# **Land Discussion Guide (for use during or after reading)**

1. Briefly describe Earth’s four layers: the crust, mantle, outer core, and inner core. (Earth’s Crust, p. 4-7)
   1. Earth can be thought of in four layers. The outermost layer is the crust. It floats on top of the mantle in the form of tectonic plates. The oceanic crust, also called the sea floor, looks like the land on Earth’s surface, just covered in water. The continental crust is found above sea level where we live. The mantle is made of hot rock that slowly moves, thus moving the crust. Earth’s outer core is mostly made of metals like iron and nickel. The outer core is so hot that all the metal there has been melted into liquid form. Finally, the inner core is a solid mass that scientists believe may be hotter than the surface of the sun!
2. What is topography? What do you notice and wonder about the topography shown on the map on pages 8 and 9? (Landforms, p. 8-13)
   1. Topography is a description of the kinds and arrangements of natural features of an area. Earth has many types of topography. Students’ responses will vary. Encourage students to ask questions and wonder about the various forms of topography found on Earth.
3. How do tectonic plates, erosion, and weathering work to create landforms? (Landforms, p. 8-13)
   1. Tectonic plates, erosion, and weathering all work to create different landforms on Earth. First, tectonic plates below Earth’s surface shift slowly over time. When tectonic plates collide, various landforms can be created. For example, colliding tectonic plates can create mountains, volcanoes, and basins.
   2. Erosion and weather can also contribute to the formation of landforms. Both erosion and weather wear away at rock through such forces as wind, water, gravity, and ice.
4. What do you notice and wonder about the landforms of North America? (North America, p. 14-17).
   1. Students’ answers will vary. They will likely highlight it as the third largest continent with a wide variation of mountain ranges and valleys, vast plains and grasslands, deserts, wide coastal plains, beaches, and islands.
5. What do you notice and wonder about the landforms of South America? (South America, p. 18-21)
   1. Students’ answers will vary. They will likely highlight it as the fourth largest continent that looks somewhat like a bowl – with high mountains or high plateaus around the edges and a large, flat central interior.
6. What do you notice and wonder about the landforms of Europe? (Europe, p. 22-25)
   1. Students’ answers will vary. They will likely highlight it as the sixth largest (or second smallest) continent that ranges from mountains to high plateaus, to vast low plains, to several large and small islands.
7. What do you notice and wonder about the landforms of Asia? (Asia, p. 26-29)
   1. Students’ answers will vary. They will likely highlight it as the largest continent, and it includes mountain systems, vast plains and high plateaus, steppes, deserts, long river valleys, thousands of miles of seashores and freshwater shorelines, and about 20,000 islands.
8. What do you notice and wonder about the landforms of Africa? (Africa, p. 30-33)
   1. Students’ answers will vary. They will likely highlight it as the second largest continent as well as note its vast grasslands and deserts, rainforest habitats, massive rivers, calderas, high plateaus, and the occasional tall mountain.
9. What do you notice and wonder about the landforms of Australia? (Australia, p. 34-37)
   1. Students’ answers will vary. They will likely highlight it as the smallest continent and explain that it contains massive and sometimes unusual rock formations, many active volcanoes, mountains, and the low and high islands often considered part of Oceania.
10. What do you notice and wonder about the landforms of Antarctica? (Antarctica, p. 38-39)
    1. Students’ answers will vary. They will likely highlight it as the third smallest continent as well as the only one that does not have permanent human residents. Antarctica is covered by the largest ice sheet on Earth, has some mountains, and is mainly snow-covered rock.