2.5 Explore

Modeling Earth’s Structure

In Benny’s letter, he described some ideas he and his teacher had about Earth’s structure. You now know enough to better identify the strengths and weaknesses of Benny’s model and to suggest a better model. You will write a letter back to Benny telling him what you think about his model. In your letter, you will include a sketch that presents your understanding of Earth’s structure.

Write a Letter to Benny

Read Benny’s letter again. Think about the hard-boiled egg as a model for Earth. Based on what you now know about Earth’s structure, identify the strengths and weaknesses of Benny’s egg model. Think about the details missing from Benny’s model.

Working with your partner, write a letter to Benny. Your letter should include what you think are the strengths and weaknesses of Benny’s egg model and what you think is missing from his model.
Then draw your own model of Earth’s structure to help Benny understand what is missing from his model. Use the following questions as a guide to plan your sketch:

- How will you represent the layers of Earth?
- How will you represent the thickness, consistency, density, and temperature of each of the layers?
- How will you show that Earth’s crust is made up of plates? How will you represent the plate boundaries?

Include in the sketch descriptions of the important characteristics of each layer of Earth, including each layer’s density, consistency, composition, and temperature. Remember that the crust varies in thickness in different places and that Earth’s surface is above sea level in some places and below sea level in others. Make sure you have sketched the layers so that Benny can identify how thick each of the layers is in relation to the other layers.

Review your sketch carefully. Think about what you know about Earth’s structure. Make a list of the strengths and weaknesses of your model of Earth. You will share your letter, your sketch, and the strengths and weaknesses of your model with the class.

**Communicate**

**Investigation Expo**

All groups will present their letters and sketches of Earth’s crust and interior layers. As you present your model,

- share what you think are the strengths and weaknesses of Benny’s egg model;
- point out the different parts of Earth shown in your sketch; and
- present the strengths and weaknesses of your sketch.

As you listen to each presentation, pay attention to the strengths and weaknesses of the different sketches of Earth’s structure. If you have questions about a group’s sketch, ask your questions specifically in terms of the strengths or weaknesses of the model.
Reflect

1. You were able to see different models of Earth’s structure. Pick the model that you think best represents Earth. Describe why you selected that model.

2. Which characteristic of Earth’s layers was the most difficult to represent? Why?

What’s the Point?

Examining and making models of Earth can help you apply what you are learning about Earth’s structure. By evaluating the strengths and weaknesses of Benny’s model, your model, and those of your classmates, you can better understand the layers of Earth and their composition.