

Shady Race

What Is this Activity?

How do buildings and trees affect the amount of shade in a city or town—and the plants living in that shade? In this outdoor version of the “Floor Is Lava” game, you and your child race together all the way around a city block—entirely in the shade!

Big Science Idea: Buildings and other city structures affect the amount of light and shade in an area. This affects the plants that can live there.

GO OUTSIDE

What You’ll Need:

A city block (four streets that create a square) with buildings, trees, and other things that create shade; a sunny or mostly sunny day (snow or puddles on the ground are okay)

- 1. Hold your first Shady Race in the morning,** when the sun is low and shadows are long. Have your child try to run or walk around the block, stepping only in shade. Then hold another race around high noon, when there is less shade.
- 2. Make-believe for fun:** If a ray of sunlight strikes you, you and your child will be roasted to ashes instantly! **Ask:** *How can we move around the city to avoid the sun? What time of day is safest for us to go out so we don’t get too much sun? Where does sunlight never strike?* The races will help you explore the answers.
- 3. Start your race on the shadiest of the block’s four streets.**
- 4. Together, jog, run, hop, jump, and side-step through the shade.** Can you avoid **all** sunlight as you travel the block together? (Without trespassing, of course.)
If you have a younger and an older child: Encourage them to work as a team, helping each other avoid patches of sunlight.
- 5. What if you reach a sunny spot that’s impossible to cross?** That’s likely to happen in places where the sunlight isn’t being blocked by tall buildings or trees. If so, sorry, the race is over! You are “roasted”! (Finding shade is part of the challenge. Try again on a different block, if you like.) **Compare** the morning and noon races—the second one will be much more challenging since shadows are smaller.



Exploring your world,
one mission at a time
pbskids.org/plumlanding

Topic

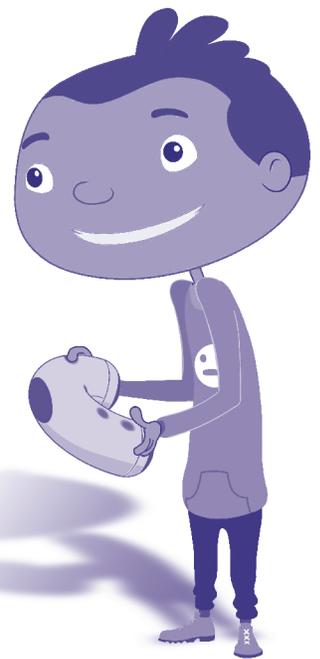
human impact on the environment, habitats, adaptation

Activity Type

outdoors (sunny or mostly sunny day, all temperatures; snow or puddles are okay)

Activity Time

varies by the size of your block; minimum of 10–15 minutes



6. After the two races, retrace your steps. This time, look closer at areas often in shade. What buildings, trees, or other objects create that shade? What plants (if any) live there? How are they different from plants in very sunny spots?

Discuss: *Should there be more or less shade on your block—and why?* Your child could choose either answer and come up with a good reason. (Plants and animals—including people!—need both sunlight and shade. Sunlight helps plants make food; shade keeps the city cooler.)

For older or more mature children: Encourage them to map out, sketch, or describe a new design for the block you explored. Do they want more shade or more sunlight?

EXPLORE SOME MORE

Building for Air and Light

Take a closer look at the design of buildings in your city or town. Tall rectangular buildings that are very close to the sidewalk and to each other make the street very dark. But architects are now designing buildings to let in more air and light. Look for:

- a “wedding cake” design, with stories that get smaller and smaller from the ground floor to the top
- a lobby or ground floor that’s open to the outside or has glass walls
- a twisted or uneven shape rather than a block, which allows patches of light to come through

Cities vs. Plants Song

Watch this short song video in which tall buildings replace forests and create shade that kills off plants. But the plants find new places to grow—in sidewalk cracks, a patch of bare soil, and even on walls and fences. Which is “winning” in your neighborhood—the plants or the city?

Outdoor Family Fun with Plum App

This app gets families outdoors exploring the world. Every day, the app offers five outdoor missions to get everyone thinking and talking about nature and the science that’s all around us.

VISIT pbskids.org/plumlanding to find apps, videos, games and more activities.



CONNECT WITH US



PLUM LANDING is produced
by WGBH Boston

MAJOR FUNDING



Major Funding is provided by the National Science Foundation and The Kendeda Fund: furthering the values that contribute to a healthy planet

This PLUM LANDING material is based upon work supported by the National Science Foundation under Grant No. DRL-1516466. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

TM/© 2017 WGBH Educational Foundation.