

NOT-SO-SOLID GROUND



STUDENT WORKBOOK

WONDER



CASTLE ATTACK

When a sand castle is built on a beach, does it last forever? The sand castle changes over time as things happen to it. You will use sand castles in your first step toward learning about changes that happen on Earth.

LEARNING GOALS:



I can use evidence to show that natural events on Earth can happen slowly or quickly.

I

BUILD UP AND BLOW AWAY

Building Castles

WHAT YOU NEED:

- 4 pie plates
- Plastic graduated cup
- Sand

OTHER ITEMS:

- Water



SAFETY!

WARNING! Contains chemicals that may be harmful if misused.

Do not eat or drink. Wash your hands after use.

WARNING! Inhalation Hazard - Do not inhale or eat any of the kit contents.

WHAT TO DO:

STEP 1 Place the four pie plates next to each other in a line on your work surface.

Angry Air

You will do something to each of the four sand castles and notice the changes that happen. Each situation will be a model of something that happens in nature. A **model** is a smaller version of something that happens that is used to help people understand the thing that happens.

For the first castle, you will be blowing air on it to model wind. **Wind** is moving air.

WHAT YOU NEED:

- Straw

OTHER ITEMS:

- First of the four sand castles you made

WHAT TO DO:

STEP 1 Move the first sand castle a few feet away from the others so it is by itself.

STEP 2 Draw a picture of the sand castle in the “Before” box on the next page.



STEP 3

Use the straw to blow air onto the surface of the sand castle for about 2 minutes, taking breaks to breathe as needed. **Do NOT breathe in through the straw!**

STEP 4 Draw a picture of the sand castle in the “After” box on the next page.

WORSE FOR THE WEAR

Some of the natural events you learned about in Activity 2 were ways in which wind and water change Earth's features. Next, learn more about how this happens and how humans try to stop it from happening.

LEARNING GOALS:

- ✓ I can evaluate solutions for preventing damage to land from wind and water.
- ✓ I can use a model to represent shapes and types of landforms and bodies of water.

7 WEATHERING AND EROSION

Breaking Up and Moving Away

Earth's surface has many natural and human-made structures. A **structure** is an object that is built from or made of smaller parts.

Human-made structures are usually built to do a certain job.

- A highway is a structure humans build to allow cars to get from one place to another.
- A house is a structure humans build to give people shelter.
- A statue is a structure humans build to honor someone or something or to let people look at art.

Natural structures are not built to do jobs. They are not built at all – they exist because of natural events. But sometimes, humans use natural structures to do jobs anyway. They might build a town on a hillside, fish in a lake, or use a river for traveling by boat. So, humans might want to destroy, keep, or change natural structures for many purposes.

The natural bridge at Natural Bridge State Park in Powell County, Kentucky is used by humans for sightseeing and walking.





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