

QUARTER 4 – EARTH AND SPACE
Chapter 1 - Processes that Shape Earth's Surface
Lesson ____ – Weathering and Soil Erosion

Duration: 3 days

- I. Objectives:
1. Describe how rocks turn into soil.
 2. Identify the forces that break down rocks.
 3. Explain how rocks are broken down

- II. A. Materials:

LM

Websites: Kids Geo.com

Google search

Day 1 – Activity 1: “How Rocks turn into soil?”

Day 2 – Activity 2: “Whether you believe it or not?”

Day 3 – Activity 3: “Rock break down?”

Pictures, video clips, chart

- B. References:

Website: Environmental Science- Soil and It's Uses

Kids Geo.com

Science for Daily Use 5 pp. 219-222

- C. Process Skills:

Observing, describing, inferring, listening

- D. Values Integration:

- Appreciation of God's creation
- Conservation of natural resources
- Awareness

- III. Learning Tasks

- A. Engagement

Note: Below are suggested instructions to be observed inside the class.

Set Standard on:

- Avoiding unnecessary noise in watching video clip.
- Not to stand/walk around the classroom while watching.
- Focus and cooperation in all activities.
- Write down important notes to gather information.
- Observed discipline.

After setting standard, do the following:

- Allow pupils to sit comfortably while watching video.

- Write down important notes to gather data.
- Show discipline and cooperation in all activity.
- Let them watch for 10-15 minutes.

Song:

B. Exploration:

Preparatory Activity:

Say: Let us learn more about how rocks turn into soil as we perform the activity.

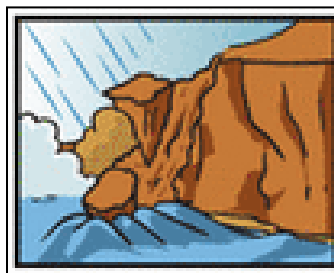
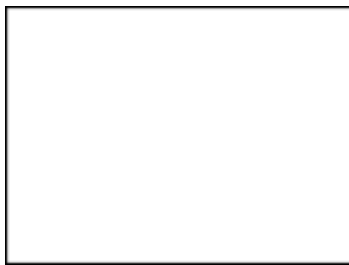
Day 1: LM Activity 1 – “How Rocks turn into soil?”

1. Set the classroom for video clips.
2. Ask the pupils to ready their pen and notebook.
3. Check if pupils are ready to watch the video.
4. Emphasize the use of senses in doing activity.
5. Complete the table provided based on the video.

Day 2: LM Activity 2: “Whether you believe it or not?”

1. Group the class into a desired number.
2. Let them name their group.
3. Let the leader of each group get the materials.

Say: I will give you different pictures and paste your *I believe* sticker if the picture show forces that break down rocks and *I don't believe* sticker if not.



What are the forces that break down rocks? Complete the chart.

Day 3 -"Rock break down?"

Note: The teacher will let the pupils go outside the room to perform the activity.

1. Distribute the materials needed.
2. Explain clearly the procedure of the activity.
3. Closely monitor the progress of each activity.

C. Explanation:

Allow them to share their answer and the results of the activities.

Ask them: how do you feel about the activity?

Suggested Answer:

Activity 1

1. How rocks turn into soil?
Through a natural process of which rocks exposed to weather.
2. How does natural process break down rocks into soil?
Strong wind, water and gravity break rock into smaller and smaller pieces.

Activity 2

1. What are forces that break down rocks?
Weathering, soil erosion, ice wedging

Activity 3

1. How do disintegration causes break down of rocks?
It is a mechanical process that breaks big mass of rocks into smaller pieces.
2. How do decomposition causes break down of rocks?
It is a chemical process that forms new substance from minerals in rocks. The rock break as the reaction of the minerals, water, air and substances.

Background Information for Teachers:

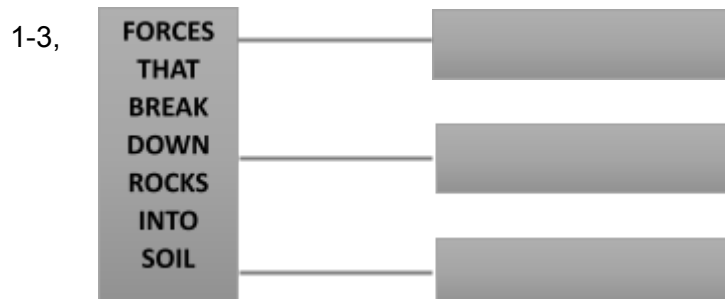
Weathering refers to the group of destructive forces that change the physical and chemical character of rock near the earth's surface. **Mechanical** weathering (or physical disintegration) is the breaking down of rocks into smaller pieces. The change in the rock is physical with little or no chemical change. **Chemical** weathering is the decomposition of rock from exposure to water and atmospheric gases (principally carbon dioxide, oxygen, and water vapor). As rock is decomposed by these agents, new chemical compounds form. Examples of mechanical weathering include: frost action, abrasion, and pressure release. Examples of chemical weathering include: rusting, acid breakdown, and solution weathering.

Erosion is the picking up or physical removal of rock particles by an agent such as streams or glaciers. Weathering helps break down a solid rock into loose particles that are easily eroded. Most eroded rock particles are at least partially weathered, but rock can be eroded before it has weathered at all. A stream can erode weathered or unweathered rock fragments.

D. Elaboration:

1. Using illustration board/cartolina, crayons and pencil ask the pupils to create a poster of a natural process on how rocks turn into soil. (Group Work)
2. Encourage pupils to make their own diagram which shows forces that break down rocks.
3. As an output, you can group the learners. Ask them to compose a song about how rocks are broken.

E. Evaluation:



4-5, which of these break down rocks?

- Strong wind and water
- Falling leaves
- Growing plants on rocks
- Collecting rocks