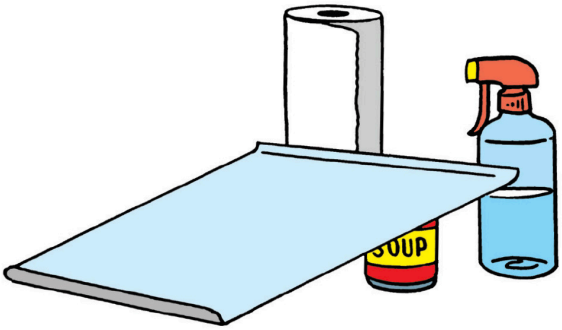
TRY THIS Raindrop Races (page 19)



MATERIALS:

- Cookie sheet/s
- Soup (or other) can
- Paper towels
- Tape
- Water-filled spray bottle
- *Raindrop Races - Student Data Sheet* (below)

SUGGESTED PROCEDURES:

This activity involves students in hands-on trials testing how water moves over different surfaces. It demonstrates how different surfaces shed water faster or slower – and therefore have different runoff coefficients.

Before conducting this experiment, be sure students have read *When Water Comes to Town – What Happens?* on pages 16 and 17 of their activity books. Review the reading with students to be sure they understand the differences between pervious and impervious surfaces.

Follow the activity directions for set up. (*NOTE: Be sure that the chosen surfaces will not be damaged by water. It may be best to set up this experiment outside where spills will not be a problem.)*

The race course surfaces will need to be propped up on a soup (or other) can to create an incline of around 45° and should be long enough to allow a drop to run at least 12'' down. Each course should have the same incline.

EXTENSIONS:

Retrace the flow of stormwater backwards, from emptying into an ocean or dry river bed, through residential use, the city treatment plant, upstream along the Salt River, ascending up the watershed mountain/s, and through the water cycle.

Raindrop Races

Student Data Sheet

Name _____ **Class** _____

Before conducting this activity, read pages 16 and 17 of your activity book where *Raindrop Races* is described. Make your predictions, then start your races! When you are done, answer the questions at the end of this sheet.

1. **Describe the two types of surfaces being tested.**

2. **What material represents the pervious side?**

3. **What material represents the impervious side?**

4. **Write your prediction as to which surface will allow the water to flow faster. Why do you think this?**

5. **Race Results! Describe what happened. Did this outcome differ from your prediction? If so, how?**

6. **What happened to the water that was dropped onto the surface that did not shed water quickly? What caused this action?**

7. **Do pervious or impervious surfaces make better race courses? Explain.**

8. **Do surfaces that make better race courses have a higher or lower runoff coefficient? Explain.**

Raindrop Races Extension – Twinkie Trials (page 19)

MATERIALS:

- Eye droppers
- *Twinkie Trials – Student Data Sheet* (below)
- Kool-Aid or other colorful kid's beverage
- Snack foods such as Twinkies, marshmallows, fruit roll-ups, real fruit (with and without the peel), potato chips, crackers, etc.

SUGGESTED PROCEDURES:

This activity is a fun extension of *Raindrop Races*. This time, water is mixed with a colorful kid's beverage (for visibility) and, using eye droppers, is dropped onto different snack foods. The experiment illustrates the concepts of pervious and impervious surfaces, and is presented as a fun way for students to test their predictions and eat the results! A data sheet is provided for students to record their predictions and observations. *(NOTE: Be mindful of any food allergies amongst the class, and ask parents' permissions before allowing students to eat their "results".)*

Twinkie Trials

Student Data Sheet

Name _____ **Class** _____

Twinkie Trials is described on page 19 of your activity book. Here, you will drop a colored beverage on different snack food surfaces to see if it soaks in or splashes. Make and test your predictions as to what will happen on different surfaces. Complete the table below as you conduct these experiments, then answer the questions at the bottom of this page. Ask your teacher if you can eat the results!

Type of snack food surface:	Prediction: Will your drop soak or splash?	What happened when you dropped water on this snack food surface?	Would you describe this snack food surface as pervious or impervious?

1. **Describe the snack food surfaces on which drops tend to splash.**

2. **Describe the snack food surfaces which tend to soak up liquid.**

3. **What happened when you dropped your beverage on the peel of the fruit?**

4. **What happened when you dropped your beverage on the fruit without the peel?**

5. **What does this experiment tell you about the role of peel on a fruit?**

6. **What other foods might you test?**