## March 2, 2019 EDUCATOR GUIDE March 2, 2019

## Article-Based Observation, Q

**Directions:** Answer question No. 1 by looking at only the headline of the article "<u>Earth's inner core is</u> relatively young." Then read the article and answer the questions that follow.

1. Based on the headline alone, what terms or concepts do you expect to encounter in this article?

2. Use the dates and time frames mentioned in the article to construct a timeline covering Earth's history. Be sure to incorporate and/or note uncertainties.

3. The article distinguishes between the Earth's original magnetic field and the magnetic field that exists today. Relate each of the fields to the Earth's structure. How does what's happening in the Earth drive the fields?

4. Describe what causes the ongoing circulation, called the geodynamo, at the center of the Earth. What phenomenon does the ongoing circulation generate?

5. How do scientists gain clues to Earth's past magnetic field? Name and explain the use of two techniques mentioned in the article.

6. Geophysicist Peter Olson says "all planets lose heat." Name as many instances as you can where heat transfer is mentioned in the article.

7. What gaps in knowledge still exist for scientists studying the history of the Earth's inner structure and magnetic field?

8. What data might help fill in those gaps?

9. Based on the article, why is Earth's magnetic field important to life on the planet?