

## Hands On Earth Science Activity No. 1 Crystal Garden

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 1	Physical Science	Motion and Materials	Properties of objects and materials change.
Grade 4	Physical Science	Electricity, Heat & Matter	The total amount of matter is conserved when it undergoes a change.
Grades 9–12	Physical Science	Study of Matter	<i>Multiple connections</i>
Grades 9–12	Physical Geology	Minerals	Crystallinity
Grades 9–12	Chemistry	Interactions of Matter	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 2 Egg Tectonics

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 8	Earth and Space Science	Physical Earth	Earth's crust consists of major and minor tectonic plates that move relative to each other.
Grade 8	Earth and Space Science	Physical Earth	A combination of constructive and destructive geologic processes formed Earth's surface.
Grades 9–12	Physical Geology	Plate Tectonics	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 3 Everyone Loves Fossils

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 2	Life Science	Interactions within Habitats	Some kinds of individuals that once lived on Earth have completely disappeared, although they were something like others that are alive today.
Grade 4	Life Science	Earth's Living History	Fossils can be compared to one another and to present day organisms according to their similarities and differences.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
Grades 9–12	Physical Geology	Igneous, Metamorphic and Sedimentary Rocks	<i>Multiple connections</i>
Grades 9–12	Physical Geology	Earth's History	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 4 Ohio Geology Word Search

This activity can be used to help review the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

- **Grade 4:** Earth and Space Science, Life Science
- **Grade 6:** Earth and Space Science
- **Grade 8:** Earth and Space Science
- **Grades 9–12:** Physical Geology

## Hands On Earth Science Activity No. 5 Ohio Geology Crossword Puzzle

This activity can be used to help review the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

- **Grades 9–12:** Physical Geology

## Hands On Earth Science Activity No. 6 Rocks and Minerals are Everywhere

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 3	Earth and Space Science	Earth's Resources	Earth's nonliving resources have specific properties.
Grade 3	Earth and Space Science	Earth's Resources	Earth's resources can be used for energy.
Grade 3	Earth and Space Science	Earth's Resources	Some of Earth's resources are limited.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Rocks, minerals and soils have common and practical uses.
Grades 9–12	Physical Geology	Earth's Resources	Energy Resources

## Hands On Earth Science Activity No. 7 Modeling Ohio's Geology

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 4	Earth and Space Science	Earth's Surface	Earth's surface has specific characteristics and landforms that can be identified.
Grade 4	Earth and Space Science	Earth's Surface	The surface of Earth changes due to weathering.
Grade 4	Earth and Space Science	Earth's Surface	The surface of Earth changes due to erosion and deposition.
Grade 8	Earth and Space Science	Physical Earth	A combination of constructive and destructive geologic processes formed Earth's surface.
Grades 9–12	Physical Geology	Earth's History	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 8 Understanding Geologic Time

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 8	Earth and Space Science	Physical Earth	Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.
Grades 9–12	Physical Geology	Earth's History	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 9 How to Determine True North

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 5	Earth and Space Science	Cycles and Patterns in the Solar System	Most of the cycles and patterns of motion between the Earth and sun are predictable.
Grade 7	Earth and Space Science	Cycles and Patterns of Earth and the Moon	The relative patterns of motion and positions of the Earth, moon and sun cause solar and lunar eclipses, tides and phases of the moon.

## Hands On Earth Science Activity No. 10 Two Scale Models of the Earth-Moon System

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 5	Earth and Space Science	Cycles and Patterns in the Solar System	Most of the cycles and patterns of motion between the Earth and sun are predictable.
Grade 7	Earth and Space Science	Cycles and Patterns of Earth and the Moon	The relative patterns of motion and positions of the Earth, moon and sun cause solar and lunar eclipses, tides and phases of the moon.

## Hands On Earth Science Activity No. 11 Is it a Rock or a Mineral?

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Pre-K	Earth and Space Science	Observations of Nature	Rocks and soil have properties that can help identify them.
Kindergarten	Physical Science	Properties of Everyday Objects and Materials	Objects and materials can be sorted and described by their properties.
Grade 3	Earth and Space Science	Earth's Resources	Earth's nonliving resources have specific properties.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Minerals have specific, quantifiable properties.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Igneous, metamorphic and sedimentary rocks form in different ways.

## Hands On Earth Science Activity No. 12 Do Rocks Last Forever?

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 4	Earth and Space Science	Earth's Surface	Earth's surface has specific characteristics and landforms that can be identified.
Grade 4	Earth and Space Science	Earth's Surface	The surface of Earth changes due to weathering.
Grade 4	Earth and Space Science	Earth's Surface	The surface of Earth changes due to erosion and deposition.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Soil is unconsolidated material that contains nutrient matter and weathered rock.
Grade 8	Earth and Space Science	Physical Earth	A combination of constructive and destructive geologic processes formed Earth's surface.
Grades 9–12	Chemistry	Interactions of Matter	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 13 Playing Robinson's Wall Game

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Kindergarten	Physical Science	Properties of Everyday Objects and Materials	Objects and materials can be sorted and described by their properties.
Grade 3	Earth and Space Science	Earth's Resources	Earth's nonliving resources have specific properties.
Grade 4	Earth and Space Science	Earth's Surface	The surface of Earth changes due to weathering.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
Grades 9–12	Physical Geology	Igneous, Metamorphic and Sedimentary Rocks	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 14 Just How Big is the Sun?

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 5	Earth and Space Science	Cycles and Patterns in the Solar System	The sun is one of many stars that exist in the universe.
Grade 5	Physical Science	Light, Sound and Motion	Light and sound are forms of energy that behave in predictable ways.
Grade 7	Earth and Space Science	Cycles and Patterns of Earth and the Moon	The relative patterns of motion and positions of the Earth, moon and sun cause solar and lunar eclipses, tides and phases of the moon.
Grades 9–12	Physical Science	Study of Matter	Energy and Waves
Grades 9–12	Physical Science	The Universe	Stars
Grades 9–12	Physics	Waves	Light Phenomena

## Hands On Earth Science Activity No. 15 Locating the Position of the Setting Sun

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Pre-K	Earth and Space Science	Observations of Nature	The sun and the moon are visible at different times of the day or night.
Kindergarten	Earth and Space Science	Daily and Seasonal Changes	The moon, sun and stars are visible at different times of the day or night.
Grade 5	Earth and Space Science	Cycles and Patterns in the Solar System	Most of the cycles and patterns of motion between the Earth and sun are predictable.
Grade 7	Earth and Space Science	Cycles and Patterns of Earth and the Moon	The relative patterns of motion and positions of the Earth, moon and sun cause solar and lunar eclipses, tides and phases of the moon.
Grades 9–12	Physical Science	Forces and Motion	Motion

## Hands On Earth Science Activity No. 16 Rock Sculpture

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 1	Physical Science	Motion and Materials	Properties of objects and materials can change.
Grade 3	Physical Science	Matter and Forms of Energy	Heat, electricity, light and sound are forms of energy.
Grade 4	Physical Science	Electricity, Heat and Matter	Energy can be transformed from one form to another or can be transferred from one location to another.
Grade 6	Physical Science	Matter and Motion	Changes of state are explained by a model of matter composed of atoms and/or molecules that are in motion.
Grade 7	Physical Science	Conservation of Mass and Energy	Energy can be transferred through a variety of ways.
Grades 9–12	Physical Science	Study of Matter	<i>Multiple connections</i>
Grades 9–12	Physical Science	Energy and Waves	<i>Multiple connections</i>
Grades 9–12	Chemistry	Interactions of Matter	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 17 Shake, Rattle, and Liquefy

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 3	Earth and Space Science	Earth's Resources	Earth's nonliving resources have specific properties.
Grade 4	Earth and Space Science	Earth's Surface	Earth's surface has specific characteristics and landforms that can be identified.
Grade 4	Earth and Space Science	Earth's Surface	The surface of Earth changes due to weathering.
Grade 4	Earth and Space Science	Earth's Surface	The surface of Earth changes due to erosion and deposition.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Soil is unconsolidated material that contains nutrient matter and weathered rock.
Grade 7	Physical Science	Conservation of Mass and Energy	Energy can be transferred through a variety of ways.
Grade 8	Earth and Space Science	Physical Earth	A combination of constructive and destructive geologic processes formed Earth's surface.
Grades 9–12	Physical Geology	Plate Tectonics	<i>Multiple connections</i>
Grades 9–12	Environmental Science	Earth Systems	<i>Multiple connections</i>

## Hands On Earth Science Activity No. 18 Rocks Around the Park

This activity can be used to help teach the following Topics and Content Statements for the 2010 Ohio Revised Science Standards and Model Curriculum:

Grade	Content Standard	Topic	Content Statement/Subtopic
Kindergarten	Physical Geology	Properties of Everyday Objects and Materials	Objects and materials can be sorted and described by their properties.
Grade 3	Earth and Space Science	Earth's Resources	Earth's nonliving resources have specific properties.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Minerals have specific, quantifiable properties.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
Grade 6	Earth and Space Science	Rocks, Minerals and Soil	Rocks, minerals and soils have common and practical uses.
Grades 9–12	Environmental Science	Earth's Resources	<i>Multiple connections</i>
Grades 9–12	Physical Geology	Minerals	<i>Multiple connections</i>
Grades 9–12	Physical Geology	Igneous, Metamorphic and Sedimentary Rocks	<i>Multiple connections</i>
Grades 9–12	Physical Geology	Earth's Resources	<i>Multiple connections</i>