mystery science

Lesson: “How could you walk barefoot across hot pavement without burning your feet?”

VIDEO TRANSCRIPT

INTRODUCTION VIDEO

Hi, it's Doug! Today, you're going to read a story, but this isn't just a story. It's a story about asking questions and learning how to figure out the answers. This story is about a girl named Keya, who has a problem. It's a hot summer day, and she's sitting by the pool when she hears the ice cream truck coming. Now, that doesn't sound like a problem, until you find out there's a special reason that she can't get to the ice cream truck. You'll read about Keya’s problem and help her figure out how to solve it. As you read, you'll also get up and move, look for clues, and talk about your ideas. Let's turn the page and get started.

FOLLOW READ-ALONG BOOK ON WEBSITE

ACTIVITY INTRODUCTION VIDEO

In today's activity, you're going to help a farmer figure out how to keep her cows happy on hot summer days. This is Farmer Josie. She has a big field for her cows, but the field has no trees and no shade for the cows. Farmer Josie's cows are too hot and that makes them very unhappy. To solve this problem, Farmer Josie needs something that will make shade. She thought about planting trees, but it would take too long for the trees to grow. The cows need shade right now.

Josie needs something that blocks the sunlight and makes shade. She wants to build a Shade Maker. But what should it look like? That's where you come in. You're going to think about how to build a good Shade Maker. Then you'll give Farmer Josie some ideas on how to keep her cows cool. We'll help you figure it out, step by step.

ACTIVITY STEP 1

We don't have enough time to grow trees in the pasture, but looking at trees can help us figure out what makes them good at making shade. Take a look at these trees and their shadows. Discuss.

ACTIVITY STEP 2

Here's what we noticed. The skinny tree makes a skinny shadow. That's not good. Farmer Josie's cows need a wide shadow so more than one cow can be in the shade. So we think Farmer Josie's field needs a wide Shade Maker.

ACTIVITY STEP 3

Let's see what else we can figure out by looking at trees. Take a look at these two trees. Cows need to be able to get into the shade that's under the tree. Discuss.

ACTIVITY STEP 4

Here's what we noticed. Both trees make a big patch of shade, but Tree Number 1 is so short. That's not good. It would be much easier for cows to gather under Tree Number 2. So we think a Shade Maker should be tall.

ACTIVITY STEP 5

There's something else that people use to block the sun and make shade: an umbrella. Let's see what we can figure out by looking at umbrellas. Take a look at these two umbrellas. Discuss.

ACTIVITY STEP 6

Here's what we think. A tiny umbrella makes a tiny shadow, too small for a cow. To help a couple of cows stay cool, you need a big, wide Shade Maker, more like the big umbrella.

ACTIVITY STEP 7

While we've been thinking about trees, umbrellas, and other ways to make shade, Farmer Josie has been busy. She decided to try building a Shade Maker for her cows. She found an old blanket in the barn. She used a couple of poles to make the blanket into a tent, like this. Discuss.

ACTIVITY STEP 8

We thought that tent was too small for the cows. So Farmer Josie made some changes. She used taller poles and made a tent that looked like this. Discuss.

ACTIVITY STEP 9

Farmer Josie's new tent seemed too skinny to us. We thought there might be a way to do better. Discuss.

ACTIVITY STEP 10

Here's one idea we came up with. We thought she could use the blankets to make a roof and use the poles to hold it up. But that's just our idea. There are often many good ways to solve a problem.

ACTIVITY STEP 11

Here are some of the ideas that Josie thought of. But maybe you have other ideas you'd like Josie to try. If there's time, draw a picture of your idea. Then, spend some time trying to figure out how to make it even better. Have fun, and stay curious.