?

IV. EVALUATION:

Determine the hardness and texture of the rocks provided. Fill up the table below:

Rock	Degree of Hardness	Texture
A		
B		
C		

D		
E		
F		
G		
H		
I		
J		

V. ASSIGNMENT:

Look for the hardest rock you can find in the community.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify igneous rocks

Values: *Appreciation of the usefulness of igneous rocks.*

II. SUBJECT MATTER:

Igneous Rocks

A. Science Concept/Idea:

1. Igneous rocks are found from magna
2. There are two kinds of igneous rocks: the intrusive rocks and extrusive rocks.
3. Intrusive rocks were formed on the earth's surface. They differ in their size of crystals

B. Science Processes:
Classifying, Describing

C. Materials:
samples of igneous rocks, picture of an erupting volcano, cross section of a volcano, alum, water

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

1. Review how rocks are classified (color, size, texture, hardness)

B. Developmental Activities:

1. *Motivation:*

Show a picture of an erupting volcano like Mt. Pinatubo. Ask: Have you ever seen a volcano erupt. What materials are thrown out of an empty volcano? What happens to the materials?

2. *Presentation/Activity*

- Show the cross section of a volcano. Explain what happens when a volcano erupts.

- Differentiate extrusive rocks from intrusive rocks.
- Ask the pupils to observe some igneous rock sample. Have them examine the rocks and classify into intrusive and extrusive rocks.

C. Concept Formation:

How are igneous rocks formed?
What are the two kinds of igneous rocks?

D. Application:

In what ways can igneous rocks be useful?

IV. EVALUATION:

Answer the following questions:

1. What happens when a volcano erupts?
2. How are igneous rocks formed?
3. How are intrusive rocks different from extrusive rocks

V. ASSIGNMENT:

Make a list of good effects of volcanic eruptions.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how igneous rocks are formed

Values: *Appreciation of the usefulness of rocks.*

II. SUBJECT MATTER:

Igneous Rocks

A. Science Concept/Idea:

1. Igneous rocks are formed from magma.
2. There are two kinds of igneous rocks: the intrusive rocks and extrusive rocks.
3. Examples of igneous rocks are basalt, granite, obsidian and pumice.

B. Science Processes:
Describing, comparing

C. Materials:
samples of igneous rocks setups made in Activity 7.6

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

1. Checking of Assignment
2. Review the two kinds of igneous rocks

B. Developmental Activities:

1. *Motivation:*

Do you want to find out what happened to the setup we have left overnight?

2. *Presentation*

a. Let the pupils examine the setups
b. Ask: What were formed in the two containers? Which one formed small and fine crystals? coarser crystals? Why do crystals differ?

C. Concept Formation:

Discuss more about the findings.
Have pupils identify example of igneous rocks and their characteristics.

D. Application:

1. Why do the cooling time affect the size of the crystals formed?
2. What kind of rock do we use in bathing?

IV. EVALUATION:

Write the letter of the correct answer.

1. Which effects the size of crystal formation in igneous rocks?

a. heating time
b. cooling time
c. melting time
d. deposition time

2. Igneous rocks formed from cooled lave are classified as

    a. intrusive rocks

    b. extrusive rocks

    c. lava rocks

    d. magma rocks

3. Extrusive rocks which cool very fast have.

    a. fine crystals

    b. large crystals

    c. rough crystals

    d. colorful crystals

V. ASSIGNMENT:

Make a collection of igneous rocks. Classify them into intrusive rocks and extrusive rocks.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify sedimentary rocks

Values: *Appreciation on the usefulness of rocks.*

II. SUBJECT MATTER:

Sedimentary Rocks

A. Science Concept/Idea:

1. Different sediments and minerals settle at the bottom of rivers and streams and cemented together to form sedimentary rocks.
2. Sedimentary rocks can be classified according to the materials from which they were formed.
3. Conglomerate, shale, sandstone and limestone are sedimentary rocks.

B. Science Processes:
Identifying, describing

C. Materials:
samples of sedimentary rocks

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future Science and Health by Jose F. Llarinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

1. Review about igneous rocks.

B. Developmental Activities:

1. *Motivation:*

What do you observe in the water of rivers and streams after heavy rains? Why is this so?

2. *Presentation*

a. Show the pupils the samples of rocks.
b. Ask: Are these rocks different from igneous rocks?
c. Discuss about the sediments build up in the bodies of water.
d. Show the pupils the different kinds of sedimentary rocks and tell them their characteristics.

C. Concept Formation:

- Which rocks are formed from broken rocks?
- Which rocks are formed from grains of sand?
- Which rocks are formed from clay and silt?
- Which rocks are formed from the skeleton and shells of sea animals and plants in the ocean?

D. Application:

What kind of rocks do we use in aquariums?

IV. EVALUATION:

Multiple Choice: Choose the letter of the best answer.

1. Sedimentary rocks can be classified according to
   a. texture and smoothness
   b. color and size
   c. the materials from which they were formed with
   d. the number of layers formed
2. It is formed from loose broken rocks pressed together by overlying sediments bound by natural cement.
   a. shale
   b. conglomerate
   c. sandstone
   d. limestone
3. Is made up of sand particles pressed together by natural cement.
   a. Conglomerate
   b. Shale
   c. Sandstone
   d. Limestone

V. ASSIGNMENT:

Look for sedimentary rocks in your community. Examine it and find out from what material it is formed.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify how are sedimentary rocks formed?

Values: *Appreciation on the usefulness of rocks.*

II. SUBJECT MATTER:

Sedimentary Rocks

A. Science Concept/Idea:

Sediments and dissolve minerals settle, form layers and cement together to form sedimentary rocks.

B. Science Processes:
Observing, describing

C. Materials:
fine gravel, sand, soil, water, plastic jar

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review what are sedimentary rocks

B. Developmental Activities:

1. *Motivation:*

Do you know that rock salt is a sedimentary rock?

2. *Presentation*

Have pupils perform this activity.

Activity:

- Fill half of the plastic jar with a mixture of fine gravel, sand and soil. Then fill the jar completely with water. Cover the jar tightly and shake it vigorously for a few seconds. Let it stand for several minutes until the water clears.
- Observe how the sediments are formed.

C. Concept Formation:

- Did the mixture form distinct layers at the bottom of the jar?
- Which material settles fastest?
- Which materials settles slowest?

D. Application:

How are sedimentary rocks formed?

IV. EVALUATION:

Answer the following questions:

1. Describe the layers 'formed by sediments as they settle in water.
2. How are sedimentary rocks formed?

V. ASSIGNMENT:

Read how fossils are preserved in sedimentary rocks.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify and classify metamorphic rocks

Values: *Appreciation on the usefulness of rocks and carefulness.*

II. SUBJECT MATTER:

Metamorphic Rocks

A. Science Concept/Idea:

1. Metamorphic rocks are igneous and sedimentary rocks that were changed by heat and pressure.
2. Gneiss, slate, marble, and quartzite are metamorphic rocks.

B. Science Processes:
Describing, analyzing

C. Materials:
samples of metamorphic rocks, vinegar, dropper

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review how igneous and sedimentary rocks are formed

B. Developmental Activities:

1. *Motivation:*

Have you seen objects made of marble? Marble is a kind of rock. Do you know how it is formed?

2. *Presentation*

b. Show the pupils metamorphic rocks. Explain to them that when igneous and sedimentary rocks are subjected to heat and pressure they change into metamorphic rocks.

Activity

- Get samples of metamorphic rocks such as marble, slate, quartzite and gneiss.
- Add five drops of dilute acid or vinegar on each rock's surface. Observe if bubbles form.
- What do these bubbles tell you of the composition of these rocks?
- Present to the pupils the samples of igneous and sedimentary rocks that may change to metamorphic rocks

D. Application:

If you were asked to find out which of the metamorphic rocks were formed from limestone, what will you do?

IV. EVALUATION:

1. Which shows the correct pair of igneous and sedimentary rocks to metamorphic rocks?

   a. conglomerate gneiss

   b. shale slate

   c. limestone marble

   d. sandstone quartzite

2. Marble is a metamorphic rock formed from

   a. limestone

   b. shale

   c. granite

   d. sandstone

3. Igneous and sedimentary rocks changed to metamorphic rocks by

   a. cool temperature

   b heat and pressure

   c. decomposition

   d. layering

V. ASSIGNMENT:

Collect metamorphic rocks and identify what rock is its origin.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Differentiate igneous, sedimentary, and metamorphic rocks from one another

Values: *Appreciation of the usefulness of rocks.*

II. SUBJECT MATTER:

Kinds of Rocks

A. Science Concept/Idea:

1. Sedimentary rocks are formed from different sediments and minerals that settle at the bottom of rivers and streams cemented together.
2. Metamorphic rocks are igneous and sedimentary rocks that were changed by heat and pressure.

B. Science Processes:

Describing, differentiating

C. Materials:

samples of igneous rocks, sedimentary and metamorphic rocks

References:

Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review the different kinds of rocks
- Have the pupils complete the table

Kinds of Rocks	How they are Formed	Characteristics	Examples	Appearance

B. Developmental Activities:

1. *Motivation:*

Show them a rock. Ask the pupils to identify what kind of rocks is it.

2. *Presentation*

    a. Have the pupils study the table they have completed.
    b. Present the rock cycle and discuss it.
    c. Have the pupils perform the following activities:
        - Identify and classify the rock sample using the rock key
        - Label the rocks properly in a box
        - Prepare a rock cycle of one of the rocks in the box.

C. Concept Formation:

- Presentation and discussion of the findings in the activity
- How are igneous rocks formed? sedimentary? metamorphic?
- How does a rock go into a cycle?

D. Application:

Why do you think rocks are important parts of the soil?

IV. EVALUATION:

1. Metamorphic rocks change to igneous rock by

    a. breaking

    b. cooling

    c. melting

    d. layering

2. Rocks pass through various changes called

    a. rock story

    b. rock cycle

    c. rock history

    d. mineral cycle

3. A rock cycle tells how a rock was

    a. formed and change

    b. classified

    c. examined

d. taken from the soil

V. ASSIGNMENT:

Look for a rock in the community and make a rock cycle of it.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer conditions/situations that lead to the formation of the different kinds of rocks

Values: *Appreciation of the usefulness of rocks.*

II. SUBJECT MATTER:

Weathering of Rocks

A. Science Concept/Idea:

1. Rocks may pass through a cycle of change
2. Rocks are subjected to heat, chemical and pressure which cause them to weather

B. Science Processes:
Describing, interpreting, identifying

C. Materials:
Rock cycle diagram, Samples of weathered rocks, Can, Soft stones, Water

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review: Illustrate the rock cycle of marble.

B. Developmental Activities:

1. *Motivation:*

Rock are formed under different conditions. Ask: What are these conditions? How fast do these things occur?

2. *Presentation*

- Display a diagram of a rock cycle

- Let the pupils trace the changes in rock
- Show samples of weathered rocks and ask pupils to guess how this rock reach this condition and then show them the original rock.
- Group the pupils into two and have them do the following activities.

C. Concept Formation:

- Presentation of findings. Discuss their findings.
- How des the combined action of water and abrasion break down rocks.

D. Application:

What else does moving water do to rocks?

IV. EVALUATION:

1. The continuous breaking up of rock is called

a. erosion b. weathering

b. siltation c. landslide

2. Which agents bring weathering on rocks?

   a. rainwater
   b. ocean water
   c. weathering
   d. landslide

3. What factor/factors act on a rock to change it to soil?

   a. temperature
   b. air and water
   c. plans and animals
   d. all of the above

V. ASSIGNMENT:

Read on chemical weathering. Where d the chemicals that cause the weathering come from?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer plants weather rocks

Values: *Appreciation of the usefulness of rocks.*

II. SUBJECT MATTER:

Plants Help Weather Rocks

A. Science Concept/Idea:

Plants help weather rocks

B. Science Processes:
Inferring, identifying

C. Materials:
Plastic cup, Mongo seeds, water

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Review what is weathering.

B. Developmental Activities:

1. *Motivation:*

   Have you seen plants growing on rocks?

2. *Presentation:*

   - Have the pupils go around the garden. Let them look for rocks found near big trees or plants growing on walls. Show them what the roots of these plants are capable of doing to the rocks.

   Have the pupils do the activity:
   - Fill a small plastic cup with beans
   - Add water and cover

- Leave it undiluted overnight

C. Concept Formation:

How do plants weather rocks? What plants usually cause weathering in rocks?

D. Application:

Why do people do no grow trees very near their homes?

IV. EVALUATION:

1. Tiny plants growing on rocks produce acid that make the rock's surface

   a. smooth and shiny
   c. soft and weak
   b. hard and brittle
   d. all of the above

2. Big plants growing on the surface of a rock develop cracks in the rock because of the

   a. force exerted by roots
   c. humus they produce
   b. acid they produce
   d. all of the above

V. ASSIGNMENT:

Look for plants growing near rocks or walls in your community. Write how these plants break down rocks.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer activities of humans and animals that contribute to the weathering of rocks

Values: *Appreciation of the usefulness of rocks.*

II. SUBJECT MATTER:

A. Science Concept/Idea:

1. Burrowing animals cause rocks to be exposed to elements of weather.
2. Quarrying and mining help break rocks.

B. Science Processes:
Inferring, identifying

C. Materials:
Pictures showing how living things break rocks

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- How can plants weather rocks?

B. Developmental Activities:

1. *Motivation:*

Do you know that even though you are walking you contribute to the weathering of rocks?

2. *Presentation:*

Group pupils into two. Have each group do the following activities:

Group 1

Make a list of animals that dig or burrow soil.

Animals	Activities	Purpose

Group II

Make a list of human activities that are related to the soil or rocks. Fill the chart below using your list.

Activity	Benefit	How it changes the rock	Harmful effects on the environment

C. Concept Formation:

Presentation of their list.

Discuss how man and animals contribute to the weathering of rocks.

D. Application:

How can you help prevent animals like cows from breaking rocks? Name activities of man that contribute to the weathering of rocks. Can these activities prevented? How?

IV. EVALUATION:

Fill the table below:

Animals	**Activity**	**How does it contribute to weathering of rocks**
Man's Activity	**Purpose**	**How does it contribute to weathering of rocks**

V. ASSIGNMENT:

Find out other practices which weather rocks.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Infer how sudden changes in temperature break down rocks

Values: *Appreciation of the usefulness of rocks and carefulness*

II. SUBJECT MATTER:

Forces that Break Down Rocks

A. Science Concept/Idea:

Changes in temperature cause rocks to break.

B. Science Processes:
Inferring, identifying

C. Materials:
Glass tumbler, Hot or boiling water, Ice cubes

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review how do man and animals contribute to weathering of rocks?

B. Developmental Activities:

1. *Motivation:*

   What happens when you suddenly put boiling water inside a glass of cold glass?

2. *Presentation:*

   Activity:
   Fill a glass tumbler with hot or boiling water. After one or two minutes, pour off the hot water and immediately fill the glass with ice cubes. (This is a teacher demonstration activity)

Relate your observation to the weathering of rocks.

C. Concept Formation:

a. What happens to the hot glass tumbler when ice is immediately poured into it?
b. What can you infer from this observation?
c. How does this observation relate to the weathering of rocks?

D. Application:

How do sudden changes in temperature break down rocks?

IV. EVALUATION:

Explain how sudden changes in temperature break down rocks.

V. ASSIGNMENT:

What are some forces that contribute to the weathering of rocks?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how soil is formed through weathering

Values: *Appreciation on the importance of soil.*

II. SUBJECT MATTER:

Soil Formation

A. Science Concept/Idea:

- Soil is formed by continuous weathering of rocks
- Weathered rocks, humus, and living microorganisms make up the soil
- Soil supports plant growth

B. Science Processes:
Analyzing, inferring, describing

C. Materials:
Soil (from the garden and riverbanks) Magnifying lens, Piece f paper, Hard towel

References:
Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review: What is weathering? What are some forces that contribute to the weathering of rocks? What are the effects of weathering?

B. Developmental Activities:

1. *Motivation:*

   Have you seen soil in riverbanks? Is it the same with our garden soil?

2. *Presentation:*

- Scoop some soil in the garden
- Put small amount of the soil sample in a piece of white paper
- Examine the soil through a magnifying glass. Describe what you see?
- Put the remaining soil sample in a clear container and add water.
- Stir the water. Describe what you observe?

C. Concept Formation:

Presentation of findings
How is soil formed from weathered rocks?

D. Application:

Why is formation of soil from weathering important?

IV. EVALUATION:

Write the letter of the correct answer.

1. The forces of weathering constantly act on the rock to form

   a. humus

   b. soil

   c. bedrock

   d. mineral

2. Large amount of soil comes from

   a. weathered rocks

   b. decomposed plants

   c. decomposed animals

   d. living microorganisms

3. Soil are classified based on

   a. water holding capacity

   b. size of particles

   c. content

   d. all of the above

V. ASSIGNMENT:

Find out why weathering is faster in the tropics than in the polar regions?

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Determine how much water can different types of soil absorb

Values: *Honesty and appreciation of the usefulness of soil*

II. SUBJECT MATTER:

Water Holding Capacity of Soil

A. Science Concept/Idea:

- Soils are classified according to the size of their rock particles and the amount of humus they contain.
- The water holding capacity is a strong determinant of soil fertility and productivity.

B. Science Processes:

Observing, determining, identifying, comparing

C. Materials:

Water capacity of soil, apparatus Sand, clay, loam, water, plastic cups

References:

Teacher's Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health by Jose F. L1arinas and Emily Pelobello

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review n the different kinds of soil

B. Developmental Activities:

1. *Motivation:*

   What soil will you use if you want t plant a cactus? Rose?

2. *Presentation:*

   - Discuss the different kinds of soil.

- Have pupils perform this activity.

Activity:

- Fill three-fourths of each plastic cup with a different type of soil
- Simultaneously pour to each cup the same amount of water
- Compare the volumes of water collected from each cup

C. Concept Formation:

From which cup of soil sample is the most water collected?
From which cup of soil sample is the least water collected?

D. Application:

How much water can different types of soil hold?

IV. EVALUATION:

Rank the following soil as to water holding capacity. From a scale of 1 to 4, 1 is the greatest and 4 is the lest.

___ 1. Gravel soil
___ 2. Sandy soil
___ 3. Clayey soil
___ 4. Loam soil

V. ASSIGNMENT:

Find out what kind of soil do we have in our community and write what kind of plants can survive.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the processes involved in the water cycle: e.g. evaporation, condensation, precipitation

Values: *Cooperation, working harmoniously with a group*

II. SUBJECT MATTER:

Unit: Earth **Topic:** Water Cycle

A. Science Concept/Idea:

The processes involved in the water cycle are evaporation, condensation, and precipitation.

B. Science Processes:

Identifying, observing, experimenting

C. Materials:

Water, saucers A and B, chart

References:

Into the Future: Science and Health V p. 226; Science and Health Module V by Jessie Villegas and Celia Nakpil p. 238; Science for Active Learning V pp. 257258

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review:
    1. What is weathering?
    2. Why is the formation of soil from weathering important?

B. Developmental Activities:

1. *Motivation:*

When you wipe the blackboard with a damp cloth, what happens to the wet board after a while?

Why does the water disappear?

2. *Presentation:*

A. Activities:

A.1.1 Group the pupils into 3 groups.

A.1.2 . Let each group work on a puzzle game about the processes involved in the water cycle.

A.1.3 Each group will describe the puzzle they have work on and tell the processes involved.

C. Concept Formation:

What are the processes involved in the water cycle?

D. Application:

1. Your mother asked you to wash your clothes. After washing you hang them properly arrange in the cloth line under the sun. after 30 minutes you notice that they are already dry. Why?
2. In cold countries which have winter season. What are the forms of precipitation that falls?
3. How are clouds formed?

IV. EVALUATION:

Write E if the sentence is evaporation, C if it is condensation, and P if it is precipitation.

1. Drying wet clothes under the sun.
2. Clouds are formed.
3. In cold countries which have winter.
4. Raindrops keep falling on our head.

V. ASSIGNMENT:

Draw a water cycle.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Observe the changes that happen to water during each process

Values: *Follow the standard set in performing an activity. Show willingness to cooperate with others.*

II. SUBJECT MATTER:

Unit: Earth **Topic:** Water cycle

A. Science Concept/Idea:

- Evaporation is the transformation of liquid into gas or vapor.
- Condensation is the transformation of gas or vapor into liquid.
- Precipitation is all forms of moisture that fall on the surface of the earth from the clouds.

B. Science Processes:

Experimenting, observation, identifying

C. Materials:

Phase change apparatus

References:

Science and Health V Module by Jessie Villegas and Celia Nacpil

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review:
  1. What are the processes involved in the water cycle?

B. Developmental Activities:

1. *Motivation:*

Water is the most important compound in the biosphere. Without water, life would not exist. Would you like to find out the changes that happen to water as it is being cycled in nature?

2. *Presentation:*

Activity:

1. Setting of standards
2. Group the class into 4 groups
3. Distribute the phase change apparatus and the activity card.
4. Pupils read the problem and procedure of the activity.
5. Pupils perform the activity. Remind them about the standards set when performing an activity.
6. Group leaders report and discuss their observations and inferences gathered during the experiment.

C. Concept Formation:

What changes happen to water as it undergo the processes involved in water cycle?

D. Application:

With the use of flannel board and cutouts, pupils discuss the water cycle.

IV. EVALUATION:

Match the description in column A with the terms in column B. Write the letters only.

1. change from liquid to gas	a. cloud seedling
2. change from gas to liquid	b. condensation
3. moisture that fall on the earth.	c. evaporation
4. most common precipitation	d. precipitation e. rain

V. ASSIGNMENT:

Illustrate the water cycle on a one whole cartolina or illustration board using different materials. (Collage)

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Relate temperature to the process in water cycle

Values: *Respect for others. Do not talk when someone is talking. Learn to listen.*

II. SUBJECT MATTER:

Water cycle

A. Science Concept/Idea:

- Water cycle involves three processes:
- Evaporation, condensation and precipitation.
- Evaporation is changing of water to water vapor due to the absorption of heat.
- Condensation is the process of changing water vapor to water due to the release of heat.
- Precipitation is the falling of moisture from the air in the form of rain or snow.

B. Science Processes:

Communicating, comparing

C. Materials:

Illustration of water cycle

References:

Teachers Module in Science and Health V by Jessie A. Villegas; Into the Future: Science and Health V pp. 226-228

III. PROCEDURE:

A. Preparatory Activities:

- Checking of Assignment
- Review:
  1. What is water cycle?
  2. What are the processes involved in water cycle?
  3. Describe each process.

B. Developmental Activities:

1. *Motivation:*

What happens to the water on the ground when the temperature is high? to wet clothes?

2. *Presentation:*

   Observing the illustration of the water cycle.
   Identifying the processes involved in water cycle.
3. Reading the text pp. 226-227
4. *Interaction:*

   What happens to water when the temperature is high? Where does the water vapor go? Describe the temperature in the upper atmosphere.

C. Concept Formation:

What happens to water when temperature of air is high? What happens to water vapor when the temperature of air is low?

D. Application:

When is evaporation faster on high temperature or low temperature? How do we feel when temperature is high? How do we feel when temperature is low?

IV. EVALUATION:

Multiple choice. Choose the best answer.

1. Water gets into the atmosphere through.
    a. aeration
    b. precipitation
    c. evaporation
    d. condensation
2. What happens when a liquid evaporate?
    a. It absorbs heat.
    b. It lowers its temperature.
    c. It cools off.
    d. It turns to solid.
3. Condensation is the transformation of water vapor into
    a. solid
    b. liquid
    c. gas
    d. steam

V. ASSIGNMENT:

Illustrate water cycle in your notebook.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Compare the ability of land and water to absorb and release heat.

II. SUBJECT MATTER:

Land and Water Absorb and Release Heat

A. Science Concept/Idea:

The earth's surface is made up of land masses and bodies of water, air masses acquire uneven temperatures. Bodies of water heat and cool off more slowly than land.

B. Science Processes:

Observing, inferring and comparing

C. Materials:

Differential Thermoscope

References:

Science and Health Grade V by Jessie Villegas; Into the Future, pp. 229-230

III. PROCEDURE:

A. Preparatory Activities:

Ask the pupils to give the importance of sunlight.

B. Developmental Activities:

1. *Motivation:*

Where do people likely to go during summer? Have you experienced night swimming? How does the water feel?

2. *Presentation:*

- Infer to pupils which heats faster and cools quickly.
- Do activity 2, page 88 of Science and Health 5 by Jessie Villegas
- How are land masses and bodies of water heated by the sun?

C. Concept Formation:

- Which heats up quietly and cools off slowly, land or water? Why?

D. Application:

- Relate the unequal heating of the earth's surface to the influence of environment to people.
- People with good moral character do not easily get affected by bad influences than those with weak moral foundation.

IV. EVALUATION:

Answer briefly the following questions.

1. Which heats up rapidly, land or bodies of water?
2. Which cools off quickly, land or bodies of water?
3. What is the effect of unequal heating of land and bodies of water?

V. ASSIGNMENT:

Draw to illustrate how land and water absorb and release heat.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Investigate why there are differences in atmospheric pressure

II. SUBJECT MATTER:

Unequal Heating of Earth's- Surface Causes Differences in Atmospheric Pressure

A. Science Concept/Idea:

An air mass takes the temperature of the earth's surface over which it is located, the unequal heating of the earth's surface causes an unequal atmospheric temperature and therefore unequal atmospheric pressure.

B. Science Processes:

Observing, identifying and investigating

C. Materials:

Hot - Cold Air Balance

References:

Science and Health Grade V by Jessie Villegas pp. 91-92

III. PROCEDURE:

A. Preparatory Activities:

Which absorbs and releases heat - slowly, land or water?

B. Developmental Activities:

1. *Motivation:*

Look outside and observe the trees and plants. What makes them move?

2. *Presentation:*

- Group the class into 6 groups.
- Do activity No. 4 p. 92 of Science and Health 5 by Jessie Villegas
- Relate the investigation to the interaction of hot air mass to cold air mass.

C. Concept Formation:

- Make conclusion regarding the activity.
- What causes the difference in atmospheric pressure of a place? how?
- How is wind formed?

D. Application:

Relate the effect of heat to air to an argument with a friend. How would you handle the situation?

IV. EVALUATION:

Briefly explain the effect of unequal heating of the earth's surface to the difference in atmospheric pressure.

V. ASSIGNMENT:

Draw to illustrate the effect of unequal heating of the earth's surface to the atmospheric pressure.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe how atmospheric pressure affects the weather.

II. SUBJECT MATTER:

Atmospheric Pressure Affects Weather Condition

A. Science Concept/Idea:

- Atmospheric pressure is a maj9r element of weather. When there is a high pressure over the place, good weather is expected. But when there is low pressure, rain or storm may occur.
- A Barometer is used to detect atmospheric pressure.

B. Science Processes:

Identifying and describing

C. Materials:

U-Tube Barometer

References:

Science and Health Grade V by Jessie Villegas pp. 93-94; BEC Science and Health 7.7.3 p. 29

III. PROCEDURE:

A. Preparatory Activities:

What is the interaction of hot air mass and cold air mass called?
What causes the differences in atmospheric pressure?

B. Developmental Activities:

1. *Motivation:*

How can PAGASA tell what kind of weather we will experience from day to day?

2. *Presentation:*

Divide the class into 3 groups.
Do Activity 8.5 on page 43 of Science and Health V by Jessie Villegas.
Relate the findings to atmospheric pressure.

C. Concept Formation:

Make conclusion regarding the activity.
How does atmospheric pressure affects the weather?

D. Application:

A barometer detects good and bad weather. Which serve as barometer to our selves? (conscience) Is it important to have a conscience? Why?

IV. EVALUATION:

Fill in the blanks with the correct answer.

____ affects the weather condition of a place. Good weather is expected when there is _____ pressure. A rain or storm may occur when there is _____ pressure. To detect atmospheric pressure, an instrument called _____is used. Change in atmospheric pressure is due to __ heating of the earth's surface.

V. ASSIGNMENT:

Listen to the weather report on television or radio tonight and take note of the weather condition we will experience tomorrow.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Identify the different kinds of cyclone

II. SUBJECT MATTER:

Kinds of Tropical Cyclone

A. Science Concept/Idea:

Tropical cyclones are classified into tropical depression, tropical storm, and typhoon.

B. Science Processes:

Predicting and identifying

C. Materials:

Weather report chart

References:

Into the Future, pp. 235-236

III. PROCEDURE:

A. Preparatory Activities:

What is a cyclone? What does it bring?

B. Developmental Activities:

1. *Motivation:*

Do you listen to weather reports? How do you know that there is a cyclone or not?

2. *Presentation:*

- Show a weather report chart. Do Activity 8.6 on page 235 of Into the Future, Science V textbook.
- Show the Table of Classification and Description of tropical cyclones
- Pupils identify the different kinds of cyclone
- The class will predict the effects of each kind of cyclone in the environment.

C. Concept Formation:

What are the different kinds of cyclones? Describe each kind. How are they classified?

D. Application:

Group the class into 3 groups. Each group will represent each kind of cyclone. They will interpret each kind by means of body movements like walking, jogging, or running.

IV. EVALUATION:

Name and describe the different kinds of cyclone.

V. ASSIGNMENT:

List down at least 5 tropical cyclones which visited the Philippines.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe each kind of cyclones.

II. SUBJECT MATTER:

Kinds of Cyclone

A. Science Concept/Idea:

- A tropical cyclone has a maximum wind of less than 63 kph.
- A tropical storm has a maximum wind of 63 to 113 kph near the centef.
- A typhoon has a maximum wind of greater than 118 kph.
- Tropical cyclones which hit the Philippines usually form over the Pacific Ocean and the South China Sea

B. Science Processes:
Describing, communicating and inferring

C. Materials:
Pictures depicting the 3 kinds of cyclones

References:
Into the Future, Science V textbook, pp. 235-236

III. PROCEDURE:

A. Preparatory Activities:
What are the different kinds of cyclones? How are they classified?

B. Developmental Activities:

1. *Motivation:*

Show pictures depicting the 3 kinds of cyclone. Ask what do they see in the pictures.

2. *Presentation:*

- Divide the class into 3 groups
- Each group will be assigned one kind of cyclone and discuss what could happen to a place hit by it.

C. Concept Formation:

- Each group will present their output.
- Ask questions that will lead the pupils to formulate conclusions on the description of each kind of cyclone.

D. Application:

Suppose that a typhoon is coming tonight, w hat would the people expect?

IV. EVALUATION:

Describe briefly each kind of cyclone.

V. ASSIGNMENT:

Choose one kind of cyclone and make a poster that will show its effect to the environment.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Describe the conditions in the environment before, during, and after a cyclone.

II. SUBJECT MATTER:

Conditions in the Environment Before, During, and After a Cyclone

A. Science Concept/Idea:

Conditions of land, water and air differ before, during, and after a cyclone.

B. Science Processes:

Observing, inferring

C. Materials:

Pictures showing the condition of the environment before, during, and after a cyclone

References:

Into the Future, pp.237-238

III. PROCEDURE:

A. Preparatory Activities:

What are the different kinds of cyclone? Describe each.

B. Developmental Activities:

1. *Motivation:*

Have you experienced a typhoon? What would be the condition of land, water and air before, during, and after a typhoon?

2. *Presentation:*

- Group the class into 3 groups.
- Each group will brainstorm on the condition of the environment before, during and after a typhoon.
- Each group will present their ideas about the topic.

C. Concept Formation:

- Make conclusion regarding the activity.
- Teacher shows pictures of the condition of land, water, and air before, during, and after a typhoon.

D. Application:

Each group will make a poster of the condition of land, water, and air during a typhoon assigned to them.

IV. EVALUATION:

- Presentation of outputs of each group.
- Describe the assigned condition in the environment during a typhoon.

V. ASSIGNMENT:

List down at least 5 conditions in the environment before, during, and after a cyclone.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Explain the meaning of typhoon signals

Values: *Alertness; Observing precautionary measures*

II. SUBJECT MATTER:

Typhoon signals

A. Science Concept/Idea:

- Typhoon signals issued by PAGASA warns the public of the coming cyclones.
- Typhoon signals are raised according to the strength and speed of the wind and the times when such kind of wind is expected.

B. Science Processes:
Inferring, describing

C. Materials:
Electric fan, Anamometer

References:
Into the Future, pp. 239-240

III. PROCEDURE:

A. Preparatory Activities:
Describe the condition of the environment before, during, and after a cyclone.

B. Developmental Activities:

1. *Motivation:*

How would you know that a typhoon coming is strong?

2. *Presentation:*

- Divide the class into 3 groups
- Do Activity 8.8 on page 239 of Into the Future.

- Relate the findings on the typhoon signals.

C. Concept Formation:

- Show the class the table of description of typhoon signal.
- Describe each typhoon signal.
- Infer the effect of each typhoon signal.

D. Application:

Each group will present a skit on the typhoon signal a-.2signed to them. They will portray the following roles: PAGASA/ Weatherman, DepEd Secretary, Community people.

IV. EVALUATION:

Identify what typhoon signal is depicted in each situation.

1. Classes in the elementary and high school level are suspended.
2. Very strong winds of more than 185 kph are expected at least within 12 hours.
3. Strong winds of 60 kph maybe expected within at least 36 hours.

V. ASSIGNMENT:

List down at least 5 precautionary measures before, during and after a cyclone.

SCIENCE AND HEALTH V

Date: _____

I. OBJECTIVE:

Practice precautionary measures before, during, and after a typhoon.

Values: *Brotherhood and Cooperation*

II. SUBJECT MATTER:

Precautionary Measures Before, During, and After a Typhoon

A. Science Concept/Idea:

To save lives and properties, before, during, and after a typhoon, strictly follow all safety measures.

B. Science Processes:

Inferring, communicating

C. Materials:

Chart

References:

Into the Future, Science V textbook, pp. 241-242

III. PROCEDURE:

A. Preparatory Activities:

What are typhoon signals? How is it raised?

B. Developmental Activities:

1. *Motivation:*

What would you do when there is a typhoon coming in your place?

2. *Presentation:*

- Divide the class into 3 groups.
- Each group will be assigned to brainstorm on a specific task on the precautionary measures whether before, during, or after a typhoon.

- Do Activity 8.9 on page 241 of Into the Future

C. Concept Formation:

- Each group will present their output.
- Teacher asks questions that will lead the pupils to the precautionary measures before, during, and after a typhoon.

D. Application:

Each group will present a typhoon scene following all the precautionary measures to be practiced before, during and after a typhoon. Put emphasis on brotherhood and cooperation.

IV. EVALUATION:

List down at least 5 precautionary measures before, during, and after a typhoon.

V. ASSIGNMENT:

Interview some community officials on the precautionary measures they post to community people before, during and after a typhoon.

4th

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identify the members of the solar system

Values: Appreciate God's creation.

II. Subject Matter:

Unit: The Solar System
Topic: Members of the Solar System

A. Science Concept/Idea:

- ❖ Sun Planets, planetoids, comets, meteor and meteorites are the members of the solar system.

B. Science Processes:
Observing and Identifying

C. Materials:
Illustration of nine (9) planets, sun, meteor, meteorites comet and activity card

References:
Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 100;
Into the Future Science and Health, p. 250

III. Procedure:

A. Preparatory Activities:
1. Reading of Science news about members of the solar system.

B. Developmental Activities:
1. ***Motivation:***

Close your eyes and imagine that you are in the outer space. Which celestial heavenly body do you want to see? Why?

2. ***Presentation:***

Activities:

a. Show a diagram of the different members of the solar system.
b. Let pupils name or identify the different members of the solar system.
c. Ask: Which is the center of the solar system?

C. Concept Formation:

What are the members of the solar system?

D. Application:

After knowing the members of the solar system, how do you feel? In your own opinion who made it?

IV. Evaluation:

1. Identify the members of the solar system.
2. check (✔) the correct answer and cross (x) the wrong ones.

____ 1. sun
____ 2. planets
____ 3. wind
____ 4. comets
____ 5. rocks

V. Assignment:

1. To what group of heavenly bodies does planet Earth belong?
2. What is the center of the solar system?
3. What are the members of the solar system?
4. Where do members of the solar system revolve?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describe the members of the solar system.

Values **:** Participate actively during group discussions. Keep an open mind to the ideas of others.

II. Subject Matter:

Unit: Characteristics of Stars
Topic: Kinds of Stars According to Size

A. Science Concept/Idea:

- ❖ The sun is the center of the solar system.
- ❖ The planets revolve around the sun. Rotate on its axis.
- ❖ The comets has a tail and a head.
- ❖ Meteor and meteoroids are known as a shooting star.
- ❖ Satellites revolve around a greater body.

B. Science Processes:

Observing and Describing

C. Materials:

Enlarged picture of the solar system with the members of the solar system

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Name the members of the solar system.

B. Developmental Activities:

1. ***Motivation:***

   Can you differentiate each member from the others?

2. ***Presentation:***

Activities:

a. Observe the enlarge picture of the solar system.
b. Divide the class into (4) groups.
c. Let the group discuss the following questions.
    1. What is the center of the solar system?
    2. What revolves around the sun?
    3. How big is the sun?
    4. How many planets are there in the solar systems
    5. Describe the planets.

C. Concept Formation:

Describe the members of the solar system.

D. Application:

To what members of the solar system does the Earth belong? If you happen to see a shooting star, what will you think about it?

IV. Evaluation:

1. The center of the solar system is the _____.
2. A heavenly body that has a tail and head is a _____
3. Heavenly body that rotates on its axis and does not have its own light are the _____.

V. Assignment:

Research on the theories of the origin of the solar system and the planets share your findings with the class.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Illustrate through a diagram how the members of the solar system revolve around the sun in the same direction as they follow their own orbits.

Values: Orderliness/Active participation in performing activity/Cleanliness and neatness in making a design.

II. Subject Matter:

Unit: The Solar System
Topic: How Members of the Solar System Revolve around the Sun

A. Science Concept/Idea:

- ❖ The members of the solar system revolve around the sun in the same direction as they follow their own orbits.

B. Science Processes:
Observing, Describing and Illustrating

C. Materials:
chart, activity card

References:
Into the Future Science and Health V, p. 260

III. Procedure:

A. Preparatory Activities:

1. ***Review:***
   Describe the members of the solar system:
   a. Sun
   b. Planets
   c. Comets
   d. Meteors and Meteorites
   e. Planetoids

B. Developmental Activities:

1. ***Motivation:***

   Have you ever wondered why planets do not collide as they travel around the sun?

2. ***Presentation:***

   a. Show an illustration or a model of the nine planets and identify them.
   b. Distribute cutouts of the nine (9) planets and nine (9) different colored string.

c. Tell the pupils to arrange the nine (9) planets around the sun on the flannel board.
d. Let the pupils put the colored strings to show the orbit of the planets (Teacher guide the pupils)

C. Concept Formation:

How do the members of the solar system revolve around the sun?

D. Application:

Do all planets bump with each other? Why? How are planets arranged? What values can you get from this?

IV. Evaluation:

Illustrate through drawings why planets do not collide as they revolve around the sun.

V. Assignment:

What do you think will happen if its orbit brought it closer to the sun? Write a short paragraph about it.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Demonstrate what keeps the planets in their respective orbits.

Values: Show appreciation to God's creation. Working harmoniously with the members of the group.

II. Subject Matter:

Unit: The Solar System
Topic: Forces Governing Planetary Motion

A. Science Concept/Idea:

- ❖ The nine (9) planets, moons, planetoids and meteoroids are revolving around the sun in their respective orbits.
- ❖ There are two (2) opposite and equal forces that keep the members of the solar system in orbit: centrifugal force and centripetal force.

B. Science Processes:

Observing and Describing

C. Materials:

plastic ball and cotton string

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 100;
The Solar System, by Jessie A. Villegas p. 274

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What do the members of the solar system follow as they revolve around the sun?

B. Developmental Activities:

1. ***Motivation:***

Why do you think the planets stay in their orbits as they revolve around the sun? Find out?

2. ***Presentation:***

Activities: Divide the class into four (4) groups:

a. Perform Activity 2
    1. Read the problem and the procedure.
    2. Perform the procedure by group.
    3. Gathering of data.
    4. Let pupils give their generalization.
b. Discuss the forces governing planetary motion.
    1. What are the two (2) opposite and equal forces that keep each member of the solar system in orbit?
    2. What is Newton's Law of Gravitation?

C. Concept Formation:

What keeps the planets in their respective orbit?

D. Application:

What would happen if the sun lost its gravitational pull on the planets? To the living things on Earth? Who created the sun? Do you think God will allow it to happen? Why?

IV. Evaluation:

Answer the following questions:

1. What revolves around the sun in their respective orbits?
2. What are the forces governing planetary motion?
3. What keeps the planets in their orbits?

V. Assignment:

1. Why can the sun exert its gravitation on all of the planets?
2. Why do planets stay in orbit as they revolve around the sun?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Demonstrate how mass is related to gravity

Values: Show respect to scientist and inventors because of their discoveries and inventions

II. Subject Matter:

Unit: The Solar System
Topic: Mass vs. Gravity

A. Science Concept/Idea:

- ❖ Gravity is the force that rules the universe.
- ❖ The larger the mass of a body, the greater is its gravity.

B. Science Processes:

Observing, Describing and Demonstrating

C. Materials:

Gravity simulator

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 100;
The Solar System by: Jessie A. Villegas p. 276

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What keep the planets in their orbits?

B. Developmental Activities:

1. ***Motivation:***

   What does mass versus gravity mean? Find out.

2. ***Presentation:***

a. Activities: Divide the class into four (4) groups
    1. Perform Activity 3
    2. Let pupils read the problem.
    3. Distribution of gravity simulator — Explain what a gravity simulator is.
    4. Pupils perform the procedure.
    5. Gathering of data.
    6. Discuss generalizations.

C. Concept Formation:

a. What forces rules the universe?
b. When does an object or body have greater gravity?

D. Application:

Sir Isaac Newton said that bodies fall, why? In the solar system which is the largest body? Compared to all of the nine (9) planets, what is the gravity of the sun? Is It greater or smaller? Why?

IV. Evaluation:

Writing of experiment in the experiment folder.

V. Assignment:

Design a gravity simulator using discarded materials. Bring the following materials for the next activity:

1. String
2. panel pins
3. pencil
4. bond paper

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Describe the orbit of each ellipse

Values: Cooperation, Attentiveness to lesson/Active participation in group activities

II. Subject Matter:

Unit: The Solar System
Topic: Orbit of the Planet as Eclipse

A. Science Concept/Idea:

- All planets revolve around t an elliptical but almost it orbit.
- An ellipse is like a flattened

B. Science Processes:

Observing, Describing Identifying

C. Materials:

string, panel pins, pencil paper

References:

Science and Health V, Mop Jessie Villegas and Celia N 101;
Science and Health V b A. Villegas pp. 278-279

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   How is mass related to

B. Developmental Activities:

1. ***Motivation:***

   Did you know that the system is in motion? Each of the family is in motion t planets move in elliptic

2. ***Presentation:***

a. Activities: Divide the class into four (4) groups.
   1. Perform Activity 4 (see attached Activity sheet).
   2. Let pupils read the problem.
   3. Check the materials brought by the pupils.
   4. Follow the procedure to perform the activity.
   5. Answer the question under observations and inferences.
   6. Discus s the generalization of each group.

C. Concept Formation:

How do planets revolve around the sun? What is an eclipse?

D. Application:

Present the illustration showing the planets in their respected orbits. Point to the planet which has the most elliptical orbit and tilted orbit.

IV. Evaluation:

Identify the following:

1. It is like a flattened circle.
2. Revolve around the sun in an elliptical but almost circular orbit.
3. The point a planet is closest to the sun.
4. The point a planet is farthest from the sun.
5. It has 150 million kilometers mean orbital radius.

V. Assignment:

1. Why does the planet's orbit take an elliptical shape?
2. What has the most elliptical orbit?
3. Why has Mercury an- almost circular orbit?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Tell that the sun is also a star

Values: Appreciate what the sun can give to human kind.

II. Subject Matter:

Unit: The Solar System
Topic: The Sun

A. Science Concept/Idea:

- ❖ The sun is a star. It is the nearest star to the planet Earth.

B. Science Processes:

Observing, Describing and Inferring

C. Materials:

picture of a sun

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 292

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Why do planets stay in orbit as they revolve around the sun?

B. Developmental Activities:

1. ***Motivation:***

   What gives heat and light? Would you like to find out that the sun is also a star?

2. ***Presentation:***

   a. Activities:

1. Show a picture of the sun. Ask: Tell something about the sun.
2. Read the sun page 292 (see attached B.I.T. sheet)
3. Discussion/Analysis:
   a. What is named after the Roman god?
   b. How far is the sun from the Earth?
   c. Describe the sun according to its size and diameter?
   d. What are the two (2) elements of the sun?

C. Concept Formation:

What can you say about the sun? Why?

D. Application:

Why can't you see the stars during the day?

IV. Evaluation:

Choose the correct letter:

1. The sun is 330,000 times heavier but only one fourth times as dense as Earth.
   a. The sun is made up of hydrogen and helium, the two lightest elements.
   b. The sun's nuclear power makes the sun particles less dense.
   c. The sun is only a medium sized star.
   d. Most of the suns material is converted to energy.
2. What pulled the cosmic cloud of gas and dust together to start a nuclear fusion?
   a. Gravity
   b. Temperature
   c. Pressure
   d. all of these

V. Assignment:

Write five (5) sentences comparing the sun and a star.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identify the parts of the sun

Values: Attentiveness, cooperation and neatness

II. Subject Matter:

Unit: The Solar System
Topic: The Sun

A. Science Concept/Idea:

- ❖ The sun's internal structure is made up of a core, a radioactive zone and a convection zone.
- ❖ The sun's atmosphere is composed of the photosphere, chromosphere and the corona.
- ❖ Another phenomenon associated with the sun's structure is the solar wind.

B. Science Processes:

Observing, Identifying and inferring

C. Materials:

Picture of the sun and its part, projector

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 249

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Is the sun a Star? Why?

B. Developmental Activities:

1. ***Motivation:***

   Is the heat of the sun very hot? What makes it hot? Can you tell the different parts of the sun? Lets find out.

2. ***Presentation:***

Activities

a. Show a picture of the sun through a projector.
b. Ask: What are the sun's internal structure made up of? What composed the sun's atmosphere? What is another phenomenon associated with the sun's structure?
c. Let the pupils point with a pointer the parts of the sun.
d. Pupils make a design of the sun's structure in their notebook.

C. Concept Formation:

What are the sun's internal structure? What composed the sun's atmosphere? What is another phenomenon associated with sun's structure?

D. Application:

Do you think the sun is very important to mankind? Why?

IV. Evaluation:

Draw and identify the parts of the sun.

V. Assignment:

Draw the sun's structure on a clean illustration board. Color it. Cut it into 6-7 pieces. This will be used as your puzzle game.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describe the parts of the sun.

Values: Honesty and integrity

II. Subject Matter:

Unit: The Solar System
Topic: The Sun

A. Science Concept/Idea:

- ❖ The core is the solar reactor.
- ❖ The photosphere is a bright layer of visible light.
- ❖ The chromosphere is a dense layer of colored gases.
- ❖ The corona is a vast cloud of very hot gasses.
- ❖ The solar wind consist of particles emitted from the sun at supersonic speed of one million kilometers per hour

B. Science Processes:

Describing

C. Materials:

Puzzle game, picture of the sun's structure

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 294

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What are the parts of the sun?

B. Developmental Activities:

1. ***Motivation:***

   a. Let the pupils exchange within their group the puzzle game that they have made.

b. Let them assemble the puzzle game and identify the parts. Would you like to describe each part?

2. ***Presentation:***

a. Let the pupils take a pre-test-what is your SCIQ (see attached SCIQ sheet).
b. Check the pre-test
c. Let pupils read the structure of the sun. (See attached B.I.T.)
d. Discuss the description of each part of the sun.

C. Concept Formation:

Describe the parts of the sun

D. Application:

If you will look at the night sky, what are the colored lights seen in the Earth's north and south poles?

IV. Evaluation:

Post — Test: What is your SCIQ? (see attached SCIQ)

V. Assignment:

Find out how the Earth's atmosphere protects us from too much heat, light and radiation from the sun.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Tell the sunspot are harmful formed in the photosphere.

Values: Honesty in taking the test.

II. Subject Matter:

Unit: The Solar System
Topic: The Sun

A. Science Concept/Idea:

- Sunspots are dark patches that seem to be great magnetic whirlpool on the sun's surface.

B. Science Processes:

Observing, Describing and Identifying

C. Materials:

Picture of the sun showing the sunspot

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 100;
The Solar System, by Jessie A. Villegas p. 296

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Describe the different parts of the sun?

B. Developmental Activities:

1. ***Motivation:***

   Look at the photograph of the sun. Do you notice the dark spots? They are called sunspots. What are sunspots? Where do they come from? Let's find out.

2. ***Presentation:***

a. Pre-Test (see attached SCIQ) Check the Pre-Test.
b. Let pupils read what are sunspots? (see attached B.I.T.)
c. Discuss the following questions:
    1. What are sunspots?
    2. How are sunspots formed?
    3. Where do sunspots formed?

C. Concept Formation:

What are sunspots?

D. Application:

Have you seen sunspots? Sunspots are observed and studied by scientist because scientist are keen observer. Are you a keen observer?

IV. Evaluation:

Post — Test (See SCIQ)

V. Assignment:

Draw the sun and the sunspots.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identify the effects of sunspot on Earth.

Values: Keep quiet when inside the library. Proper handling of books.

II. Subject Matter:

Unit: The Solar System
Topic: The Sun

A. Science Concept/Idea:

- ❖ Sunspots affect radio message and signals difficult to receive.
- ❖ Sunspots affect the climate of the Earth.

B. Science Processes:

Observing, Identifying and Inferring2. Presentation:

C. Materials:

Picture of the sun with sunspots, persons using cellular phones, radio communication and picture of rainy days.

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

What are sunspots? How are they formed?

B. Developmental Activities:

1. ***Motivation:***

What are the effects of sunspot on Earth? Find out.

2. ***Presentation:***

a. Divide the class into four (4) groups.
b. Let the pupils research on the library. What are the effects of sunspots on Earth?
c. Reporting of findings by group.
d. Show the different pictures on the effects of sunspot on Earth.

C. Concept Formation:

What are the effects of sunspots on Earth?

D. Application:

General de Leon can't receive radio messages from Mindanao headquarters, what do you think is the reason?

IV. Evaluation:

Check (✔) the effects of sunspots and cross (x) if not.

1. Messages on Earth may be difficult to receive.
2. Radio signals on Earth is affected.
3. Radio communication becomes clearer.
4. Rainfall and storms increase.
5. Produce northern lights and southern lights.

V. Assignment:

List some more effects of sunspot in your notebook.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identify ways by which solar energy is used by plants, animals and humans.

Values: Working harmoniously with the group. Honesty

II. Subject Matter:

Unit: The Solar System
Topic: The Sun

A. Science Concept/Idea:

- ❖ Ways by which solar energy is used by plants, animals and humans are the following:

B. Science Processes:

Observing, Identifying and Inferring

C. Materials:

pictures

References:

Science and Health for Better Life V

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What are the effects of sunspots on Earth?

B. Developmental Activities:

1. ***Motivation:***

   Tremendous amount of heat and light energy are released by the sun. What do we call this energy? How is solar energy useful to man, plants and animals. Find out.

2. ***Presentation:***

a. Activities
   1. Show pictures showing he the different ways by which solar energy is used by plants, animals and humans.
   2. Let the pupils describe the picture.
   3. Let pupils identify the ways by which solar energy is used by plants, animals and humans.

C. Concept Formation:

What are the ways by which solar energy is used by plants, animals and humans?

D. Application:

If there is no sun, what will happen to planet Earth? Will there be food to eat? Will there be light? Will there be

IV. Evaluation:

Write check (✔) if solar energy is used by plants, animals and humans and cross (x) if not:

1. Disinfect clothes
2. Wind power
3. Photosynthesis
4. Pollute water
5. Formation of fossils fuels

V. Assignment:

Collect pictures on how solar energy is used by living things. Write one (1) or two (2) sentences below each picture.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explain why the sun is the main source of energy on Earth.

Values: Cooperation, appreciate God's creation

II. Subject Matter:

Unit: The Solar System
Topic: The Sun

A. Science Concept/Idea:

- ❖ The sun is the main source of energy on Earth.
- ❖ Solar energy is changed to chemical energy during photosynthesis in green plants.
- ❖ Moving air has energy that comes from the sun.
- ❖ Moving water has energy that comes from the sun.

B. Science Processes:

Observing, Describing and Inferring

C. Materials:

Wind wheel, turbine wheel, diagram showing photosynthesis in green plants

References:

Science and Health V, Module by: Jessie Villegas and Celia Nacpil p. 298;
Into the Future Science and Health, p. 256; Science for Active Learning, pp. 309-312

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What are the ways by which solar energy is used by plants, animals and humans?

B. Developmental Activities:

1. ***Motivation:***

What is the main source of energy on Earth? Why? Let's find out.

2. ***Presentation:***

Activities:

a. 1. Divide the class into four (4) groups.
   2. Let the leaders of the group pick up a rolled paper. Rolled papers contained the different ways and guide question on how solar energy is used by plants, animals and humans.
   3. Tell each group that they are to research on the topic they have picked up.
   4. Give 30 minutes for the pupils to go to the library.
   5. Reporting on findings by each group.
   6. Discussion on the findings of each group.

C. Concept Formation:

Why is the sun the main source of energy on Earth?

D. Application:

What is known as the free vitamin? Why? What kind of vitamin is it? What does it prevent?

IV. Evaluation:

Choose the correct answer:

1. How does the sun provide us wind power?
   a. by promoting the circulation of the atmosphere.
   b. by propagating radiant waves that disturb the air.
   c. by evenly heating the Earth surface
2. How did the sun provide us fossils fuel?
   a. Fossils fuels were once part of the sun's interior which condensed and became part of the Earth.
   b. Fossils fuel is a form of solar energy trapped under ground.
   c. Fossil fuel are decomposed remains of primitive plants, which were products of photosynthesis.
   d. none of these

V. Assignment:

1. How is energy trapped to provide electricity and light?
2. How does solar energy disinfect clothes and other household articles?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Illustrate the relative distances of the planets from the sun.

Values: Honesty, showing orderliness in their belongings. Love and Happiness for living on planet Earth.

II. Subject Matter:

Unit: The Solar System
Topic: Relative Distances of Planets from the Sun

A. Science Concept/Idea:

- ❖ Planets have different distances from the sun.
- ❖ Mercury is the nearest planet while Pluto is the farthest planet from the sun.

B. Science Processes:

Describing and Illustrating

C. Materials:

picture, drawing chart and activity card

References:

Science and Health for Better Life, p. 249; Living with Science, pp. 231-235

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Why is the sun's main source of energy on Earth?

B. Developmental Activities:

1. ***Motivation:***

   Would you like to find out how far and how near a planet is from the sun?

2. ***Presentation:***

a. Group Activities:

1. Observe the table showing the different distances of the planets from the sun.

Members of the Solar System	Distance from the sun kilometer
Mercury	58,000,000
Venus	108,000,000
Earth	150,000,000
Mars	228,000,000
Jupiter	778,000,000
Saturn	1,427,000,000
Uranus	2,870,000,000
Neptune	4,497,000,000
Pluto	5,900,000,000

2. Ask:

a. Which is the nearest planet to the sun?
b. Which is the farthest planet?
c. Which is the second nearest? 3rd? 4th? 5th2 6th7 7th? 8th?
d. How far is Mercury from the sun?

C. Concept Formation:

Do planets have different distances from the sun?

D. Application:

Describe the distance of the Earth from the sun. Are you happy with the Earth's distance? Why? Is life possible on - Mercury? Do you want to live there? If life is possible on Pluto, will you live there? Why?

IV. Evaluation:

Match column A with column B

Column A	Column B
____ 1. The nearest planet to the sun	a. Jupiter
____ 2. The farthest planet to the sun	b. Earth
____ 3. It is 150,000,000 away from the sun	c. Saturn
____ 4. It is 1,427,000,000 from the sun	d. Mercury
____ 5. Midway between the sun and Pluto	e. Pluto
	f. Uranus

V. Assignment:

Draw the nine (9) planets. Arrange them from the nearest to the farthest from the sun.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Relate the surface temperature of each planet to their relative distance from the sun.

Values: Analyze and interpret data accurately. Honesty Cleanliness in paper works.

II. Subject Matter:

Unit: The Solar System
Topic: Characteristics of the Planets

A. Science Concept/Idea:

- ❖ The relative distance of a planet from the sun affects its surface temperature.
- ❖ Planets nearer the sun have higher temperature with the exception of Venus.
- ❖ The Farthest planet from the sun is the coldest.

B. Science Processes:

Observing, Comparing and Inferring

C. Materials:

chart showing distance and surface temperature

References:

Into the Future Science and Health pp. 262-264

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What is the nearest planet? The farthest planet? How many km/s are these two (2) planets away from the sun?

B. Developmental Activities:

1. ***Motivation:***

   Which is hotter, one that is nearer the sun or one that is farther the sun? which do you think is hotter, Mercury or Pluto? Why? How about Mercury and Venus? That is not always the case as you will find out from our lesson today.

2. ***Presentation:***

a. Introduce the words distance and surface temperature:
   1. Illustrate the meaning of distance through demonstration.
   2. Ask pupils to give the meaning of the word. (Distance means how far/near an object/s person is from a given reference point)
   3. Illustrate the meaning of surface temperature by demonstrating the following:
      a. Heat any kind of pie in an oven. Remove it out of the oven, measure and read the surface temperature of the pie with a thermometer. Record the temperature.
      b. Get the inner temperature of the pie with a thermometer. Record the temperature.
      c. Compare the temperature of the inner and surface temperature of the pie.

C. Concept Formation:

How does the distance of planet affect its surface temperature?

D. Application:

If you were asked to go to planet Mars, would you like to go and live on planet Mars? Why? How about on planet Venus? Why? Pluto? Why?

IV. Evaluation:

Arrange the following planets from the coolest to the hottest.

1. Venus
2. Pluto
3. Mars
4. Jupiter
5. Mercury
6. Saturn
7. Neptune
8. Uranus
9. Earth

V. Assignment:

Write 50-100 words why planet Earth has a perfect temperature for human beings to live in.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Relate the relative period of revolution of each planet to their respective distances from the sun.

Values: Working harmoniously with the group work. Cleanliness, orderliness and honesty.

II. Subject Matter:

Unit: The Solar System
Topic: Characteristics of Planets

A. Science Concept/Idea:

- The relative distance of planets from the sun affects their period of revolution.
- Mercury is the nearest planet to the sun and the fastest to revolve around the sun,
- Pluto the farthest planet after 1999 has the slowest period of revolution.

B. Science Processes:

Observing, Comparing and Analyzing

C. Materials:

Table indicating the planet's name, its period of revolution and distance 4rom the sun

References:

Into the Future Science and Health, pp. 265-268

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Why are planets nearer the sun hotter than others with the exception of Venus? What is the coldest planet?

B. Developmental Activities:

1. ***Motivation:***

   The relative distance of each planet from the sun affects its surface temperature. Do you think distance is also related to the period each planet revolves or travel around the sun? Find out.

2. ***Presentation:***

   a. Divide the class into four (4) groups.
   b. Let each group perform activity 9.10. Relating revolution and distance page 265.
      1. Tie a string one (1) meter long to a small plastic ball.
      2. Hold the string about 30 centimeters away from the ball and whirl just above your head.
      3. Next hold the string about 90 centimeters from the ball and again whirl it above your head.
      4. Observe and compare the speed of the ball in the first and second instances.
      5. Answer the following:
         a. When did the ball turn faster? Slower?
         b. What factor affects the speed of the ball?

C. Concept Formation:

How does the period of revolution relate with the planet's distance from the sun?

D. Application:

(Group Work)

a. Draw, color and cut out the sun and the nine planets.
b. Paste the cutouts from the slowest to the fastest moving planet on a clean cartolina or manila paper.
c. Write the planet's name, distance from the sun and the period of revolution around the sun.

IV. Evaluation:

Choose the correct answer.

1. Which planet is the slowest to revolve around the sun?
   a. Jupiter c. Pluto
   b. Earth d. Mercury
2. Which planet is the fastest planet to revolve around the sun?
   a. Earth c. Neptune
   b. Mercury d. Uranus

V. Assignment:

Find out if the period of rotation and revolution are the same. Are there any planets which have the same rotation and revolution?

1. Why can the sun exert its gravitation on all of the planets?
2. Why do planets stay in orbit as they revolve around the sun?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Describe the distinctive characteristics of planet Mercury and Venus.

Values: Show concern to the members of the group. Attentiveness during discussion.

II. Subject Matter:

Unit: The Solar System
Topic: Characteristic of Planet

A. Science Concept/Idea:

- Mercury is the closest planet to the sun, making it one of the fastest and brightest planet.
- Venus is the brightest of all the stars and planets in the sky.

B. Science Processes:

Observing

C. Materials:

Picture of planet Mercury and Venus

References:

Science and Health V, by: Jessie Villegas pp. 282-283

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What is the relation between the period of revolution of each planet to their relative distances from the sun?

B. Developmental Activities:

1. ***Motivation:***

   Look at the planets near the sun. Can you identify them? What are they? These planets are alike in some ways but there are also many differences among them. Find out why they are called the fastest and brightest planet in the solar system.

2. ***Presentation:***

   a. Pre-Test — see attached what is your SCIQ page 283
   b. Pupils check their answers in the pre-test.
   c. Show planet Mercury and Venus and ask pupils to write the characteristics of these planets.
   d. Let pupils read the fastest and brightest planets. (See attached B.I.T.)
   e. Discussion/Analysis:
      1. What is the closest planet to the sun?
      2. Mercury was named after the Roman god called Mercury, why?
      3. What is the inner core of Mercury made of?

C. Concept Formation:

What planets are known as the fastest and brightest planet?

D. Application:

Space probe Mariner ten (10) discovered that Mercury has a very, very thin atmosphere. Can human beings live in planet Mercury? Why? Venus is the most brilliant and beautiful object in the night sky. Why does it shine brightly?

IV. Evaluation:

Pro-Test — See attached what is your SCIQ p. 283

V. Assignment:

Draw planet Mercury and Venus on a clean sheet of coupon bond. Write 4-5 sentences describing the characteristics of these planets.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Describe distinct characteristics of the blue and red planets.

Values: Show concern to the environment of planet Earth

II. Subject Matter:

Unit: The Solar System
Topic: Characteristics of Planet

A. Science Concept/Idea:

- Earth is the blue planet due to its atmosphere and bodies of water.
- Mars is the red planet due to its dust, soil and rocks containing reddish iron oxide (rust).

B. Science Processes:

Observing, Describing and Inferring

C. Materials:

picture of planet Earth and Mars

References:

Science and Health V by: Jessie A. Villegas p. 284; Science for Active Learning, pp. 322-325

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What is known as the fastest planet? Why is Venus the brightest of all the planets in the sky?

B. Developmental Activities:

1. ***Motivation:***

   Riddle game:

   a. I am a blue planet. I am the only planet with a life sustaining atmosphere. I am terra named after a Roman goddess. What am I?

b. I was named after the Roman god of war. I am a cold planet because of my thin atmosphere. No life will survive because I have no water. My color is red. What am I?

2. ***Presentation:***

a. Show the class the picture of the planets describe in the riddle game.

b. Encourage pupils to tell something about their surroundings. Discuss the characteristics. Discuss the characteristics of the planet Earth.

c. Show and discuss the Tellurium (Tripartite Model of the Solar System. (see attached sheet)

C. Concept Formation:

What are the distinct characteristics of planet Earth? Planet Mars?

D. Application:

Planet Earth has only one moon. It is so simply bright that has always fascinated humans. As a poet write a short poem about the moon.

IV. Evaluation:

Choose the letter of the correct answer.

1. What gives Earth the right temperature to support life?
   a. The right amount of carbon dioxide in its atmosphere.
   b. An atmosphere that can support and nourish plants and animals.
   c. The presence of liquid water.
   d. all of these
2. Mars is often called the red planet because
   a. its atmosphere reflects the red portion of sunlight
   b. its soil and rocks is made mostly of iron oxide
   c. it has no liquid water
   d. it is named after the roman god of war

V. Assignment:

Arrange the following questions:

1. Which is bigger Earth or Mars?
2. Why is Mars a cold planet?
3. What is the average orbital speed of Earth?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describe distinct characteristics of giant planets.

Values: Helpfulness and cooperation, Attentiveness, Willingness to share ideas

II. Subject Matter:

Unit: The Solar System
Topic: Characteristics of Planet

A. Science Concept/Idea:

- ❖ Jupiter is the largest planet in the solar system. It was named after the king of the Roman gods.
- ❖ Saturn is the second largest planet in the solar system. It was named after the Roman god of farming.

B. Science Processes:

Observing, Describing and Inferring

C. Materials:

Illustration of planet Jupiter and Saturn

References:

Science and Health V by: Jessie A. Villegas p. 288

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What planets are known because of their blue and red color?

B. Developmental Activities:

1. ***Motivation:***

   Why are Jupiter and Saturn called giant planets? Lets find out.

2. ***Presentation:***

a. Show the picture of planet Jupiter and Saturn

b. Let pupil research on the characteristics of Jupiter and Saturn. Follow the table below.

Table 1

Characteristics	Jupiter	Saturn
Size		
Atmosphere		
Rings		
Shape		
Moon and name		
Orbital speed		
Number revolution around the sun		
Rotation		

C. Concept Formation:

What are the distinct characteristics of Jupiter and Saturn?

D. Application:

Saturn is surrounded by many moons. It has 20 moons. Titans is the largest. Why is Titans the most unique moon?

IV. Evaluation:

Match column A with column B

Column A	Column B
____ 1. Jupiter	a. The largest moon on Saturn
____ 2. Saturn	b. The largest planet
____ 3. Great Red Spot	c. The largest moon in the solar system
____ 4. Titan	d. The second largest planet
____ 5. Ganymede	e. Seven (7) major rings
	f. Eye of Jupiter

V. Assignment:

Research on some new ideas about Jupiter.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Describe distinct characteristics of the farthest planet.

Values: Observe silence when inside the library. Show willingness to cooperate with the group.

II. Subject Matter:

Unit: The Solar System
Topic: Characteristics of Planet

A. Science Concept/Idea:

- Uranus is the planet where the sun never rises nor sets. It has a ring system.
- Neptune was named after the Roman god of the sea.
- Pluto is the fastest planet from the sun.

B. Science Processes:

Observing, Describing and Inferring

C. Materials:

Pictures of Uranus, Neptune and Pluto

References:

Science and Health V by: Jessie A. Villegas p. 290

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What is known as the ringed planet?

B. Developmental Activities:

1. ***Motivation:***

   Uranus, Neptune and Pluto are called distant planets. They are so far that telescope on Earth cannot provide any information on their surfaces. Would you like to be an astronaut and gather information about these farthest planets?

2. ***Presentation:***

   a. Design and make a space suit that you will wear on your trip to Uranus, Neptune and Pluto.
   b. Divide the class into three (3) groups.
   c. Gather information's through research in the library, the characteristics of Uranus, Neptune and Pluto. Group leaders draw lots on which planet they will work on follow the table in gathering data.

Composition	Characteristics
Outer layer Inner layer Core	
Atmosphere	
Weather	
Rings of moon	
Orbital speed	
Rotation	
Revolution	

C. Concept Formation:

What are the characteristics of the planet Uranus, Neptune and Pluto?

D. Application:

If it were possible to visit another planet which of the three (3) planets would you like to visit? Why? Is life possible on these three (3) planets?

IV. Evaluation:

Choose the correct answer.

1. When Uranus was discovered, it was thought to be a comet. What made the astronomers decide that it was a planet?
   a. unlike comets, it has an almost circular orbit.
   c. both Neptune and Pluto
   b. it has a fixed position in the sky, which comets do not have.
   c. it is too large to be a comet.
   d. all of these
2. Which two planets were discovered before they were actually found?
   a. Uranus and Saturn

b. Neptune and Pluto
c. Uranus and Pluto
d. Saturn and Pluto

V. Assignment:

Answer the following question.

1. How long does it take Neptune to complete its orbit around the sun?
2. Why is it very cold in Pluto, Uranus and Neptune?
3. Do you know that Triton, one of Neptune's moon is considered the coldest place in the entire solar system. What is its temperature?
4. What planet has three (3) satellite sharing the same orbit?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- To summarize interesting and fascinating data about the planets in the solar system.

Values: Show willingness to share ideas with the group.

II. Subject Matter:

Unit: The Solar System
Topic: Characteristics of the Planets in the Solar System

A. Science Concept/Idea:

- The nine (9) planets in the solar system have their own unique characteristics like number of satellites, period of rotation, period of revolution, number of rings, atmosphere

B. Science Processes:

Describing and Comparing

C. Materials:

Model of the solar system

References:

Science and Health V by: Jessie A. Villegas and Celia Nacpil

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What are the nine (9) planets in the solar system? What is the center of the solar system?

B. Developmental Activities:

1. ***Motivation:***

   The nine (9) planets have different characteristics that makes them unique. Would you like to summarize the different characteristics of the nine planets?

2. ***Presentation:***

   a. Divide the class into four (4) groups.
   b. Based on the previous lesson let pupils recall the characteristics of planets.
   c. Show and ask each group to copy and complete the table below on one (1) whole manila paper or cartolina.

C. Concept Formation:

What makes the nine (9) planets unique? What characteristics makes the planets different from each other?

D. Application:

If you will be asked to live in one of the nine (9) planets, what planet will you choose? Why?

IV. Evaluation:

Answer the following questions.

1. Which planet has the most number of rings?
2. How many moons does Jupiter have?
3. What is the period of rotation on planet Earth?
4. How many days does planet Mercury revolve around the sun?
5. Neptune has a deep blue color, what is present in its atmosphere?

V. Assignment:

Research on the moons of Jupiter, Uranus and Saturn.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Identify the other members of the solar system.

Values: Helping one another

II. Subject Matter:

Unit: The Solar System
Topic: The Other Members of the Solar System

A. Science Concept/Idea:

- ❖ Asteroids, meteors, meteoroids, meteorites and comets are the other members of the solar system.

B. Science Processes:

Observing and Inferring

C. Materials:

Picturesof asteroids, comets, meteors, meteorites and meteoroids

References:

Science and Health V by: Jessie A. Villegas and Celia Nacpil;
Science and Health for Better Life p. 235; Into the Future Science and Health V pp. 273-275

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What are the unique characteristics of the nine planets that differentiate one from other planets?

B. Developmental Activities:

1. ***Motivation:***

   There are other members of the solar system that are interesting to explore. Lets find out about them.

2. ***Presentation:***

   a. Show the different pictures of the other members of the solar system like comets, asteroids, meteors, etc.
   b. Let pupils name or identify the pictures.
   c. Divide the class into four (4) groups
   d. Give each group the puzzle words activity card.

C. Concept Formation:

What are the other members of the solar system.

D. Application:

Make a design or draw favorite members of the solar system. Explain why?

IV. Evaluation:

Put a check (✔) if it is a member of the •solar system and (x) if it is not a member.

_____ 1. Comets
_____ 2. Asteroids
_____ 3. Color of stars
_____ 4. Meteorites
_____ 5. Meteors

V. Assignment:

1. Research on the largest known meteorite that fell in Hoba West, South Africa?
2. Ask your parents name of comets that they have read in the newspaper or heard over the radio.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- Describe meteors, meteorites and meteoroids as the other members of the solar system.

Values: Observe silence when inside the library

II. Subject Matter:

Unit: The Solar System
Topic: The Other Member of the Solar System

A. Science Concept/Idea:

- Meteors are thousands of dust particles and rock fragments moving through space. They are known as shooting stars.
- Meteoroids are big lumps of rock and metal that had been circling the sun.
- Meteorites are chunk of metal mixed with rocks that does not completely burn up before reaching the ground.

B. Science Processes:
Observing, Comparing and Inferring

C. Materials:
Pictures of meteors, meteoroids and meteorites

References:
Science and Health V by: Jessie A Villegas and Celia Nacpil p. 105

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Name the other members of the solar system.

B. Developmental Activities:

1. ***Motivation:***

   Have you seen shooting stars? What are shooting stars? Lets find out.

2. ***Presentation:***

a. Show pictures of meteors, meteorites and meteoroids.
b. Ask the pupils to infer what the pictures are? Describe them.
c. Allow the pupils to form into three (3) groups. Each group will research on meteors, meteoroids and meteorites.

Follow the following questions as guides:
1. What are meteoroids?
2. What are meteors?
3. Why are they called shooting stars?
4. Why do meteors burn?
5. What are meteorites?

C. Concept Formation:

What are meteors, meteoroids and meteorites?

D. Application:

In November 1998 a meteor shower was observed. This is the Leonid meteor. Observer report that the Leonid meteor shower produced less shooting stars per hour. However, they are brighter. What do scientist infer on these Leonid meteor? Checking on the research about the largest known meteorites the swell in Hoba West, Southern Africa.

IV. Evaluation:

Fill the blanks with the correct answer.

1. They are big lumps of rocks and metals that have been circling the sun are called
2. Meteors are known as the
3. A meteor that does not completely burn up before reaching the ground are called
4. The largest known meteorites fell in Hoba West
5. A meteor shower observed in November 1998 was the meteor.

V. Assignment:

Research on the barringer meteorite crater near Winslow, Arizona in the United States.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describe the comets as the other member of the solar system.

Values: Attentiveness, show cooperation and helpfulness/Honesty

II. Subject Matter:

Unit: The Solar System
Topic: The Outer Member of the Solar System

A. Science Concept/Idea:

- ❖ A comet is a mass of frozen materials •such as water, methane and ammonia.

B. Science Processes:

Observing, Describing and Inferring

C. Materials:

Drawing of the sun and comet

References:
Science and Health V, Module by: Jessie A. Villegas and Celia Nacpil p. 105;
Science and Haelth V by Bautista, Bugay and Bugado p. 155

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   Describe meteorids, meteors and meteorites

B. Developmental Activities:

1. ***Motivation:***

   Have you heard of comets? Where do they come from? Would you like to find out about them?

2. ***Presentation:***

Activities:

a. Give pupils time to assemble the picture puzzle of the sun and the comet.

b. Let the pupils describe the picture puzzle

c. Ask the pupils to read information about comets.

d. Let the class answer the following questions based on the information about comets.

1. What is a comet?

2. Who were the first observers of comets?

3. Why do comets develop tails?

C. Concept Formation:

What are comets? Why do they have tails?

D. Application:

The appearance of a comet in the sky is a beautiful sight. But folks, when they appear in the sky associate them with bad luck like calamities, sickness, war and other bad things. Now that you know the nature and origin of comets, do you believe that comets are bad omens or signs? Why?

IV. Evaluation:

Select the best answer.

1. Why does the tail of the comet point away from the sun?
   a. the sun's rays push out the gases from the head of the comet.
   b. the tail is long
   c. the tail does not like sunshine
   d. the tail is made of gases
2. Why should you not to afraid of comets?
   a. comets do not have light
   b. comets have very long tail.
   c. comets are members of the solar system
   d. comets appear everyday

V. Assignment:

1. Make a report on the Halley's comet
2. What do you think will happen if a big comet were to hit planet earth?
3. Bring ½ Cartolina, pentel pen, pencil, crayon

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describe the asteroids/planetoids as members of the solar system

Values: Observe silence when inside the Library.

II. Subject Matter:

Unit: The Solar System
Topic: The Other Members of the Solar System

A. Science Concept/Idea:

- ❖ Asteroids are thousands of small rocky objects moving around the sun.

B. Science Processes:

Observing, Describing and Inferring

C. Materials:

Drawing of solar system

References:
Science and Health V by: Jessie A. Villegas and Celia Nacpil p. 105;
Into the Future Science and Health V, pp. 273-274; Science for Active Learning p. 341

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What is a comet? Why do comets have tail?

B. Developmental Activities:

1. ***Motivation:***

   Between Mars and Jupiter the space is so wide that astronomers believed the existence of another planet not one but thousands of them. Lets find out.

2. ***Presentation:***

a. Divide the class into three (3) groups and distribute activity cards.

C. Concept Formation:

What are asteroids/planetoids?

D. Application:

Some asteroids/planetoids pass near the planets. It means the asteroids orbits are not permanent. If an asteroid comes too close to a planet, what will happen? When there is an impact of the fall, what does it cause?

IV. Evaluation:

Match column A with column B.

Column A	Column B
____ 1. Asteroids	a. space between the orbits of Mars and Jupiter
____ 2. Ceres	b. has a regular shape and size
____ 3. Aida	c. the largest asteroids with the diameter of 914 kms.
____ 4. Asteroid belt	d. small irregular – shaped asteroid with a diameter of 19 kms.

V. Assignment:

Name five asteroids/planetoids and its sizes. Arrange them from the largest to the smallest.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Describe the occurrence of tides

Values: Awareness; curiosity

II. Subject Matter:

Tides

A. Science Concept/Idea:

- ❖ Tides refer to the periodic rise and fall of ocean waters.

B. Science Processes:

Identifying and Describing

C. Materials:

Cutouts of the sun, moon and earth; chalkboard

References:

Teacher's Module in Science and Health 5; Into the Future:
Science and Health, TX p. 276; TM p. 160 Science and Health 5 by Mrs. J. Villegas, p. 302

III. Procedure:

A. Preparatory Activities:

1. ***Review/Checking of Assignment:***

   What are the members of the solar system? What is the satellite of the Earth? What does the moon do as the Earth revolves around the sun?

B. Developmental Activities:

1. ***Motivation:***

   Ask the pupils to position on the board the cutouts of the moon, sun and earth during new moon and full moon.

2. ***Presentation:***

Activity 1:

a. Using the tellurian, let the pupils show the different positions of the earth, moon and sun during the revolution of the earth.

Discussion:

Is there a time when the Earth, the moon and the sun are in one line? What is the position of the three? (moon, sun and earth) If the moon and the sun have forces of gravity, how do you think these heavenly bodies affect life on earth?

C. Concept Formation:

What is the result of the combined gravitational forces of the sun and the moon on the Earth surface?

When is high tide experienced? How about low tide?

D. Application:

You heard from the weather news that high tide will occur in the next six hours. Will you go swimming to the beach? Why?

IV. Evaluation:

Illustrate the occurrence of high tide and low tide.

V. Assignment:

Bring a calendar showing high tide and low tide.

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explain how high tide and low tides occur.

Values: Curiosity; awareness

II. Subject Matter:

High Tide and Low Tide

A. Science Concept/Idea:

- ❖ High tides usually occur during new moon and full moon. When the sun, the moon and the earth are nearly aligned to one another. Those areas found in this alignment would have tide. Areas not found in this alignment would have low tide. Low tide refers to ocean waters at their lowest level.
- ❖ Tides occurring during new moon and full moon are called spring tides.
- ❖ When the moon, earth, and the sun are at a right angle, a quarter moon appears.
- ❖ Ocean waters during these times are not high as when these heavenly are almost aligned. This time near tides occur.

B. Science Processes:

Observing, Describing and Identifying

C. Materials:

Orrery, blackboard

References:

Teacher's Module in Science 5 Science and Health 5 by J. Villegas
Into the Future: Science and Health 5, p. 277

III. Procedure:

A. Preparatory Activities:

1. ***Review:***

   What is high tide? What is low tide?

B. Developmental Activities:

1. ***Motivation:***

Does the Earth move? How? Does the moon move? How?

2. ***Activity:***

Let the pupils move the orrery and observe the position of the Sun, Earth, and Moon at a certain point.

Discussion:

What happens while the Earth and Moon revolve around the sun? when does full moon occur? When does new moon occur?

C. Concept Formation:

What happens when the sun, earth, and moon are aligned?
What is experienced in these areas during the alignment?
What happens when the sun, earth, and moon are at a right angle?
What is experienced in those areas at a right angle?

D. Generalization:

When does high tide occur?
When does low tide occur?
What is spring tide? Neap tide?

E. Application:

If you live near the sea, what would you not do during high tide? What would you do during low tide?

IV. Evaluation:

Illustrate the position of the sun, moon, and earth during high tide and during low tide.

V. Assignment:

Do high tides and low tides occur only once in a day?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Explains why there are high and low tides about every twelve hours.

Values: Thruthfulness

II. Subject Matter:

A. Science Concept/Idea:

- ❖ Do high tides and low tides occur only once in a day?

B. Science Processes:
Describing, Identifying and Communicating

C. Materials:
Tellurian or orrery, Illustrations, Calendar with information on tides

References:
Teacher's Module in Science V; Into the Future: Science and Health 5, pp. 276-278

III. Procedure:

A. Preparatory Activities:

1. ***Checking of Assignment:***
2. ***Review:***

   What is neap tide? How does it differ from spring tide? When does high tide occur? When does low tide occur?

B. Developmental Activities:

1. ***Motivation:***

   What are the movements of the Earth? What is the effect of earth's rotation? What is the effect of earth's revolution?

2. ***Presentation:***

a. With the use of the orrery, let the children show earth's rotation.
b. Discussion;
   How long is complete rotation? How many tides may occur at daytime? at night time? How many high ties and low tides may occur in one day?
c. Let pupil research on the characteristics of Jupiter and Saturn. Follow the table below.

C. Concept Formation:

How many hours do high and low tides last in a day? Why do you think this happen?

D. Application:

What do you think people near the sea do during high tides and low ides? How does the movement of the moon affect the earth?

IV. Evaluation:

Illustrate the rotation of the Earth on its axis. Mark the time when tides are possible.

V. Assignment:

Why do tides occur every 12 hours?

SCIENCE AND HEALTH V

Date: _____

I. Objective:

- ❖ Relate through a model the position of the moon and the earth to places where high and low tides occur.

Values: Some people seem to be affected by the moon just like the earth.

II. Subject Matter:

Tides

A. Science Concept/Idea:

- ❖ The revolution of the moon around the earth causes the natural occurrences of tides.

B. Science Processes:

Identifying, Describing, Illustrating and Communicating

C. Materials:

Orrey

References:

Science and Health V by: Jessie A. Villegas pp. 301-302

III. Procedure:

A. Preparatory Activities:

1. ***Checking of Assignment:***
2. ***Review:***

   How many high and low tides occur within 12 hours occur in one complete rotation of the earth?

B. Developmental Activities:

1. ***Motivation:***

   If you live near the sea, what would you do during high tide? During low tide? When is it good to wade?

2. ***Activity 17, p. 303 (see attached activity):***

   a. Place the moon at a new moon position and infer how the gravitational attractions of the moon and the sun affect the oceans of earth.

   b. Place the moon at a full moon position and infer how the gravitational attractions of the moon and the sun affect the oceans of the earth.

   c. Place the moon a first and last quarter positions and infer how the gravitational attractions of the moon and the sun affect the ocean of the earth.

C. Concept Formation:

What is the position of the moon and earth when high occurs? What is the position of the moon and earth low tide occurs?

D. Application:

What should people living near the sea not do during high tide?

IV. Evaluation:

Draw the sun, moon and earth in different positions and indicate the occurrence of high tide, low tide, spring tide, and neap tide.

V. Assignment:

When should fisherman catch fish, during high tide or low tide?