

# EARTH SCIENCE Lesson Plan

## Quarter 1, Week 6, Day 1



### Outcomes for Today

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#### PREPARE

##### 1. Background knowledge necessary for today's reading.

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Earth science is primarily the study of the Earth, its components and processes. It has a strong multidisciplinary character.

##### 2. Vocabulary Word Wall.

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Introduce 3-5 important words from today's reading

**astronomy**

**meteorology**

**geology**

**oceanography**

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

#### READ

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

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##### 4. Read directions for investigation/activity.

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##### 5. Read text.

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Ch. 1.1, pp. 5-7

#### RESPOND

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

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

Students might mention:

- Earth science is a blend of other sciences.
- Earth science affects our everyday life.
- Some of Earth's changes occur sporadically like earthquakes and volcanoes, others more slowly like erosion and weathering.

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

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## EXPLORE

8. Explore today's investigation with inquiry activities.

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9. Explore today's simulation with inquiry activities.

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10. Collect data and post.

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**One possible activity:** Using Scientific Terms, p. 6 (Teacher Wraparound Edition)

**Procedure:** Students use dictionaries to find the meanings of word parts related to earth science.

Examples: -ology, meteor-, geo-, paleo-, climat-, hydro-, bio-, and eco-.

**Discussion:** The origins come from the Greek language and reflect the Greek exploration of the sciences during their empire over 2000 years ago.

## EXTEND

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

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12. Close with a short summary.

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

# **EARTH SCIENCE** Lesson Plan

## Quarter 1, Week 6, Day 2



### Outcomes for Today

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#### PREPARE

##### 1. Background knowledge necessary for today's reading.

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Earth science includes those fields that study the air, land and water around us. Each of these areas can be divided into separate and interconnected disciplines.

##### 2. Vocabulary Word Wall.

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Introduce 3-5 important words from today's reading

**lithosphere      asthenosphere      hydrosphere      atmosphere      biosphere**

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

#### READ

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

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##### 4. Read directions for investigation/activity.

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##### 5. Read text.

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Ch. 1.1.pp. 7-10

#### RESPOND

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

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

Students might mention:

- Each of Earth's systems in independent, but interrelated.
- Technology uses the advancements in science in improve products that are used in everyday life.

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

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## EXPLORE

8. Explore today's investigation with inquiry activities.

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9. Explore today's simulation with inquiry activities.

---

10. Collect data and post.

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**One possible activity:** Using scientific Terms, Part 2

**Procedure:** A continuation of yesterday's linguistic activity  
Including word parts related to the subspecialties of earth science – vulcan-, seismo-,  
minera-, limne-, and –sphere.

Given what is know, students may determine the meanings of: paleogeography,  
cryosphere, geomorphology, and geochronology.

**Discussion:** Discuss how knowing parts of words can assist in deriving meaning.

## EXTEND

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

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12. Close with a short summary.

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

# EARTH SCIENCE Lesson Plan

## Quarter 1, Week 6, Day 3



### Outcomes for Today

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#### PREPARE

1. Background knowledge necessary for today's reading.
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The Scientific Method is an established, planned approach to solving a problem. The steps can vary, but identifying the problem is usually the first step.

2. Vocabulary Word Wall.
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Introduce 3-5 important words from today's reading

**variable      control      Le System Universal d' Unites      scientific notation**

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

#### READ

3. Review the vocabulary and concepts previously covered in this chapter.
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4. Read directions for investigation/activity.
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5. Read text.
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Ch. 1.2, pp. 11-13 and p.16.

#### RESPOND

6. Fix the facts. Clarify what's important.
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Discuss the reading and add 3-5 events/concepts to the billboard

Students might mention:

- Experiments are used to test a hypothesis.
- Variables can be either independent or dependent.
- Scientific notation is used by scientists to express numbers as a power of 10.

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

8. Explore today's investigation with inquiry activities.

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9. Explore today's simulation with inquiry activities.

---

10. Collect data and post.

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**One possible activity:** Making Measurement Simple: The Metric System

**Procedure:** Show conversions of units by powers of ten.

**Discussion:** Science and technology is a great extend involve measuring. Discuss the necessity for standardization of units of measure.

**Key question:**

- Despite its simplicity and its acceptance by most other countries, the general public in the U.S. still has not embraced the metric system, why?

Source: <http://www.yale.edu/ynhti/curriculum/1989/6/89.06.02.x.html>

## EXTEND

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

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12. Close with a short summary.

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

# EARTH SCIENCE Lesson Plan

## Quarter 1, Week 6, Day 4



### Outcomes for Today

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#### PREPARE

##### 1. Background knowledge necessary for today's reading.

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Cartographers use imaginary grids to parallel lines and vertical lines to exactly locate points on Earth. It is somewhat similar to the grid used to locate celestial objects in the sky.

##### 2. Vocabulary Word Wall.

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Introduce 3-5 important words from today's reading

**cartography      equator      latitude      longitude      prime meridian**

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

#### READ

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

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##### 4. Read directions for investigation/activity.

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##### 5. Read text.

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Ch. 2.1, pp. 27-31

#### RESPOND

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

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

Students might mention:

- A grid pattern is used to locate exact positions on the Earth.
- Earth is divided into 24 equal time zones.
- The International Date Line is the transition line for calendar days.

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

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## EXPLORE

8. Explore today's investigation with inquiry activities.

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9. Explore today's simulation with inquiry activities.

---

10. Collect data and post.

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**One possible activity:** Using Map Coordinates: An Inquiry-Based Lesson

**Procedure:** Students use maps to determine locations and distances on earth

**Discussion:** Discuss the usefulness of calculating distances between stops on a long distance trip.

**Key questions:**

- How can we use maps to find where we are?
- How can we figure out how far away some other place is from Here?

**Source:** <http://jove.geol.niu.edu/faculty/kitts/OEDG/TeacherResources.html>

## EXTEND

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

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12. Close with a short summary.

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



# EARTH SCIENCE Lesson Plan

## Quarter 1, Week 6, Day 5



### Outcomes for Today

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Standards Focus: Earth Sciences 9.d *Students know how to analyze published geologic hazard maps of California and know how to use the map's information to identify evidence of past and present geologic changes in the future.*

### PREPARE

#### 1. Background knowledge necessary for today's reading.

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Aerial photography is a type of remote sensing that can generate wide-angle views of the Earth's surface. Accurate measurements obtained by placing the photographs in photogrammetric machines to produce a three-dimensional model.

#### 2. Vocabulary Word Wall.

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Introduce 3-5 important words from today's reading

**cartographer**

**expedition**

**aerial photography**

**infrared**

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

### READ

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

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#### 4. Read directions for investigation/activity.

---

#### 5. Read text.

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Mapping Mount Everest, pp. 864-869

## RESPOND

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

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

Students might mention:

- It was 48 years from the time of the idea to actually planning the expedition.
- Permission was needed from China and Nepal and money had to be raised before the expedition could begin.
- The actual photography only took three and a half hours.

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

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## EXPLORE

### 8. Explore today's investigation with inquiry activities.

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### 9. Explore today's simulation with inquiry activities.

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### 10. Collect data and post.

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**One possible activity:** Mapping GeoLab: Using a Topographical Map, pp. 42-43

**Procedure:** Students use a topographical map to interpret information about an area

**Discussion:** Discuss uses for a topographical map in everyday life.

**Key question:** See activity

## EXTEND

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

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### 12. Close with a short summary.

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