

Earth 2

Earth & Its Neighbors

Name _____ Date _____

PURPOSE

Learn how planet Earth fits in
with the sun and moon and other planets.

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: 10 hours.

MATERIALS:

Earth 2—Earth and Its Neighbors, Heron Books
The Planets, Nigel Henbest, Penguin Books, any edition

A. EARTH, SUN AND MOON

1. READ: Chapter 1 The Earth, section “Looking at the Earth.” _____
2. ACTIVITY: Choose an object in the room. Do the following steps.
 - Stand close to the object and notice how big it looks. What can you notice about the object?
 - Walk about 10 feet away from the object and look at it again. How big does it look now? What can you notice?
 - Walk another 10 feet away and look again. How big does the object look now? What can you notice about it now? _____

3. READ: Chapter 1, sections “Globes” and “People Live All Over Earth.”

4. ACTIVITY:
 - Get a globe and a small piece of clay. Make a small person out of the clay and stand it on the globe.
 - See where “up” is for your clay person. Then see where “down” is.
 - Do this in several places on the globe.

5. READ: Chapter 1, section “Land, Water and Air” to the end of the chapter.

6. READ: Chapter 2 Days and Nights to the end of section “The Earth Spins.”

7. ACTIVITY:
 - Stand up and rotate your body all the way around.
 - Get a globe and rotate it all the way around. Then spin the globe to make it rotate fast.

8. READ: Chapter 2, section “The Spinning Earth Makes Day and Night” to the end of the chapter.

9. ACTIVITY: Do Activity “Days and Nights.” **Teacher pass.**

10. READ: Chapter 3 Years.

11. ACTIVITY: Do Activity “Earth Rotates and Revolves.” **Teacher pass.**

12. READ: Chapter 4 The Moon.

13. ACTIVITY: In the book *The Planets*, look at pictures of the sun, Earth and moon.

B. DISTANCES IN SPACE

1. READ: Chapter 5 Distances in Space. _____
2. ACTIVITY: Pretend you could move Earth inside the center of the sun with the moon still going around it. Draw a picture that shows that the sun is so big that the moon would still be inside the sun (about halfway out to the edge of the sun as it moves around Earth). _____
3. ACTIVITY: Do Activity “Distances in Space.” _____

C. HOW EARTH TURNS

1. READ: Chapter 6 How Earth Turns, to heading “Earth Is Tilted.” _____
2. ACTIVITY:
 - On a globe find the north and south poles.
 - See what parts of Earth are near each pole.
 - Spin the globe and see where the axis is and how the globe spins around it. _____
3. READ: Chapter 6 section “Earth Is Tilted.” _____
4. ACTIVITY: With another student, do Activity “Earth’s Axis Is Tilted.” **Teacher pass.** _____

D. THE SEASONS

1. READ: Chapter 7 Seasons, sections “The Four Seasons” and “Hemispheres.” _____

2. ACTIVITY:

- Get a globe and find the Northern Hemisphere, the Southern Hemisphere and the equator.
- Find five countries in the Northern Hemisphere.
- Find five countries in the Southern Hemisphere.
- Find five countries that the equator goes through.

3. READ: Chapter 7, section “What Causes the Seasons?”

4. ACTIVITY: With your teacher, do Activity “What Causes the Seasons?” **Teacher pass.**

E. THE MOON

1. READ: Chapter 8 The Way the Moon Looks.

2. OPTIONAL ACTIVITY: For the rest of the course, if you can see the moon, look at it each night and notice its shape. See how the shape changes from night to night.

3. READ: Chapter 9 Why the Moon Seems to Change.

4. ACTIVITY: With your teacher, do Activity “Why the Moon Seems to Change.” **Teacher pass.**

F. ORBITS AND PLANETS

1. READ: Chapter 10 Orbits and Planets, section “Orbits.”

2. ACTIVITY:

- Draw a circle, a slightly flattened ellipse, and an ellipse that’s quite flattened.
- Choose which one is most like the orbit of Earth and which is most like the orbit of the moon.

3. READ: Chapter 10, section “Planets.” _____
4. ACTIVITY: Learn the names of the planets until you can say them in order starting from the closest to the sun (Mercury) and going to the farthest from the sun (Neptune). You can include Pluto but you don’t have to. _____

G. THE SOLAR SYSTEM

1. READ: Chapter 11 The Solar System. _____
2. ACTIVITY: On a large piece of butcher paper, draw the solar system and label it.
 - Show the orbits of the planets and a dot on each orbit for that planet.
 - Make the space between Mars and Jupiter extra wide, about as wide as it would be if there were another planet orbiting there. You will have something to add in that space later.
 - You can include Pluto and its orbit but you don’t have to.

Save your drawing to use later. **Teacher pass.** _____
3. ACTIVITY: In *The Planets*, look at the pictures of the different planets. Notice some of their moons. _____
4. READ: Chapter 12 Asteroids and Falling Stars. _____
5. ACTIVITY: In *The Planets*, look at a picture of Meteor Crater in Arizona. _____
6. ACTIVITY: Make a drawing showing the difference between a meteor and a meteorite. _____

7. **ACTIVITY:** Get the drawing of the solar system you made earlier and add a ring of dots in the right place for the asteroid belt. Continue to save your drawing to use later. **Teacher pass.** _____
8. **OPTIONAL ACTIVITY:** At night, when the moon is out, look at it with a strong pair of binoculars or a telescope and see if you can see any craters. _____
9. **READ:** Chapter 13 Comets. _____
10. **ACTIVITY:** Get your drawing of the solar system and add an imaginary comet to it. Show its long orbit. Make sure you show where the comet is and show what direction the tail points. Save your drawing for the exam. **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 THE TEACHER

NOTE:

1. It is recommended the student do Earth 1—Introduction course before this one.
2. Save the student’s drawing for the exam.

ADDITIONAL RESOURCES AT HERONBOOKS.COM

Exam and answers
Materials list