

Natural and Human-Made Changes

Strand	Earth Patterns, Cycles, and Changes
Topic	Investigating changes in things over time
Primary SOL	K.10 The student will investigate and understand that change occurs over time and rates may be fast or slow. Key concepts include a) natural and human-made things may change over time.
Related SOL	K.10 The student will investigate and understand that change occurs over time and rates may be fast or slow. Key concepts include b) changes can be observed and measured. K.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which a) basic characteristics or properties of objects are identified by direct observation.

Background Information

Change occurs over time. Change can be fast or slow depending upon the object and the environmental conditions. The growth of a bean plant is slow compared to the rapid destruction of a forest caused by a fire. The time for a forest to recover can take 20 years or longer, yet the growth of the bean plant is fast compared to the forest’s recovery.

Materials

- Picture book or video about a type of natural change (seasons, plant/animal growth, weather)
- Picture book or video about a type of human-made change (process of constructing a building, cutting down and planting trees)
- Pictures of natural and human-made changes (e.g., natural changes: seasonal changes, weather changes, animal and plant growth and human-made changes: demolition of buildings, construction of buildings, cutting down trees, planting trees, building highways)

Vocabulary

change, grow, slow, fast, natural, human-made

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

Introduction

1. Discuss the word *change*. Ask, “What are some things that do not stay the same? Is the weather the same each day? How do people make things change? Do plants and animals change? Do the seasons change? Do people stay the same or do they change?”

Procedure

1. Read a book or show a video about a natural change, and discuss how these types of changes happen without people doing anything.

2. Read a book or show a video about a type of human-made change, and discuss how these types of changes only occur when people do something to cause the changes, such as cutting down a tree, demolishing a building, constructing a new building.
3. As a class, use a T-chart to sort pictures of natural and human-made changes. As you display each picture, discuss what change students see in the picture, whether it is natural or human-made, and whether it is a fast or a slow change.

Assessment

- Have students draw and explain an example of a natural change and a human-made change.

Extensions and Connections (for all students)

- Take students on a walk outside the school to find things that change because of nature and things that change because of people doing something. Draw pictures to record changes.
- Explore the processes of making man-made products from natural sources, such as paper and bread. Explore how trees are changed into paper.
- Explore weathering and erosion. Help students learn about places such as the Grand Canyon and how they were formed by nature.

Strategies for Differentiation

- Take pictures of construction at the beginning and at the end of the project. Match before-pictures to after-pictures.
- Take pictures as students plant flower seeds or trees and pictures after they have grown. Match before-pictures to after-pictures.
- Take pictures of construction throughout the process, or of plant growth, and have students sequence pictures.
- Have students keep a journal documenting weather or seasonal changes. They may either draw or write to record the changes.