KG Grade Earth Science
Discovering our Outdoors World

Teacher Background Information – for teacher content knowledge only, not student learning goals

Teaching geological facts about how the face of the earth changes serves little purpose in these early years. Students should start becoming familiar with all aspects of their immediate surroundings, including what things change and what seems to cause change.

Perhaps "changing things" can be a category in a class portfolio of things students observe and read about. At some point, students can start thinking up and trying out safe and helpful ways to change parts of their environment.

Instructional Implications

At this stage children have many questions and ideas about the world outside their door. They should be provided with guidance to make observations on a daily basis, record as data, and discuss their ideas based on the evidence from the data. Encouraging young children to think like scientists is key to their development.

Go outside the classroom
Student Science Notebooks
Variety of student or teacher generated collections
Classroom observation charts
Sort and compare objects found in nature (leaves, rocks, etc…)
Observe a specific object (tree) throughout the school year.
Observe changes outside during the seasons.

Big Idea
Students discover and wonder about the natural world outside through their observations.

Essential Question
What do you notice about the world outside?

AAAS Benchmarks/National and Science Education Standards

The Universe & Nature of Mathematics

- Shapes such as circles, squares, and triangles can be used to describe many things that can be seen in nature. 9C/1
- Numbers can be used to count things, place them in order, measure them, or name them. 9A/P1
- Magnifiers help people see things they could not see without them

Scale

- Things in nature have very different sizes. 11D/P1

Processes that Shape the Earth

- Change is something that happens to many things. 4C/2
- Animals and plants sometimes cause changes in their surroundings

Weather and Climate

- The sun warms the land, air, and water. 4E/P1

Local Connections

This unit should be taught in the context of the schoolyard, on neighborhood walks and from student's observations away from school time.

Forest Service: Forest Explorers

Science Process Skills
Observation
Classification
Simple Investigation
Prediction
Data Collection
Communication

Materials/Resources

Student Science Notebooks
JSD Created Kit: Discover

Student Difficulties and Misconceptions

Young children can notice that rocks are made of several substances but they do not need to understand the source.

Children need to revisit the same sites to understand change – what is directly observable.

Related Scientist or Career Path

Geologist
Hydrologist
Paleontologist
Field Biologist
Glaciologist
Volcano Scientist – Tom Simkin, Smithsonian Institution, Wash. DC

Assessments

Assessment– ongoing formative, appropriate for the primary classroom

Science Notebooks

Anecdotal notes – continuum

Photo documentation - of student work