Unit 18 | Our Dynamic Earth

**DESIGN CHALLENGE:**
How can we design structures to reduce the impact of earthquakes?

Visit the Unit 18 Curriculum Page for more resources: http://schoolpartnership.wustl.edu/instructional-materials/mysci-unit-18/.
Click the lesson numbers below to navigate through the curriculum.

**section 1** How can we use maps to learn about our dynamic Earth?

**Total Time: 8 days**

**LESSON 1** How do we analyze and interpret maps? What can maps tell us about Earth’s features?

**LESSON 2** How do maps show patterns of Earth’s landforms changing over time?

**LESSON 3** What are some common landforms and how are they formed?

**section 2** What are some slow changes that affect Earth’s landforms?

**Total Time: 10 days**

**LESSON 4** What is geologic time?

**LESSON 5** What do fossils tell us about the distant past?

**LESSON 6** What are weathering and erosion?

**LESSON 7** How and why does soil vary from place to place?

**section 3** What are some fast changes that affect Earth’s landforms?

**Total Time: 6 days**

**LESSON 8** What causes earthquakes and volcanoes?

**LESSON 9** How can we design structures to reduce the impact of earthquakes?

**STORYLINE**

Throughout this unit, students will build an appreciation of the earth as a dynamic system that is constantly being shaped by wind, water, ice, vegetation, plate movements, earthquakes, volcanoes, and humans. Some of these changes are slow and some are fast. This unit prominently features the Crosscutting Concepts of Patterns, Cause and Effect, and Stability and Change. First, students will have several opportunities to explore various types of maps to improve their map-reading skills and find evidence of different landforms.

Once students have a strong foundation in map reading, they will apply these skills to explore both slow and fast changes to Earth’s surface. This will start with an exploration of geologic time and the fossil record. Then, students will use hands-on activities and demonstrations to build understanding of weathering, erosion, and soil.

Fast changes to the Earth’s surface include natural disasters like volcanoes and earthquakes. Students will first look for patterns in where these disasters occur. Then, they will design, test, and refine a structure to resist the destructive power of earthquakes.