

EARTH SCIENCE Lesson Plan

Quarter 1, Week 2, Day 1



Outcomes for Today

PREPARE

1. Background knowledge necessary for today's reading.

Soils vary from place to place because of the different bedrock parent material and the climatic conditions it experiences. While other factors such as vegetation and animals have an impact, as do topography, soils are classified by their climate.

2. Vocabulary Word Wall.

Introduce 5 important, useful words from today's reading

Climate

clay

silt

sand

fertility

- Show, say, explain, expand, explode or buzz about the word briefly
- Show, say and define the word quickly and add to the word wall

READ

3. Review the vocabulary and concepts previously covered in this chapter.

(Not applicable on day 1)

4. Read directions for investigation/activity.

5. Read text.

Ch. 7.3 pp. 170-173

RESPOND

6. Fix the facts. Clarify what's important.

Discuss the reading and add 3-5 facts/events to the billboard

- Discuss the text; clarify the most important facts, concepts, ideas, and vocabulary
- Decide on the 3-5 most important concepts and post these on the billboard

Students might mention:

- Soils vary from place to place.
- Soils are often classified based on the climates in which they form.
- The four major types are polar, temperate, desert, and tropical.
- The texture of a soil determines its ability to retain moisture and support plant growth.

7. Post information on the billboard. Add new information to ongoing class projects on the wall.

- New concept information can be added to the billboard.
- An answer can be added to the billboard from the KWL chart
- New information can be added to ongoing charts and investigations

EXPLORE

8. Explore today's investigation with inquiry activities.

9. Explore today's simulation with inquiry activities.

10. Collect data and post.

One possible activity: Global Soils and Climates

Description of the Activity: Using maps to compare climate and soils in different regions

Procedure: Lab Manual Teacher Edition, pp. 53-56.

Discussion

Key questions

EXTEND

11. Prompt every student to write a short product tied to today's reading.

12. Close with a short summary.

Extend the reading to the students' lives or the world.

EARTH SCIENCE Lesson Plan

Quarter 1, Week 2, Day 2



Outcomes for Today

PREPARE

1. Background knowledge necessary for today's reading.

Barrier islands are coastal features that migrate continually due to wind, waves, and storms. This constant battering moves the sand on which the islands are built sometimes resulting in structural damages to buildings along the shoreline.

Additional information available at www.nps.gov/ Cape Hatteras Lighthouse relocation Articles and Images

2. Vocabulary Word Wall.

Introduce 3-5 important, useful words from today's reading

Cape Hatteras

barrier islands

levees

- Show, say, explain, expand, explode or buzz about the word briefly
- Show, say and define the word quickly and add to the word wall

READ

3. Review the vocabulary and concepts previously covered in this chapter.

4. Read directions for investigation/activity.

5. Read text.

Ch.7 pg. 176 "Shifting Sands"

RESPOND

6. Fix the facts. Clarify what's important.

Discuss the reading and add 3-5 facts/events to the billboard

- Discuss the text; clarify the most important facts, concepts, ideas, and vocabulary
- Decide on the 3-5 most important concepts and post these on the billboard

Students might mention:

- Lighthouses help sailors navigate the coastline.
- Barrier islands buffer the shore from waves and storms.
- Moving the lighthouse was a controversial solution.

7. Post information on the billboard. Add new information to ongoing class projects on the wall.

- New concept information can be added to the billboard.
- An answer can be added to the billboard from the KWL chart
- New information can be added to ongoing charts and investigations

EXPLORE

8. Explore today's investigation with inquiry activities.

9. Explore today's simulation with inquiry activities.

10. Collect data and post.

One possible activity:

Description of the Activity

Procedure

Discussion

Key questions

EXTEND

11. Prompt every student to write a short product tied to today's reading.

12. Close with a short summary.

Extend the reading to the students' lives or the world.

EARTH SCIENCE Lesson Plan

Quarter 1, Week 2, Day 3



Outcomes for Today

PREPARE

1. Background knowledge necessary for today's reading.

Many factors affect the rate of weathering. The composition of the rock and the length of time it is exposed to a weathering agent are two major factors.

2. Vocabulary Word Wall.

Introduce 3-5 important, useful words from today's reading

Halite

infer

graph

- Show, say, explain, expand, explode or buzz about the word briefly
- Show, say and define the word quickly and add to the word wall

READ

3. Review the vocabulary and concepts previously covered in this chapter.

4. Read directions for investigation/activity.

5. Read text.

GeoLab pp. 174-175

RESPOND

6. Fix the facts. Clarify what's important.

Discuss the reading and add 3-5 facts/events to the billboard

- Discuss the text; clarify the most important facts, concepts, ideas, and vocabulary
- Decide on the 3-5 most important concepts and post these on the billboard

Students might mention:

7. Post information on the billboard. Add new information to ongoing class projects on the wall.

- New concept information can be added to the billboard.
- An answer can be added to the billboard from the KWL chart
- New information can be added to ongoing charts and investigations

EXPLORE

8. Explore today's investigation with inquiry activities.

9. Explore today's simulation with inquiry activities.

10. Collect data and post.

One possible activity: Effects of Weathering

Description of the Activity: Investigate the relationship between time and the rate of weathering of halite chips.

Procedure: see pp.174-175 of the text, pp. 28-30 of GeoLab and MiniLab Worksheets

Discussion

Key questions

EXTEND

11. Prompt every student to write a short product tied to today's reading.

12. Close with a short summary.

Extend the reading to the students' lives or the world.

EARTH SCIENCE Lesson Plan

Quarter 1, Week 2, Day 4



Outcomes for Today

Standards focus: Earth Science 9.b *Students know the principal natural hazards in different California regions and the geological basis for those hazards.*

PREPARE

1. Background knowledge necessary for today's reading.

Forces are continually at work building up and wearing down Earth's surfaces. The slope of a surface and the amount of water present affect the stability of Earth's material. Most mass movement are natural and spontaneous, but human activities can instigate and accelerate such movements.

2. Vocabulary Word Wall.

Introduce 3-5 important, useful words from today's reading

Landforms

mass movements

variables

- Show, say, explain, expand, explode or buzz about the word briefly
- Show, say and define the word quickly and add to the word wall

READ

3. Review the vocabulary and concepts previously covered in this chapter.

4. Read directions for investigation/activity.

5. Read text.

Ch. 8.1 pp. 180-183

RESPOND

6. Fix the facts. Clarify what's important.

Discuss the reading and add 3-5 facts/events to the billboard

- Discuss the text; clarify the most important facts, concepts, ideas, and vocabulary
- Decide on the 3-5 most important concepts and post these on the billboard

Students might mention:

- All mass movement occurs on slopes.
- A trigger such as an earthquake can start a mass movement.
- A material's weight can influence a mass movement.

7. Post information on the billboard. Add new information to ongoing class projects on the wall.

- New concept information can be added to the billboard.
- An answer can be added to the billboard from the KWL chart
- New information can be added to ongoing charts and investigations

EXPLORE

8. Explore today's investigation with inquiry activities.

9. Explore today's simulation with inquiry activities.

10. Collect data and post.

One possible activity: Discovery Lab pg. 181

Description of the Activity: Comparison of sand/water mixture to be molded

Procedure: Different amounts water are added to three equal amounts of sand.

Discussion: Some amount of water is needed for sediments to hold together. Too much or too little can lead to movement as a result of gravity or other factors.

Key questions

- What are real world examples of too little or too much water?
- Students might suggest mudslides after heavy rains in the mountains or dust being blown on a baseball field.

EXTEND

11. Prompt every student to write a short product tied to today's reading.

12. Close with a short summary.

Extend the reading to the students' lives or the world.

EARTH SCIENCE Lesson Plan

Quarter 1, Week 2, Day 5



Outcomes for Today

Standards focus Earth Science 9.b *Students know the principal natural hazards in different California regions and the geological basis for those hazards.*

PREPARE

1. Background knowledge necessary for today's reading.

For photos of mass wasting see:

www.ndsu.nodak.edu/nd_geology/nd_mass_wasting/index_mass_wasting.htm

2. Vocabulary Word Wall.

Introduce 5 important, useful words from today's reading

Creep **mudflows** **landslides** **slumps** **avalanches**

- Show, say, explain, expand, explode or buzz about the word briefly
- Show, say and define the word quickly and add to the word wall

READ

3. Review the vocabulary and concepts previously covered in this chapter.

4. Read directions for investigation/activity.

5. Read text.

Ch.8.1 pp.184-190

RESPOND

6. Fix the facts. Clarify what's important.

Discuss the reading and add 3-5 facts/events to the billboard

- Discuss the text; clarify the most important facts, concepts, ideas, and vocabulary
- Decide on the 3-5 most important concepts and post these on the billboard

Students might mention:

- Evidence of creep is only noticeable over long periods of time.
- Mudflows are common in sloped, semi-arid regions that experience intense, short-lived rainstorms.

7. Post information on the billboard. Add new information to ongoing class projects on the wall.

- New concept information can be added to the billboard.
- An answer can be added to the billboard from the KWL chart
- New information can be added to ongoing charts and investigations

EXPLORE

8. Explore today's investigation with inquiry activities.

9. Explore today's simulation with inquiry activities.

10. Collect data and post.

One possible activity: Mapping a Landslide

Description of the Activity: Using drawing of a topographical map to make inferences

Procedure: GeoLab pp.32-34 of GeoLab and MiniLab Worksheets

Discussion: All mass movements occur on slopes. Several variables can affect rate of movement.

Key questions

- How could the risks be reduced or the damage prevented?

EXTEND

11. Prompt every student to write a short product tied to today's reading.

12. Close with a short summary.

Extend the reading to the students' lives or the world.