GO WITH THE FLOW

TEACHER GUIDE

WONDER

PLANNING

Here's a suggested schedule for this kit! The activities should be completed in order, but you can choose when the lessons take place over time.

ACTIVITY INFORMATION	SECTION (S)	TIME REQUIRED	DAY/ LESSON
ACTIVITY 1: STOPPING THE FLOW Discover the impacts dams have on the environment. **Total time: 30 min**	☐ Before and After Dams	30 minutes	Day 1
ACTIVITY 2: DAM-BUILDING ANIMALS Meet the builders of the animal world. **Total time: 1 h 45 min**	☐ Busy Beavers	30 minutes	Day 2
	☐ That Thing Beavers Do	45 minutes	Day 3
	☐ Animal Builders	30 minutes	Day 4
ACTIVITY 3: JUST LIKE BEAVERS Build models of the dams human **Total time: 1 h**	☐		

activity 1

STOPPING THE FLOW

Has your student ever tried to keep water from flowing? Maybe they were at the beach and used a pile of sand to stop a small wave. Maybe they used their hand to keep water from coming out of a hose. In this activity, your student will begin their understanding of dams and their relationship with flowing water.

BEFORE AND AFTER DAMS

1

Forming Figures

- In this subsection, your student will make three beaver models and three human models using modeling dough. They will be using them to answer questions in the next subsection.
- The vocabulary term model will be introduced.
- Your student will be most successful if they break each container of modeling dough into three parts before beginning to make their figures.
- If your student is struggling to make three figures, they will only need one beaver and two people to correctly answer the question in the next subsection.

SAFETY: **WARNING! DO NOT EAT OR DRINK anything in this kit.**

Before and After

- Your student should notice that the water pooled or filled out the area above the dam.
- Some of the land will be brown in the "After" photos. This is because the land no longer gets enough water to support plant life.
- The changes in Set 1 and Set 3 are caused by people, while the changes in Set 2 are caused by beavers.
- Although your student will no longer be using their beaver and human models in this kit, they may want to save them to assist in the size and scope of dam models they build in future activities.

activity 2

DAM-BUILDING ANIMALS

Beavers, like the ones your student made in the last activity, can stop water from flowing by building wood structures called dams. In this activity, they will learn more about beavers and other animals that can change the place they live in.

LEARNING GOALS:

I can use evidence to argue that organisms change the environment.
I can use a model to show relationships between organisms and the environment.

BUSY BEAVERS

2

CONTENT

- Before building a beaver dam, your student will learn the vocabulary term: dam.

- There are two types of pollution – point source and non-point source pollution. Point source pollution is pollution that comes from a specific, identifiable source. Non-point source pollution is pollution that comes from a wide area and doesn't have a direct source.

- Students should recognize the food coloring stained the coffee filter, showing that pollution made its way to the ocean. If your student is struggling to see the food coloring stain, repeat the experiment with more drops of food coloring in the cup.
- In the next section, your student will be answering questions about their watershed and what they learned.

SHOW WHAT YOU KNOW

Question 1: Which type of dam did you use in your watershed? Why did you use that type of dam?
Answer: Answers will vary.
How to Help: *Your student may say they used a buttress dam because it provides extra support to hold back water. They may say they used an arch dam because it was built along a cavern. No matter your student's response, their reasoning should match the type of dam(s) they chose.*

Question 2: How did the pollution travel through your watershed to the ocean?
Answer: Students should have found that the pollution (the food coloring) mixed throughout the water and soil, and traveled all the way through to the ocean**.**
How to Help:
• Help your student recognize how the pollution spreads and impacts the entire watershed, including the ocean.
• You can repeat the water flow through the watershed several times for your student to recognize this.

Question 3: How could you use your watershed to reduce how much pollution gets to the ocean?
Answer: Answers will vary.
How to Help: *Students may suggest using dams to stop pollution from flowing through the watershed to the ocean. They may also suggest opportunities to remove pollution before it gets to the watershed or source of water.*

WONDER

SCIENCE UNLOCKED

Contact us at: www.homesciencetools.com/customer-service/

A Product of Homesciencetools.com

Kit	SU-GOFLOW
Instructions	IN-GOFLOWT
Revision Date	12/2021