

## Introduction

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### Lab Options

This course includes the option of hands-on or dry lab activities.

- Dry labs require the lab manual – no additional materials are required.
- Hands-on labs require the lab manual and the materials listed below.

### Lab Manual

*Prentice Hall Earth Science Lab Manual*, Student ed. Edward J. Tarbuck and Frederick Lutgens (Prentice Hall, 2006).

- See the [Course Materials List](#) for how to acquire this manual.
- Note: The "DataBank" is a set of colored images (maps, charts, etc.) in the back of the manual.

### Disclaimer

Apex Learning® has no liability whatsoever regarding any hands-on laboratory activities. The personnel at the school at which the student conducts the hands-on lab activities, or the student's parent or guardian if the lab activities are completed at home, are responsible for all such hands-on lab activities, including ensuring that qualified personnel are available to supervise the activities.

### Questions

Contact Apex Learning Support by phone at 1-800-453-1454 or by email at [support@apexlearning.com](mailto:support@apexlearning.com).

## Hands-On Lab Materials

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### Determining Latitude and Longitude

Semester 1: 1.2.2 / PH: Exploration 1

- Globe (optional)
- Protractor
- Ruler
- World map

### Using a Topographic Map to Create a Landform

Semester 1: 1.2.5 / PH: Investigation 1B

- Enlarged photocopy of part of a topographic map (alternate printable provided)
- Modeling clay (alternate material: playdough recipe)
- Transparent shoebox with lid
- Nonpermanent, fine-lined marking pen
- Cellophane or masking tape
- Metric ruler

## Exploring Orbits

Semester 1: 2.2.5 / PH: Investigation 23

- 3 sheets of paper
- Heavy corrugated cardboard
- 2 pushpins
- Metric ruler
- String, 30 cm long
- 5 colored pencils
- Cellophane tape
- Calculator

## How Does Temperature Affect Water Density?

Semester 1: 3.3.2 / PH: Exploration 15 / Alternate dry lab available

- (2) 100-mL graduated cylinders
- 2 test tubes
- 2 beakers
- Stirrer
- Food coloring or dye
- Ice
- Tap water
- Graph paper
- Colored pencils

## Determining How Temperature Changes with Altitude

Semester 1: 4.1.5 / PH: Investigation 17A

- Ruler or straight edge
- Colored pencils
- Tracing paper
- Resource 12 in the DataBank

## Investigating Factors that Control Temperature

Semester 1: 4.2.3 / PH: Investigation 17B

- Resources 14+15 in the DataBank
- Ruler or straight edge
- Graph paper

## Analyzing Severe Weather

Semester 1: 5.1.4 / PH: Investigation 20A

- 3 colored pencils

## Measuring Humidity

Semester 1: 5.2.2 / PH: Exploration 18) / Alternate dry lab available.

- Psychrometer (alternative materials for psychrometer: 2 thermometers, cotton gauze, paper fan, string)
- Water at room temperature
- Calculator

## Modeling a Plate Boundary

Semester 2: 2.1.4 / PH: Investigation 9

- Resource 3 in the DataBank
- Ruler
- Protractor

## Continental Glaciers Change Earth's Topography

Semester 2: 2.3.4 / PH: Investigation 7

- Resources 1+9 in the DataBank
- Metric ruler
- Calculator (optional)

## Mineral Identification

Semester 2: 3.1.3 / PH: Exploration 2 / Alternate dry lab available

- Resource 16 in the DataBank
- Mineral samples
- Hand lens
- Streak plate
- Copper penny
- Steel knife blade
- Glass plate
- Piece of quartz
- Magnet
- Hammer
- 50-mL graduated cylinder
- Tap water
- Balance
- Thin thread

- Scissors
- Paper or cloth towels
- Dilute hydrochloric acid

### Classifying Rocks Using a Key

Semester 2: 3.5.4 / PH: Investigation 3 / Alternate dry lab available

- Bottle of dilute (1M) hydrochloric acid (HCl) with dropper
- Igneous rocks
- Sedimentary rocks
- Metamorphic rocks
- Hand lens
- Paper towels
- Red pen or pencil

### Determining Geologic Ages

Semester 2: 4.1.3 / PH: Investigation 13

- Resources 10+11 in the DataBank
- Geologic block diagram (figure 1 provided)
- Logarithmic scale showing decay of U-235 (provided)

### Human Impact on Climate and Weather

Semester 2: 5.3.1 / PH: Exploration 21

- Paper
- Pen or pencil