

EARTH 3

Where on Earth?

Name _____ Date _____

PURPOSE

Learn about Earth, and how to use maps and globes to find out where things are on Earth.

HOW TO DO THIS COURSE: Do the steps in order. Write your initials and the date on the sign-off line when you finish a step. Two lines means you get the step checked by another student or, if stated, by your teacher. Have them initial the second line. All written work is turned in to your teacher.

ESTIMATED TIME: 20 hours.

MATERIALS:

Earth 3—Where on Earth?, Heron Books

A. PLACES AND PEOPLE

1. READ: Chapter 1 Places and People. _____
2. ACTIVITY: Look through some magazines like *National Geographic* or *Scholastic News* and find 10 pictures of people who live in different kinds of places than where you live. For each one, notice something that is different from where you live. _____
3. ACTIVITY: Put together a puzzle map of the United States. Save it for the next step. _____
4. ACTIVITY: Using the puzzle map, have another student name states in any order. You find them on the map. Do this until you can find 10 states in a row quickly. _____

5. ACTIVITY: On a globe, find the seven continents and five oceans: Arctic Ocean, Atlantic Ocean, Pacific Ocean, Indian Ocean and Southern Ocean.

6. ACTIVITY: On a globe find the equator, the North Pole and the South Pole.

7. ACTIVITY: Put together a puzzle map of the world.

B. USING MAPS TO FIND THINGS

1. READ: Chapter 2 Maps.

2. ACTIVITY: Look through an atlas or *National Geographic* or *Scholastic News* magazine. Find several different maps. Look at what they show, see how they are similar or different from each other.

3. READ: Chapter 3 Size on Maps, to heading “Larger Maps.”

4. ACTIVITY: Do this activity with the room map on page 16. Use a ruler to measure each of these distances to the nearest quarter of an inch:

from the sofa to the bookshelf.
How many quarter inches is this? _____
How far is this in feet? _____

from the table to the television.
How many quarter inches is this? _____
How far is this in feet? _____

from the sofa to the television.
How many quarter inches is this? _____
How far is this in feet? _____

Show your answers to your teacher. **Teacher pass**

5. ACTIVITY: Write down the answers to these questions and show them to your teacher.

Suppose you were making a map of your classroom and you wanted to have a scale of 1 inch = 1 yard.

- If there were a bookshelf one yard wide, how long would it be on your map? _____
- If there were a table three yards long, how long would it be in your map? _____
- If there were a rug 14 feet long, about how many inches long would it be on your map? _____

Teacher pass

6. READ: Chapter 3, section "Larger Maps."

7. ACTIVITY: Do this activity with the town map on page 19. Use a ruler to measure each of these distances on the map to the nearest inch.

- from the gas station to the store.
How many inches is this? _____
How far is this in feet? _____
- from the farm to the school.
How many inches is this? _____
How far is this in feet? _____
- from the orchard to the store.
How many inches is this? _____
How far is this in feet? _____
- Measure something else on the map that you choose.

How long is it in inches? _____
How far is it in feet? _____

8. READ: Chapter 3, section "And Even Larger!"

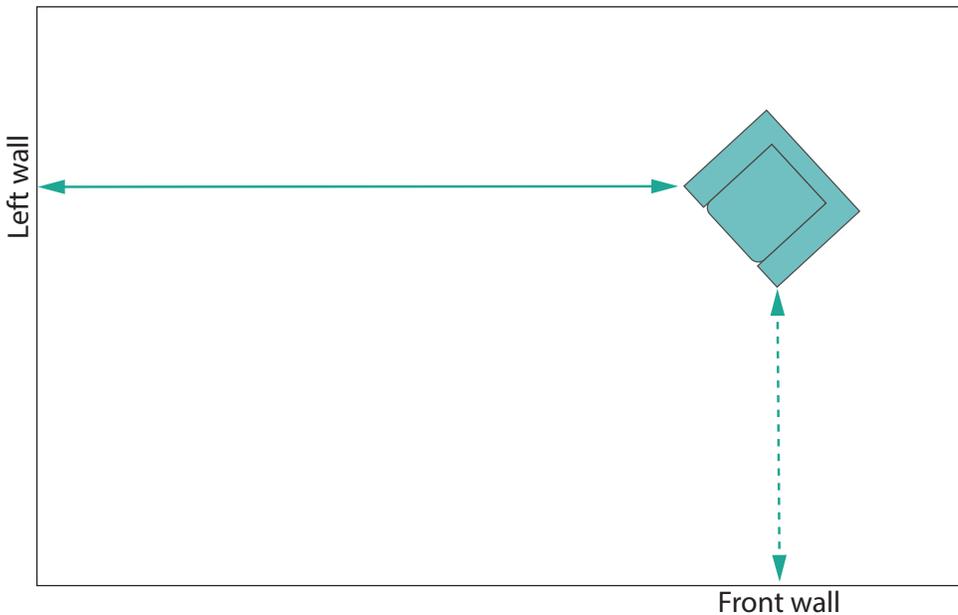
9. ACTIVITY:

- Measure the room you are in to find out how long and wide it is from wall to wall.

_____ long
_____ wide

- Measure how far your chair is from the front wall of the room and from the left wall of the room.

Like this:



_____ front wall
_____ left wall

- Using the scale 1 inch = 1 yard, draw a map of the room. Show the walls of the room and where your chair is in the room. You can include other things in the room if you would like to. Write the scale on your map.

Teacher pass

10. READ: Chapter 4 Symbols on Maps, to heading “More Map Symbols.”

11. ACTIVITY: Use the town map and key on page 26 to show another person

- the school
- the church
- the farm
- the two stores
- the house
- an orchard
- the field

12. READ: Chapter 4, section “More Map Symbols.”

13. ACTIVITY: Use the map and key of North America on page 27 to show another person

- the capital cities of Canada, the USA and Mexico.
- the border between Canada and the USA.
- the border between the USA and Mexico.
- the mountains and rivers.

14. ACTIVITY: Get a map of your city or your state.

- Find the key.
- Find the scale and see if it is in inches or centimeters. Check it with a ruler if you want to.
- Find three of the key symbols somewhere on the map.
- Choose two places on the map and measure the distance between them to the nearest inch or centimeter. Figure out about how far it is between the real places, using the scale. Write it here and show your teacher. _____

Teacher pass

C. DIRECTIONS ON MAPS

1. READ: Chapter 5 Which Way Do I Go? to heading “Other Directions.”

2. ACTIVITY: With another student do these steps at two different places inside, and then two places outside.

- Get a compass, and hold it flat in your hand and wait for the needle to stop moving. The needle will probably swing back and forth a bit but will soon stop and point north.
 - After the needle stops moving, face in the direction the needle is pointing. This is north.
 - Turn the compass so that the N on the compass matches the way the needle is pointing.
 - With your hand, point north and notice some things that are north from where you are.
 - Now find south by turning in the opposite direction from north.
 - With your hand, point south and notice some things that are south from where you are.
 - Now face north again. Find east by turning to the right when you are facing north.
 - With your hand, point east and notice some things that are east from where you are.
 - Now find west by turning to the left when you are facing north.
 - With your hand, point west and notice some things that are west from where you are.
-
-

3. READ: Chapter 5, section “Other Directions.”

4. ACTIVITY: Without looking at the book, draw a set of direction arrows which show all eight directions. Label the arrows with the letters that stand for each direction. _____
5. READ: Chapter 5, section “Using Directions on a Map” to the end of the chapter. _____
6. ACTIVITY: Get a compass and use the map on page 36 for this activity. With another student, do these steps:
- Use the compass to find north.
 - Turn the map so that north on the map points toward the North Pole.
 - Pretend that you are in the school on the map. Point with your arm
 - which direction the church is in.
 - which direction the farm is in.
 - which direction the gas station is in.
 - which direction the store is in._____
7. ACTIVITY: Do Activity Find Directions on a Map, on page 40. Write the answer to the questions on another piece of paper, and show your teacher. **Teacher pass** _____

D. SQUARES ON MAPS

1. READ: Chapter 6 Squares on Maps. _____
2. ACTIVITY: Using the map on page 47, show another person what is in each of these grid squares:
- square E4
 - square C4
 - square A6

square E6

square A8

square C7

3. ACTIVITY: Get a map of your city or state and another person to work with.

Find and show your partner the grid squares and the numbers or letters that label the grid.

Have your partner point out places on the map. You tell what grid squares these places are in. Do this until you can do it easily.

Have your partner find some place on the map and tell you its name and what grid square it is in. Then you find the place. Do this until you can do it easily.

Teacher pass

E. LAND AND WATER

1. READ: Chapter 7 Earth Has Features.

2. ACTIVITY: Look in magazines like *National Geographic* and *Scholastic News* or online. Find pictures of different features of Earth.

3. READ: Chapter 8 Landforms.

4. ACTIVITY: Look in magazines like *National Geographic* and *Scholastic News* or online. Find pictures of each landform given in the chapter.

5. READ: Chapter 9 Water.

6. ACTIVITY: Look in magazines like *National Geographic* and *Scholastic News* or online. Find pictures of each of the different things you learned about in the chapter.

7. READ: Chapter 10 Land and Water.

8. ACTIVITY:

Make a clay model that shows these things:

- plain
- plateau
- mountains
- hills
- valley
- ocean
- lake
- river
- delta at the mouth of a river

Label each thing you make. If you want to, you can make up names for them like “The Blue Hills” or “Lake Fred.”

You may also include other landforms and water that you learned about, if you want to.

Teacher pass

F. USING GLOBES

1. READ: Chapter 11 Lines on a Globe, to heading “Latitude Lines.”

2. ACTIVITY: Get a globe, and look at the grid lines.
- Notice that the lines that go side-to-side make circles.
 - Notice that the lines that go up and down from the North Pole to the South Pole are half-circles. _____
3. READ: Chapter 11, section “Latitude Lines.” _____
4. ACTIVITY: Use a globe to do these steps:
- Find the latitude lines.
 - Find the longest latitude circle.
 - Find a latitude line near where you live.
 - Find a small latitude circle near a pole. _____
5. READ: Chapter 11, section “Longitude Lines” to the end of the chapter. _____
6. ACTIVITY: Use a globe to do these steps:
- Find a longitude line that passes through England.
 - Find a longitude line near where you live.
 - Find the longitude line on the other side of Earth that is farthest away from where you are now. _____
7. READ: Chapter 12 Numbering the Lines on a Globe to heading “Degrees for Longitude Lines.” _____
8. ACTIVITY: Do this activity with another person.
You will need a globe.
- Point out the latitude lines to your partner.
 - Starting from the equator (latitude 0°) and going north, read aloud the latitude degrees you can find on the globe.

- Starting from the equator (latitude 0°) and going south, read aloud the latitude degrees you can find on the globe.

Use the latitude lines numbered on your globe for these steps.

- Have your partner tell you different latitude degrees north of the equator. Practice finding them on the globe until you can do it easily.
- Do the same thing with latitude degrees south of the equator.
- Now have your partner give you latitude degrees north and south of the equator (mix them up). Practice until you can find any latitude line on the globe easily.

Teacher pass

9. READ: Chapter 12, section “Degrees for Longitude Lines.”
10. ACTIVITY: Do this activity with another person.
You will need a globe.
 - Point out the longitude lines to your partner.
 - Find the 0° longitude line that goes through England.
 - From the 0° longitude line and going west, read out the longitude degrees you can find on the globe until you reach 180° .
 - Now, starting from the 0° line and going east, read out the longitude degrees until you reach 180° .
 - Notice that there is only one 180° longitude line coming from both east and west.

Use the longitude lines numbered on your globe for the rest of these steps.

- Have your partner tell you longitude degrees west of 0° . Practice finding them on the globe until you can do it easily.
- Do the same thing with longitude degrees east of 0° .
- Now have your partner tell you longitude degrees west and east of 0° (mix them up). Practice until you can find any longitude line on the globe easily.

Teacher pass

11. READ: Chapter 12, section “Hemispheres.”

12. ACTIVITY: On your globe, find

- Northern Hemisphere
- Southern Hemisphere
- Eastern Hemisphere
- Western Hemisphere

Teacher pass

13. READ: Chapter 13 Using Latitude and Longitude, to heading “Coordinates.”

14. ACTIVITY: Do this activity with a partner. You will need a globe.

- On a sheet of paper, make two columns. In one column, write down all the latitude numbers (N and S) that you can read on your globe.
- In the other column write down all the longitude numbers (E and W) that you can read on your globe.

- Have your partner tell you one latitude number and one longitude number from your list. You find that location on your globe. Remember, it will be where the latitude and longitude lines cross.
- Do this until you can find locations on the globe easily using latitude and longitude numbers. You should be able to find at least five locations in a row, but you can do more. _____

15. READ: Chapter 13, section “Coordinates” to the end of the chapter. Have a globe with you so you can find the locations talked about in the chapter while you read. _____

16. ACTIVITY:

- Find the location of the following coordinates on a globe. Write down the name of a city near each set of coordinates.

45° N, 75° W _____

1° S, 49° W _____

30° N, 30° E _____

15° N, 121° E _____

45° N, 0° _____

34° S, 150° E _____

- Pick four places on your globe and write down their name and coordinates:

name	coordinates
_____	_____
_____	_____
_____	_____
_____	_____

Teacher pass _____

G. HEAT AND COLD ON EARTH

1. READ: Chapter 14 What Makes the Seasons? _____
2. ACTIVITY: Do Activity What Makes the Seasons? on page 86.
Teacher pass _____
3. READ: Chapter 15 Weather & Climate (They're Different). _____
4. ACTIVITY: Tell your teacher the difference between weather and climate. _____
5. READ: Chapter 16 Climate Zones, to heading "The Polar Zones." _____
6. ACTIVITY: Find the Tropic of Cancer and the Tropic of Capricorn on a globe. _____
7. ACTIVITY: Get a large inflatable globe of the world. You are going to label places on this globe while you do the rest of this course, so take good care of it.

You will need masking tape and a dark pen or permanent marker to make labels for your globe.

- Start by labeling the seven continents:
 - Write the name of each continent on the tape in big letters.
 - Stick each label on the globe on the correct continent.
- Label the five oceans in the same way.
- Label the equator.
- Find and label the Tropic of Cancer.
- Find and label the Tropic of Capricorn.
- Label the area between the two Tropic lines "Tropical Zone."

Teacher pass _____

8. READ: Chapter 16, section “The Polar Zones.” _____

9. ACTIVITY:

Find the Arctic Circle and Antarctic Circle on a globe.

Use masking tape to label the Arctic Circle and the Antarctic Circle on your inflatable globe.

Label the area inside the Arctic Circle “Arctic.”

Label the area inside the Antarctic Circle “Antarctic.”

Teacher pass _____

10. READ: Chapter 16, section “The Temperate Zones.” _____

11. ACTIVITY: On your inflatable globe

Find and label the North Temperate Zone.

Find and label the South Temperate Zone.

Teacher pass _____

12. READ: Chapter 17 Other Things that Affect Climate. _____

13. ACTIVITY:

On a globe, find the place where you live.

Decide what climate zone you live in and write this down on a sheet of paper.

On the same paper list all the things you can think of besides latitude that could affect climate.

In writing, explain which of these you think affect climate in your area and why you think this.

Teacher pass _____

H. LIFE ON EARTH

1. READ: Chapter 18 Life on Earth, to heading “Forest.” _____

2. ACTIVITY: Tell another person at least three non-living things that ecosystems have and how each one could affect the ecosystem. _____

3. READ: Chapter 18, section “Forest.” _____

4. ACTIVITY: Look through some magazines like *National Geographic* and *Scholastic News* or online to find pictures of:
 - tropical rain forest biome
 - temperate rain forest biome
 - boreal forest biome
 - temperate forest biome _____

5. ACTIVITY:
 - Look over the biomes map at the back of the book.
 - On the map, find the forest biomes—the tropical and temperate rainforests, boreal forests and temperate forests.
 - Find the Biomes Worksheet attached to the back of this learning guide. Pull off the two pages, and make it one map by taping or gluing it together from the back. (You don’t want tape on the front of the map.)
 - Look over the worksheet and notice that there is a solid line for the equator and dotted lines for the tropics and polar circles. Also see that there is a key with blank boxes for each biome. You will be coloring in the biomes on this worksheet as you go through this section.

- In the key, find the blank box for tropical rain forest. Pick a color you think is right for tropical rain forest and color in the box. Then use that color to fill in all the tropical rain forest areas on the worksheet. If you need to, use the biome map at the back of the book to find where these are.
- Choose a different color for the temperate rain forests and color in the box and those biome areas on your worksheet.
- Choose another color for the boreal forests and color in the box and those biome areas on your worksheet.
- Choose another color for temperate forests, and color in the box and those biome areas on your worksheet.

Save your worksheet so you can fill in more biomes as you go along.

Teacher pass

6. READ: Chapter 18, section “Grassland.”

7. ACTIVITY: Look through some magazines like *National Geographic* and *Scholastic News* or online to find pictures of:

- grassland biome
- tropical savannah
- prairie
- pampas

8. ACTIVITY:

- Find all the grassland biomes on the biome map in the book.
- Choose a color to use for grassland on your worksheet. Color in the box and those biome areas on your worksheet.

9. READ: Chapter 18, section “Desert.”

10. ACTIVITY: Look through some magazines like *National Geographic* and *Scholastic News* or online to find pictures of:
- desert biome
 - mountain desert
 - Antarctic desert
-
11. ACTIVITY:
- Find all the desert biomes on the biome map.
 - Choose a color to use for desert on your worksheet. Color in the box and those biome areas on your worksheet.
-
12. READ: Chapter 18, section “Tundra.”

13. ACTIVITY: Look through some magazines like *National Geographic* and *Scholastic News* or online to find pictures of:
- tundra biome
 - permafrost
-
14. ACTIVITY:
- Find all the tundra biomes on the biome map.
 - Choose a color to use for tundra on your worksheet. Color in the box and those biome areas on your worksheet.
-
15. READ: Chapter 18, section “Ocean.”

16. ACTIVITY: Look through some magazines like *National Geographic* and *Scholastic News* or online to find pictures of:
- ocean life
-

17. ACTIVITY: On a globe, compare the size of the ocean biome to the land biomes. _____
18. READ: Chapter 18, section “Smaller Biomes” to heading “People Can Change Ecosystems.” _____
19. ACTIVITY: Look through some magazines like *National Geographic* and *Scholastic News* or online to find pictures of:
- chaparral
 - freshwater life
 - alpine biome
- _____
20. ACTIVITY:
- Find the chaparral and alpine biomes on the biome map.
 - Choose colors to use for chaparral and alpine biomes on your worksheet. Color in the boxes and those biome areas on your worksheet.
 - Save your worksheet for later.
- _____
21. ACTIVITY: Look at color pictures of any biomes in the chapter you would like to know more about. _____
22. ACTIVITY: In writing, explain why temperature, weather and moisture are important to all the biomes. _____
23. ACTIVITY: Make a clay model of an imaginary continent that has at least three biomes. Also include some of the land features you have learned. **Teacher pass** _____
24. ACTIVITY: Write down the names of the different kinds of biomes you have lived in or visited. Describe what each one was like. If you can remember, write down where the places were. _____

25. READ: Chapter 18, section “People Can Change Biomes.”

I. PUTTING IT TOGETHER

1. ACTIVITY: On your Biomes Worksheet, label these places:

- 7 continents
- 5 oceans
- equator
- Tropic of Cancer
- Tropic of Capricorn
- Arctic Circle
- Antarctic Circle
- Tropical Zone
- North Temperate Zone
- South Temperate Zone
- Antarctic (region)
- Arctic (region)

Teacher pass

2. ACTIVITY: Using your Biomes Worksheet, answer these questions in writing:

- Which climate zone has the most tropical rainforest?
- Which climate zone has the most tundra?
- Which climate zone has the most boreal forest?
- Which climate zone has the most temperate forest?
- Which three climate zones have all the grassland?
- Which two climate zones have all the chaparral?
- Which climate zone has the most desert?

Teacher pass

J. EXPLORING EARTH

1. READ: Chapter 19 Earth, An Amazing Place. _____

2. ACTIVITY:

- Find three different ways people have changed the biome where you live from its natural one. If you can, also find an example of the land changing back to its natural type.
- Write a report about what you found out.

Teacher pass _____

3. ACTIVITY: Use other maps or books for information to find the places listed below. Label each of them on your inflatable globe.

- When you label mountains, also make some marks on the tape like this xXx Xx or ^^^ for mountains
- When you label a river, also draw a mark like this  on the tape for a river.

Get a teacher pass after you finish each continent.

NORTH AMERICA

- Appalachian Mountains
- Cascade Range Mountains
- Rocky Mountains
- Mississippi River
- Sierra Nevada Mountains
- Great Lakes

Teacher pass _____

SOUTH AMERICA

- Andes Mountains
- Amazon River (second longest river in the world)

Teacher pass

EUROPE

- Ural Mountains (they divide Europe from Asia)
- Caucasus Mountains (they divide Europe from Asia)
- Caspian Sea (largest sea in the world completely enclosed by land)
- Alps (mountains)

Teacher pass

ASIA

- Himalayan Mountains (highest mountains in the world)
- Mt. Everest (highest mountain in the world)
- Ganges River
- Yangtze (also called Chang Jiang) River
- Gobi Desert

Teacher pass

AFRICA

- Nile River (longest river in the world)
- Sahara Desert (largest desert in the world)
- Congo (Zaire) River
- Mt. Kilimanjaro (high snow-capped mountain on the equator)

Teacher pass

AUSTRALIA

- the outback (the center part of the continent. It is mostly huge deserts.)
- The Great Dividing Range (separates the eastern coast from the rest of the continent)
- Murray River
- Darling River

Teacher pass

4. ACTIVITY: Do this activity with another person. Your partner should call off climate zones, biomes and landforms while you point them out on your Biomes Worksheet or inflatable globe. You pass when you can point out any of these things easily.

5. ACTIVITY:

- Choose a place on Earth you are interested in. It should be a place you want to know more about. Research the place you picked to learn more about its
 - land features
 - people who live there
 - clothing and houses
 - jobs
 - language
 - anything else you want to know.
- Write a report on what you found out. You can draw pictures to make it clearer.

Teacher pass. (Save your report to take to the examiner.)

6. **ACTIVITY:** Do one of these activities with the place you researched in the last step. Then show it or share it with others. Discuss your plan with your teacher before you start.

- prepare a food dish
- learn a song or dance
- learn and tell a story
- make a costume
- learn a game

Teacher pass _____

I have completed the steps of this course. I understand what I studied and can use it.

Student _____ Date _____

The student has completed the steps of this course and knows and can apply what was studied.

Teacher _____ Date _____

The student has passed the exam for this course.

Examiner _____ Date _____

FOR FACULTY

NOTE:

It is recommended the student do *Earth 2—Earth and Its Neighbors* course before this one.

LEARNING GUIDE ATTACHMENT

Biomes Worksheet

ADDITIONAL RESOURCES

Exam and answers

Materials List

BIOMES WORKSHEET



Key

- Tundra
- Boreal Forest
- Temperate Forest
- Tropical Rainforest
- Desert
- Alpine
- Chaparral
- Grassland

