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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 2
Lesson 1
Week
6

Lesson Exemplar for Science Grade 5
Quarter 2: Week 6
SY 2023-2024

Development Team

Management Team

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LESSON EXEMPLAR

SCIENCE/SECOND QUARTER/ GRADE FIVE

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. **Content Standards**	Animals learn that there are several modes of reproduction in plants.
B. Performance Standards	By the end of the Quarter, learners use tables to group living things as plants, animals, or microorganisms.
C. Learning Competencies and Objectives	Identify which groups of animals reproduce by giving birth to live young, such as mammals, and which reproduce by laying eggs, such as birds and reptiles; *Lesson Objective 1*. Identify which groups of animals reproduce by giving birth to live young, such as mammals, and which reproduce by laying eggs, such as birds and reptiles *Lesson Objective 2.* Classify animals into two groups based on their reproduction method *Lesson Objective 3.* Provide examples of animals that can found in their community which give birth and lay eggs. *Lesson Objective 4.* Create a diorama Compare the life cycles of mammals from birth to adulthood, birds from egg to a mature organism, and plants from seed to a young plant, and then to a mature plant; *Lesson Objective 1.* Compare the life cycles of mammals, birds, and plants from each stage. *Lesson Objective 2.* Sequence the stages in an organism's life cycle. *Lesson Objective 3.* Create a flowchart to show the life cycle of organisms. *Lesson Objective* 4. Observe the different stages of the plant life cycle through a hands-on simulation
C. Content	Reproduction in Animals & Life Cycle of Animals
D. Integration	Environmental Literacy

II. LEARNING RESOURCES

- Department of Education. MATATAG Curriculum in Science. DepEd Complex, Meralco Avenue, Pasig City, Philippines.
- Abracia, N., Sarte, E., Garcia, E., Dela Cruz, M.J., Arradaza, H., Punsalan, R., & Tomelden, R.A. (2014). Science in our world. Vibal Group, Inc. pp.70-87
- The Scientist In Me Worktext in Science. (2019). Consultant: How, G.K. Rex Book Store. Pp. 63-82
- Boac, A.M. (2015). The Amazing World of Science. Don Bosco Press, Inc. pp. 202-227

III. TEACHING AND LEARNING PROCEDURE		**NOTES TO TEACHERS**
A. **Activating Prior Knowledge**	**Day 1** **Short Review** Fill in the blanks with the correct terms in human reproductive system. 1. The _____ are the female reproductive organs that produce eggs. 2. The _____ are the male reproductive organs that produce sperm. 3. The _____ is the muscular sac in the female body where a baby develops. 4. The _____ is the part of the male body that carries sperm out of the body. 5. The _____ is the birth canal in the female body. **Answer Key:** 1. Ovaries 2. Testes 3. Uterus 4. Penis 5. Vagina	The review will focus on the parts of human reproductive system in relation to the new topic about modes of reproduction for animals. Then emphasize that these organs work together to allow humans to reproduce by giving birth to live young. Tell them that today, they will explore the reproduction of animals.
B. Establishing Lesson Purpose	**1. Lesson Purpose** **4PICS 1WORD (5 minutes)** Guess the word that connects all four pictures.	**Display the "4 Pics 1 Word" format** using a projector or cards with four pictures on each, representing animal classification clues.

	Ex.  **2. Unlocking Content Area Vocabulary** Directions: Rearrange the letters to form meaningful words related to animal reproduction and life cycles. 1. suroaviop 2. supairoviv 3. unoidcatbin opired 4. ongsateitpirda period 1. oviparous- animals that lay eggs that develop outside their bodies (e.g., birds, reptiles, fish, amphibians). 2. viviparous- animals that give birth to live young that develop inside their bodies (e.g., mammals like dogs, cats, humans) 3. incubation period- the amount of time it takes for an egg to hatch 4. gestation period- the period of time a pregnant animal carries developing young inside its body	• Ensure all four pictures clearly represent each of the animal groups (mammal, reptile, insect, bird, fish, amphibian). • **Variety Within Groups:** Choose pictures that showcase some variation within each group (e.g., for mammals, a picture of a cat, a whale, and a bat). After students guess the word (which should be the animal group), guide a discussion to highlight the characteristics that helped them identify the group. - What are some of the physical features that help us distinguish between these animal groups?" (e.g., fur, scales, feathers) - Can you think of any other examples of animals from each group?" - Do you think all these animals, even though they belong to different groups, give birth the same way? Explain that today, they will be learning about the two main ways animals reproduce: giving birth to live young and laying eggs.

		Introduce the scientific terms for these method by proceeding to the unlocking of content area vocabulary. **2. Unlocking Content Area Vocabulary** Provide clear instructions: "Rearrange the letters to form meaningful words related to animal reproduction and life cycles." Encourage students to think about the context of animal reproduction and life cycles as they unscramble the words 1. oviparous 2. viviparous 3. incubation period 4. gestation period You may also give science facts like animals have different gestation periods. A rat only needs 21 to 23 days to be developed inside its mother. Dog and cat need 61-65 days, an African elephant needs 645 days. You may also ask them if they know the gestation period of humans. Humans take 266 days or 9 months.

C. Developing and Deepening Understanding	**SUB-TOPIC 1: Modes of Reproduction** **1.1 Explicitation** **Photo Analysis**   Show pictures of a bird laying an egg and a pregnant dog (or any mammal) Ask eliciting questions like: -Can you describe the process of reproduction in birds and dogs based on the images? (The images depict the process of reproduction in birds and dogs. The bird lays eggs outside its bodies. The bird is an oviparous animal. On the other hand, the dog gives birth to live young. The dog is a viviparous animal. -What similarities do you see between viviparous and oviparous animals?" (Both parents are needed for reproduction) - What group of animals do bird and dog belong? (Birds and Mammals) - How do birds and mammals reproduce? (Birds reproduce by laying eggs while mammals reproduce by giving birth to live young) - Aside from birds and mammals, are there other animals that reproduce by laying eggs and giving birth to live young? (Amphibians, reptiles, fishes)	

1.2. Worked Example

Sort Us: Live or Lay?
Sort the pictures of animals based on how they reproduce. Put the animals on the correct column whether they are born alive or hatched from eggs.

Give birth to live young (Viviparous Animals)	**Lay eggs (Oviparous Animals)**

After sorting all the pictures, have a class discussion using the following questions:

- What clues helped you decide where an animal belonged? (they looked alike)
- What are the animals that belong to oviparous? viviparous animals?
- Where does the egg of viviparous animals develop? (develops inside the body of the female parent, so the egg does not have a shell or protective membrane) you may also that these animals start as embryos inside the body of their mothers during gestation period.
- Where do you think the embryo get its nourishment? (receives nutrients from the mother through a placenta that's why it is important to keep the mother healthy)

- Where does the egg of oviparous animals develop? (develops outside the body of the female parent, so the eggs have a shell or protective membrane) You may also add that these animals develop inside the egg during the incubation period. During this period, the parents sit on the eggs before the eggs hatch.
- How do you think the egg develop? Where does it get its nourishment? (receives nutrients from the yolk sac inside the egg)
- What do you think are the advantages of oviparous and viviparous animals?

Advantages of oviparous animals
1. Animals produce their young in large numbers except for reptiles and birds, they produce small number of eggs for easy incubation and parental care.
2. The presence of protective shell or membrane which prevents the embryo inside from dying.

Advantages of viviparous animals
1. One or few embryos are given enough nourishment to help the unborn baby survive inside the body of the mother.
2. The mother can concentrate on only one or a few young to take care of.

- for this activity, you can also do this as a group activity wherein you will give each group sets of pictures to be sorted whether they are oviparous or viviparous animals.

1.3. Lesson Activity

A. Hatchlings vs. Newborns: Classifying Animals by Reproduction
Fill out the table below. Look for the name of the young of each animal and identify if they are hatch from eggs or born alive.

Animals	Young	Hatch from eggs or born alive
1. Lion		
2. Carabao		

3. Komodo Dragon		
4. Kangaroo		
5. Butterfly		
6. Dolphin		
7. Pig		
8. Salamander		
9. Salmon		
10. Duck		

Answer Key:

Animals	**Young**	**Hatch from eggs or born alive**
1. Lion	Cub	Born Alive
2. Carabao	Calf	Born Alive
3. Komodo Dragon	Komodo Dragon Hatchling	Hatch from eggs
4. Kangaroo	Joey	Born Alive
5. Butterfly	Caterpillar	Hatch from eggs
6. Dolphin	Calf	Born Alive
7. Pig	Piglet	Born Alive
8. Salamander	Larva	Hatch from eggs
9. Salmon	Fry	Hatch from eggs
10. Duck	Duckling	Hatch from eggs

B. Community Creatures: Hatchlings or Newborns?

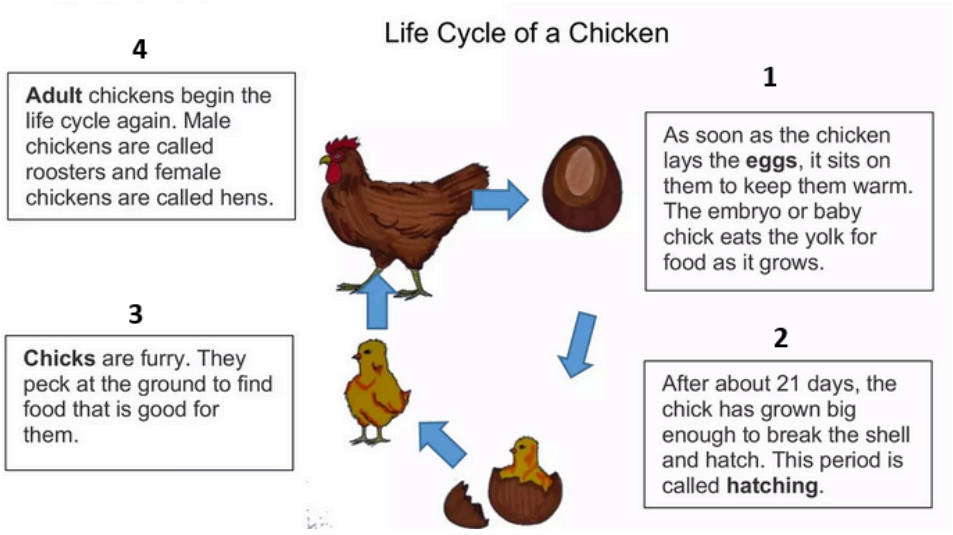
The students will identify ten common animals found in their community and determine their mode of reproduction (**Hatch from eggs or born alive**).

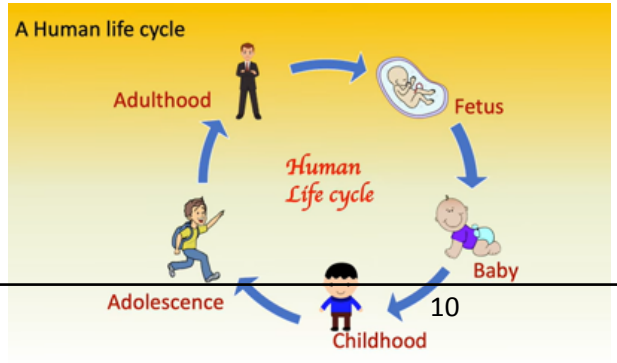
	Day 2 **SUB-TOPIC 2: Animals Life Cycles** **1.1 Explicitation** **"Have you ever.....?" Activity** Have you ever witnessed something amazing happen in nature? Have you ever seen a tiny caterpillar transform into a beautiful butterfly? Have you ever watched a baby chick hatch from an egg? Have you ever witnessed a puppy or kitten born by their mothers? Give students a moment to think and raise their hands if they have witnessed something like this. Let a few students share their experiences briefly. After the students shared their experiences, tell them that "these amazing transformations are part of a fascinating journey called a life cycle. Every living thing, from the tiniest insect to the tallest tree, goes through a series of changes as it grows and develops. All stages from birth to death make up the life cycle of animals and plants". Today, we're going to explore the different life cycles of some familiar animals and plants and discover how they change throughout their lives. **1.2. Worked Example** Explain that they'll be watching a short video that showcases the life cycles of some familiar organisms. Tell them to pay close attention to the life cycles of mammals, birds, and plants. https://www.youtube.com/watch?v=jQI5EBy0Syg	

Divide students into four groups: Group 1 (Human), Group 2 (Dog) Group 3 (Bird), and Group 4 (Chicken). Give them the manila paper or cartolina or if they can use powerpoint presentation to illustrate the life cycles of animals assigned to them and describe each stages.

Instruct students to watch the video and take notes on the life cycle of their assigned organism.

Life cycle of the Birds





Life cycle of the human being (Mammals)

1. Fetus

The sperm from the male and the egg from female human meet and fuse inside the fallopian tube. This creates a fertilized egg known as a zygote inside the uterus of the female. Over time, the zygote develops and forms an embryo. After eight weeks, the embryo transforms into a zygote developing the basic structures of the human body. During this stage, the fetus is entirely dependent on the female for breathing, eating and other kinds of resources.

2. Infancy

After around nine months, the fetus is fully developed to be born. This stage in human development marks the period from birth to age one. Infancy is the earliest part of childhood, where the infant grows in size and shape. During this stage, infant requires a lot of attention as they are completely dependent on their mothers.

3. Childhood

Here, a child is of age three to six years and is crawling for mobility. In this stage, the child crawls and eventually learns to walk, talk, eat independently, and become more aware of their surroundings.

4. Adolescence

In this stage, the child grows into an adolescent, through a period called puberty. Puberty occurs during the initial stages of their teenage years, and that's why adolescents are also called teenagers. In this stage, the teenager grows rapidly and physical changes begin to appear. These changes include hair growth, structural changes in body shape, voice cracking in adolescent males, breast growth in adolescent females and so on.

5. Adulthood

Here, human beings are sexually mature and capable of reproducing. The body is fully developed by now, and the adult gains experience and responsibility.

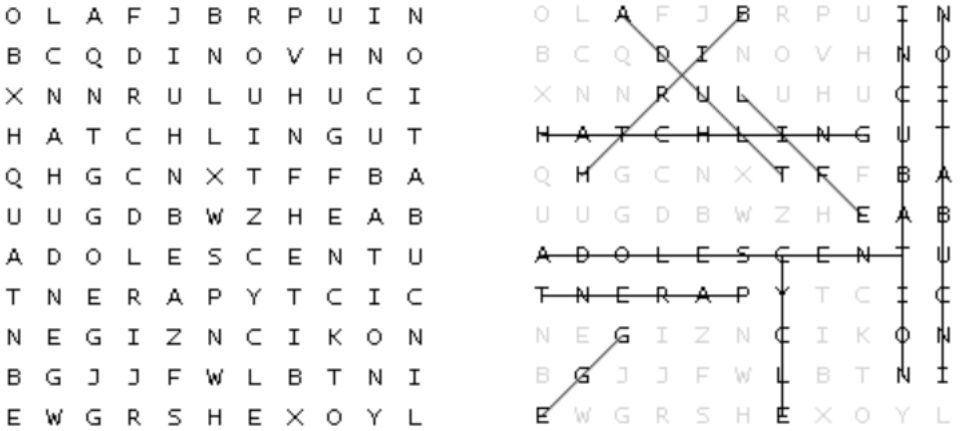
General Discussion:

	1. **Similarities and Differences:** After looking at the life cycles of the chicken/bird and dog/human, what are some similarities you noticed? Are there any differences that surprised you? **Expected answer:** **Similarities**: All organisms go through distinct stages in their life cycles: egg/pregnancy, chick/puppy, adult. All the baby animals need to grow and develop before reaching adulthood. All the animals depend on their parents for care and nourishment during some stage of their life cycle. **Differences:** Development: Chickens/birds develop inside an egg laid by the mother, while dogs/humans develop inside the mother's body. Parental Care: Mother birds incubate eggs to keep them warm and protect them from predators, while dog/human mothers provide milk and care directly for their young. Length of Stages: The stages in a bird's life cycle (egg, chick, adult) are generally shorter than the stages in a dog/human's life cycle (pregnancy, puppy/baby, adult). **Key Concepts of Life Cycles:** **Stages:** Every living thing goes through a series of predictable stages in its development, known as a life cycle. These stages often involve growth, change, and reproduction. The stages in a life cycle have a specific order. Completing each stage is crucial for reaching the next and ultimately ensuring the organism's survival and ability to reproduce. **Variations:** Life cycles differ greatly between organisms. Animals (like mammals, birds) may have stages like fertilization, embryonic development, birth/hatching, growth, and adulthood. Plants (like the mongo bean) might have seed, germination, seedling, growth, reproduction, and seed production stages. Even amphibians and insects have different life cycles. **Adaptations:** Each stage in a life cycle often involves adaptations that help the organism survive and thrive in its environment. For example, fur	

on newborn mammals helps them retain heat, while a seed coat protects a plant embryo until it can establish roots.

Emphasize the importance of each stage for the development and survival of the organism.

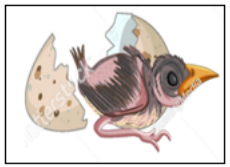
1.3. Lesson Activity
A. Crossword Puzzle



Egg	hatchling	adult	incubation	Birth
Parent	incubation	adolescent	life cycle	reproduction

B. Instruct them to arrange the stages in the correct order from the beginning of the life cycle of a tree sparrow (maya) to the end by writing numbers on the blank below each picture.






_____ _____ _____ _____

C. Life Cycle of a Cow

The life cycle of a cow begins with its _____ after a _____period of about nine months. The newborn _____ drinks _____from its mother, which helps it grow strong.

As the calf grows, it starts to eat solid food. This process is called _____. After growing, the young cow, now a _____, continues to grow until it becomes an _____. At this stage, the cow can have its own calves.

Cows are cared for by a _____ who ensures they have food and shelter.

Word Bank			
birth	calf	growing	gestation
adult	milk	farmer	young

Day 3
SUB-TOPIC 3: Life Cycle of a Plant
1. Explicitation
Start the lesson about the plant life cycle with Kate Brown's poem "The Little Plant"

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3. Lesson Activity
Life Cycle Venn Diagram:
Compare and contrast the life cycles of mammals, birds, and plants using the Venn diagram. Overlapping sections can include stages common to all, while separate sections can list unique stages for each organism.

	The Little Plant In the heart of a seed, Buried deep, so deep, A dear little plant lay fast asleep. "Wake," said the sunshine, "And creep to the light." "Wake," said the voice Of the raindrops bright. The little plant heard; And it rose to see What a wonderful outside world might be! After reading the poem, you can briefly discuss it with your students. Ask them questions like: Where does the little plant start its journey? (In a seed) What wakes the little plant up? (Sunshine and raindrops) What do you think the outside world might be like for the little plant? (Answers will vary) Just like the animals, all plants go through an incredible life cycle. Today, we'll explore the different stages of this cycle and see how a tiny seed transforms into a beautiful plant! **1.2. Worked Example** The class will watch a video about the life cycle of plants. Tell them to pay close attention to what happens in each stage in the life cycle of a plant. **The Life Cycle of a Plant by Heather Maples. Th link is -https://www.youtube.com/watch?v=4y9gEetF9A8** **Storytime: The Life Cycle of Sammy Seed**	**Life Cycle Diorama:** Create a shoebox diorama showcasing the different stages of a chosen life cycle (mammal, bird, plant). They can use construction paper, figurines, or drawings to represent each stage and label them for clarity. **Life Cycle Challenge: Climate Change and YOU!** Changes in the environment cause by global warming have potential impacts in the life cycles of all living things. With this, what are some things we can do, as individuals and communities, to protect the environment and minimize the effects of climate change? Express it through creative writing.

	After watching the video, briefly introduce the five key stages of a plant life cycle, writing them on the board or a large sheet of paper: seed, germination, seedling, young adult, adult plant. Explain that the class will be creating a collaborative story about the life cycle of a plant. Then, the teacher will divide the class into five groups, each assigned a specific stage (seed, germination, seedling, young adult, adult plant). (Optional) For a more engaging story, each group can create a character representing their assigned stage. Seed Group: "Sammy Seed" Germination Group: "Germy Sammy" Seedling Group: "Sturdy Sammy" Young Adult: "Young Sammy" Adult Plant: “Adult Sammy” **Storytelling Prompts:** Provide each group with prompts specific to their stage: **Seed Group:** Sammy Seed is tucked deep underground. What does he see and feel in his dark, cozy world? Sammy has dreams of becoming something amazing. What does he imagine himself growing up to be? **Germination Group:** One day, Sammy feels a strange tingling sensation. What is happening? Germy Sammy knows he needs to reach the sunlight. How does he use all his strength to push through the soil? What challenges does Germy Sammy face on his journey to the surface? (Rocks, darkness, lack of water **Seedling Group:**	

	Germy Sammy finally breaks through the soil! What does the world look and feel like for the first time? What does Sammy need to grow tall and strong? **Young Adult:** Young Sammy is growing bigger and stronger every day. What new features does he develop? (Leaves, taller stem) Does Young Sammy face any new challenges as he gets bigger? (Animals eating leaves, strong winds) **Adult Plant:** Adult Sammy has finally reached his full height! What does he look like now? (Full of leaves, flowers, or fruit) If Sammy is a flowering plant, how does he attract visitors like bees? If Sammy produces fruit, how does he get his seeds out into the world? (Wind dispersal, animal dispersal) Give them 15 minutes to do this activity. Each group will have a chance to share their part of the story with the class. They can narrate their story or act it out if they wish. (Optional) Encourage the group to create a simple visual aid like a drawing or collage to represent their stage during their presentation. After all the groups have shared, lead a class discussion to connect the different stages of the story. Briefly review the key events and characteristics of each stage of the plant life cycle. **Guide Questions:** 1. What were the key stages of the plant life cycle mentioned in the video? (The key stages of the plant life cycle mentioned in the video are: seed, germination, seedling, young adult, adult plant) 2. What are the key events and characteristics of each stage of the plant life cycle? Seed Stage: What did Sammy need as a seed to survive underground? (Moisture, warmth)	

	Germination Stage: What helped Sammy break through the soil and reach the surface? (Water, sunlight) Seedling Stage: What did Sammy need as a young plant to grow tall and strong? (Sunlight, water, nutrients from the soil) Young Adult Stage: How did Sammy change or develop new features as he grew bigger? (Taller stem, leaves) What new challenges might he face at this stage? (Animals eating leaves, strong winds) Adult Plant Stage: What does Sammy look like now as a fully grown plant? (Full of leaves, flowers, or fruit) How does Sammy use his flowers or fruit (if applicable) to ensure his survival and create new seeds? (Attracting pollinators, seed dispersal) 3. What are the factors influencing each stage of the plant life cycle? (sunlight, water, soil nutrients, and temperatures) **3. Lesson Activity** **Planting a Seed: A Hands-On Activity** This activity allows students to experience the wonder of planting a seed and witness the beginning stages of a plant's life cycle. (See the worksheet for the complete instruction). Note: This may be done individually or by group **Safety Considerations:** ● Ensure students wash their hands after handling soil and seeds. ● Supervise students closely during planting to avoid any accidents.	
D. Making Generalizations	**Day 4** **1.Learners' Takeaways** Lesson 1: Modes of Reproduction **One-Sentence Summary:** -Ask students to write down a single sentence summarizing the key difference between sexual and asexual reproduction.	

	Lesson 2: Types of Fertilization **Exit Tickets:** Prompt 1: "Which type of fertilization, internal or external, do you think is more challenging for the organism? Explain your reasoning." Prompt 2: "Can you think of any examples of adaptations that might help organisms with external fertilization be more successful?" Lesson 3: Life Cycles **I Learned That..." Statements:** -Ask students to complete the sentence starter "I learned that..." with something specific they found interesting or surprising about life cycles. **2. Reflection on Learning** **Answer the 3-2-1 chart honestly.**	

3 Things You Found in the Lesson	2 Questions You Still Have	1 Thing I am Confused About
1._____ 2._____ 3._____	1._____ 2._____	1._____

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		**NOTES TO TEACHERS**
A. Evaluating Learning	**1. Formative Assessment** A. Identify which groups of animals reproduce by giving birth to live young or by laying eggs. Write V if it viviparous and O if it is Oviparous. 1. Frog 6. mouse 2. Horse 7. snake 3. Lizard 8. giraffe	

4. Crocodile 9. Turtle
5. Kangaroo 10. fish

B. Multiple Choice
11. Why is reproduction important to living organisms?
A. It controls the body parts.
B. It converts food into nutrients.
C. It ensures continued existence of the organisms.
D. It collects and removes wastes.

12. Which of these animals looks like its parent animal when it is born?
A. bird B. butterfly C. cockroach D. goat

13. Chicks are hatched from eggs. A goat is born alive and looks like its parents. A frog undergoes many changes as it grows. What do these observations prove?
A. All animals are born alive.
B. All animals are hatched from eggs.
C. Different animals reproduce in different ways.
D. Different animals move in different ways.

14. Which is **TRUE** about internal fertilization?
A. It is carried out by frogs and fish.
B. The sperms are released inside the female's body.
C. The fertilized eggs will develop outside the female's body.
D. The young will be identical to the parent.

15. In a plant life cycle, which of the following sequences is correct?
1. The cotyledons fall off and the plant is ready to make its own food.
2. The root grows and the seed coat breaks.
3. These flowers turn into pods which contain the seeds.
4. As the stem grows, more leaves appear.
5. The flowers are produced at the ends of the stem.
6. Two leaves start to come out of the cotyledons.

A. 2 4 5 6 1 3 C. 2 6 4 1 5 3
B. 2 3 4 5 6 1 D. 2 1 3 6 5 4

	16. A bird's life cycle would be most similar to A. tiger B. butterfly C. frog D. turtle 17. When a plant begins to grow from a seed, it is in what stage? A. Seedling B. Young plant C. Germination D. Mature plant 18. In which stage of their life cycle are mammals most dependent on their parent for survival? A. Embryo B. Chick C. Hatchling D. Newborn 19. Which of the following statements is TRUE about both mammals and birds? A. They both lay eggs with hard shells. B. They both nurse their young with milk. C. They both care for their young after birth/hatching. D. They both have a larval stage in their life cycle. 20. How does the development of offspring differ most between mammals and birds? A. Both develop inside an egg. B. Mammals develop inside the parent's body, while birds develop outside in an egg. C. Birds develop inside the parent's body, while mammals develop outside in an egg. D. There is no significant difference in offspring development			
B. **Teacher's Remarks**	*Note observations on any of the following areas:*	**Effective Practices**	**Problems Encountered**	
	strategies explored			
	materials used			

	learner engagement/ interaction			
	others			
C. Teacher's Reflection	*Reflection guide or prompt can be on:* ▪ *<u>principles behind the teaching</u>* *What principles and beliefs informed my lesson?* *Why did I teach the lesson the way I did?* ▪ *<u>students</u>* *What roles did my students play in my lesson?* *What did my students learn? How did they learn?* ▪ *<u>ways forward</u>* *What could I have done differently?* *What can I explore in the next lesson?*			

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