

DARK AND LIGHT SOCKS



Put dark and light socks out in bright sunlight. Use Thermo thermometer to see which socks become warmer!

Show the picture on the opposite page as you review the activity instructions.

How warm do your socks get?

Sylvie the caterpillar's socks soaked up the sunlight. When objects are left out in the sunlight, they become warmer. Different colors, such as dark and light colors warm differently as they soak up sunlight.

Objective: The objective of this activity is to compare how sunlight warms a dark colored object compared to a light colored object.

Prepare: If you don't have socks for your students today, you could ask your students to bring clean socks from home tomorrow. You could also have your students make black and white socks for Thermo thermometer using construction paper. You could also simply set a dark and light piece of paper over the thermometers to get the same effect.

Explain

We are going to warm some socks up using sunlight. You will need to work with a partner to warm up some light colored socks and some dark colored socks.

Explore

Activity Plan: Put Socks in Sunlight

1. Get a partner.
2. Gather your materials. You will need a dark sock, a light sock and two thermometers.
3. Go out to the playground and lay your socks out in the sunlight.
4. Put one thermometer in a dark sock and another thermometer in a light sock. Notice where the red line is at.
5. Over a ten minute period, watch the red line on your thermometers to see which warms up the most. The higher the red line grows, the warmer it has become.

Note: There is no need to accurately read the thermometers. It will be sufficient for your students to simply compare how high the red lines reach to tell which sock is warmer in the sunlight. They can also feel the difference in temperature with their hands.

Take your students outside to explore how socks of different colors warm up in sunlight.

Help your students remember that they can make careful observations like a scientist by using a thermometer. Remind them that they can use their fingers as a thermometer also. Their fingers can feel warm and cold surfaces. Ask questions such as these to help your students explore scientifically:

Ask: Did you look to see the position of the red line before you set the thermometer in the sunlight?

Ask: How long does it take for the socks to feel warm?

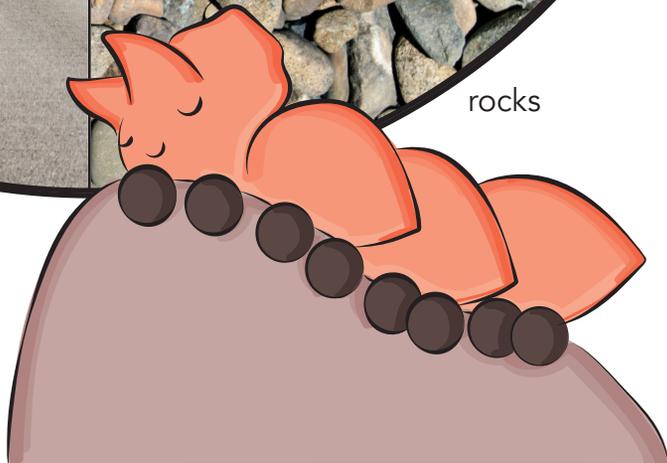
Ask: Can you see the position of the red line change as the socks warm up in sunlight?

Describing temperatures should be limited to relative measures such as warmer/cooler, or descriptions like too hot to touch, very hot, kind of hot, warm, comfortable, cool or cold. It is not necessary to read the thermometer's numbers. Just focus on noticing if the thermometer's line has risen higher

In the sunlight, is it warm, cool or just right?



Sylvie the caterpillar has sensitive feet. How would each of these materials feel for Sylvie the caterpillar to walk over on a bright, sunny day?



Your finger is a thermometer

You can feel when something is warm, cool or just right. Your skin is like a thermometer! If you touch something with your finger you can feel its temperature!

Explain

I am sure that you have touched things that feel warm, cool or just right. When I point to one of the pictures I will call on a volunteer who is sitting quietly to tell me if what I am pointing to feels warm, cool or just right on a sunny day.

Point to a photo on the photo wheel and call on a student to say whether the thing you are pointing to feels warm, cool or just right to touch.

Example: Cement is quite warm on a bright sunny day. Metal bars can feel warm in the sunlight. Wet sand feels cool to touch. Rocks can feel warm in the sunlight. Pavement can feel quite warm or hot when warmed by sunlight. Grass feels just right. A Popsicle feels cool to touch. Running water usually feels cool to touch.

Ask

How can you use your finger as a thermometer?

Example: All you have to do is touch something!

Explain

Some things are not safe to touch because they may be too hot to touch. Touching something that is too hot is dangerous because you might get burned.

Ask

What hot things are not safe to touch?

Example: A stove, a hot iron, a toaster, and something hot that just came out of the oven are not safe to touch because you can get burned. Sometimes, hot pavement can hurt your feet if you try to walk on it without shoes.

Your finger can be a thermometer

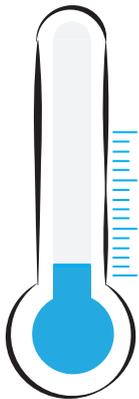
If you touch something with your finger you can feel its temperature! You can feel whether something is warm, cool or just right.

What you'll do:

1. Go out to the playground.
2. Touch different materials in sunlight such as dirt, sand, grass, wood, plastic or metal.
3. Record how each material feels.

Use these symbols to describe if something feels cool, just right, or warm.

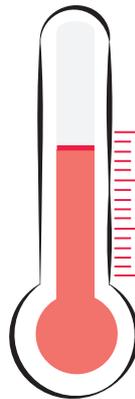
It is **cool**



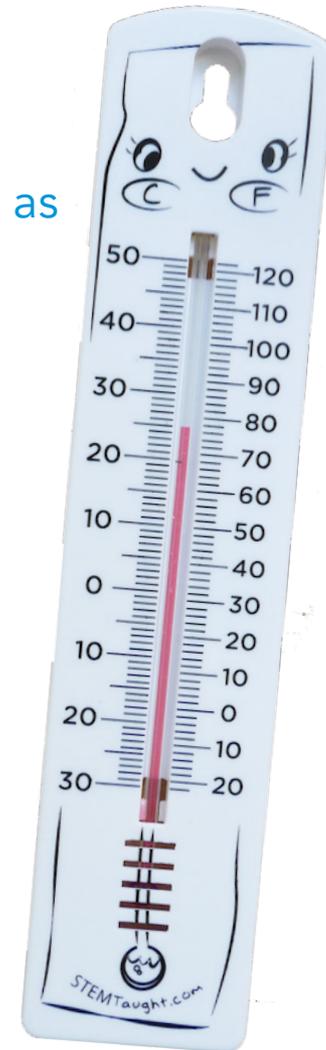
It is **just right**



It is **warm**



Which way does the red line on a thermometer move as it warms up?





Circle how each material in sunlight feels to touch. Does it feel cool, just right or warm?

