



## Overview:

Students identify key information about plate tectonics by navigating through multimedia.

## Targeted Alaska Grade Level Expectations:

### *Science*

[9] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.

[10-11] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, analyzing data, developing models, inferring, and communicating.

[9-11] SD2.2 The student demonstrates an understanding of the forces that shape Earth by describing how the theory of plate tectonics explains the dynamic nature of its surface.

## Objective:

The student will research information on plate tectonics by interacting with multimedia files.

## Materials:

- VIDEO FILES: “Earth’s Layers”; “Convection Current”; “Wegener’s Theory”; “Pangaea Puzzle”; “Moving Crust”; “Sliding Plates”; “Plate Tectonics”; “Divergent”; “Convergent”; “Transform”; “Plate Boundaries”; “Magma”; “Spreading Centers”; “Trenches”; and “Where Volcanoes Form”
- STUDENT WORKSHEET: “Plate Tectonics Scavenger Hunt”

## Science Basics:

View the Unit 4 multimedia video files for this lesson on the ATEP playlist (linked in the curricula description) to gain a basic understanding of plate tectonics.

## Activity Procedure:

Distribute STUDENT WORKSHEET: “Plate Tectonics Scavenger Hunt.” Ask students to complete the worksheet by navigating through the multimedia files as directed.

## Answers:

- |    |                 |       |        |            |            |
|----|-----------------|-------|--------|------------|------------|
| 1. | Layer           | crust | mantle | outer core | inner core |
|    | Solid or Liquid | solid | solid  | liquid     | solid      |
- cool; hot
  - Pangaea
  - a. lithosphere. b. asthenosphere.
  - plates
  - a. away b. toward c. slide past
  - ridges
  - mountain ranges and trenches
  - Pacific Plate and North American Plate
  - lava
  - divergent
  - subducted
  - a. subduction zones b. spreading centers c. hot spots

NOTE: Numbers 4 and 11 do not require answers.

Name: \_\_\_\_\_

Grades

9-12

# Plate Tectonics Scavenger Hunt

## Student Worksheet (page 1 of 2)



**Directions:** View the Unit 4 multimedia video files for this lesson on the ATEP playlist (linked in the curricula description). Check off each multimedia file you view, and complete each statement or task.

1.  Earth's Layers

Name the four layers of Earth and classify each one as solid or liquid.

<b>Layer</b>				
<b>Solid or Liquid</b>				

2.  Convection Current

In the convection currents inside Earth, \_\_\_\_\_ material sinks and \_\_\_\_\_ material is pushed upward.

3.  Wegener's Theory

The name of the supercontinent in Alfred Wegener's theory is \_\_\_\_\_.

4.  Pangaea Puzzle

5.  Moving Crust

- The solid layer formed by Earth's crust and the top of the mantle is the \_\_\_\_\_.
- The soft, jelly-like layer of the mantle is the \_\_\_\_\_.

6.  Sliding Plates

Convection currents break the lithosphere into pieces called \_\_\_\_\_.

7.  Plate Tectonics

Name the three ways plates may move at their boundaries.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Name: \_\_\_\_\_

Grades

9-12



# Plate Tectonics Scavenger Hunt

## Student Worksheet (page 2 of 2)

8.  Divergent

What type of landform forms at divergent boundaries on oceanic crust? \_\_\_\_\_

9.  Convergent

What two types of landforms form at convergent boundaries?

\_\_\_\_\_ and \_\_\_\_\_

10.  Transform

Which two plates slide past each other on the San Andreas Fault?

\_\_\_\_\_ and \_\_\_\_\_

11.  Plate Boundaries

12.  Magma

When it reaches Earth's surface, magma is called \_\_\_\_\_.

13.  Spreading Centers

Midocean ridges form at \_\_\_\_\_ plate boundaries. These form new ocean floor.

14.  Trenches

Old ocean floor is \_\_\_\_\_ or pushed down into trenches.

15.  Where Volcanoes Form

Where do volcanoes form?

a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_