

PHENOMENA, DRIVING QUESTIONS AND STORYLINE

EARTH'S RESOURCES

This unit explores concepts and issues to the question: How are natural resources formed and used?

| Phenomenon | Driving Questions | Guiding Questions | Activities | PE | Storyline/Flow (How an activity leads to subsequent activities) |
|---|---|---|---------------|----------------------|--|
| The availability and use of natural resources (eg., copper, oil, and freshwater) varies around the world. | What are natural resources? Where and how are natural resources found and used? | What are natural resources? (Activity 1) | 1, 2, 3, 4, 5 | MS-ESS3-1, MS-ESS3-4 | Nonrenewable resources are found on Earth, and people value some of these resources more than others. |
| | | How has an increase in human population affected resource consumption? (Activity 2) | | | |
| | | What makes one mineral resource different from another? (Activity 3) | | | The characteristics and properties of natural resources vary. |
| | | How are natural resources used globally? (Activity 4) | | | Per capita consumption varies country by country. |
| | | How are underground deposits of natural resources located? (Activity 5) | | | Energy resources are distributed unevenly in particular geographic areas. |
| | | How are resources extracted from the earth? (Activity 6) | | | Natural resources must be extracted from the earth, and such extractions have environmental impacts. |
| Geologists use what they know about geological features to predict where they can find resources. | What role have geoscience processes played in the formation of natural resources? | How are natural resources formed? (Activity 7) | 6, 7, 8 | MS-ESS3-1 | Resources such as petroleum and metal ores form by different processes (including volcanic activity and weathering) over long periods of time. |
| | | How does groundwater form, and how is it extracted? (Activity 8) | | | Groundwater is distributed unevenly on Earth's surface and affects the formation of natural resources. |

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| Natural resources have formed over Earth's 4.6-billion-year history. | How do you use evidence to determine when major events in Earth's history have occurred? | Which rock layers are the oldest? (Activity 9) | 9, 10, 11, 12 | MS-ESS1-4 | Deposition and compaction are processes that help form sedimentary rock. |
| | | How long have organisms been living on Earth? (Activity 11) | | | Fossils provide evidence of organisms that lived in the past. |
| | | How are rock strata and fossils used to sequence Earth's history? (Activity 12) | | | Rock strata and fossils are used to establish the sequence of events in Earth's history. |
| Human decisions will affect the future availability of natural resources. | What decisions do people make that affect natural resource consumption? | How is a growing human population and increasing resource consumption impacting the earth? (Activity 13) | 13, 14 | MS-ESS3-1, MS-ESS3-4 | The growing human population is increasingly using Earth's natural resources. |
| | | What action should be taken to meet the needs of a growing population? (Activity 14) | | | Natural resources are distributed unevenly, and people make decisions about their extraction. |