

Easy Outdoor Science Projects for Kids

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Posted: Jun 08, 2009



You've encouraged your grandkids to [go play outside](#). But now's the time to tell them to go pick up some scientific knowledge outside. Besides learning how to play catch, kickball, and tag, kids can find many academic lessons waiting for them outdoors. And the lessons are actually fun! "Hands-on experiences with the world helps children develop strong analytical and problem-solving skills," says Andy Allen, the director of Curriculum Development for Science Adventures, a weeklong summer camp program for children ages 5 to 12. "Grandparents can be some of the best teachers and, anytime you have kids observing and thinking about the world around them, they will take away something new." Below are three of Allen's favorite science projects for elementary-school children, complete with directions and follow-up questions to make you the lead scientist.

Cook With a Solar Oven

You'll need:

- Used pizza box
- Aluminum foil
- Clear tape
- Plastic wrap
- Scraps of paper
- A small, shallow container
- Scissors



What to do:

1. Cut a six-inch square window in the center of the top of the pizza box.
2. Tape a sheet of plastic wrap on the inside of the box top, covering the window. (The plastic will let the heat remain inside the box.)
3. Place a shallow container, wide enough to hold a graham cracker, inside the box; center the container under the window. Line the inside of the container with aluminum foil. (The foil reflects the solar energy and bounces it back and forth inside the container.)
4. Crumple up paper and pack it between the container and the perimeter of the box. (This will act as insulation and keep the heat from escaping the "oven.")

5. Layer an unwrapped Hershey's Kiss and a jumbo marshmallow on top of a graham cracker inside the container.
6. Close the box and set it in the sun. On a sunny day between 10am and 3pm, the s'more should melt and be ready to eat in about 10 minutes.

Follow-up questions:

What made the chocolate melt?

How did the oven heat up?

What did the aluminum foil do?

What did the crumpled-up paper do?

How would you improve it?

Construct a Wind-Powered Boat

You'll need:

- Juice box
- 2 straws
- Grape-size piece of modeling clay
- Sheet of paper
- 2 toothpicks
- Pencil
- Scissors
- Roll of clear tape
- Paper towels



What to do:

1. Carefully remove the straw from the juice box. Lay the juice box — longest side down — on a paper towel. Use a pencil to pierce the center of the juice box. Carefully squeeze all the juice into a cup so you can drink it later.
2. Cut a rectangle from the front of the juice box. Use the hole you punched with the pencil to get started. Leave a 1/4-inch border around the edge of the opening to stop water from splashing in when you set sail. This will be the basic structure of the boat.
3. Draw the pattern for the sail on the sheet of paper and cut it out. Use the pencil to make two holes in the sail — one in the top and one in the bottom. Weave a straw through the openings and use the toothpicks to hold it in place by pushing them through the paper around the straw. Tape the toothpicks to the paper if necessary.
4. Roll the clay into a small ball; push the ball into the boat so it attaches to the bottom. Push the straw into the clay so the straw is standing upright.
5. Cut the second straw in half and tape it to the front of the boat as a forepeak.
6. Go outside and set the boat sailing in a kiddie pool or bucket.

Follow-up questions:

Does the shape of the sail matter?

Are there other recyclables you can use to make a boat?

How would you make the boat go faster?

Do you think two sails would work better than one? Why or why not?

Name That Tree

You'll need:

- 6 to 10 leaves, each from a different tree in the neighborhood
- Pen
- Sheet of paper
- Blindfold
- Computer with internet access



What to do:

1. Take a walk and gather some leaves.
2. To identify the name of the tree the leaves came from, answer the easy questions at a tree identification website like the [Arbor Day Foundation](#), [Dendrology at Virginia Tech](#), and the [Ohio Public Library](#).
3. Write the names on a piece of paper and set the corresponding leaf next to its name.
4. Pick a leaf from the pile and crush it in your hand.
5. Blindfold your grandchildren and have them smell the leaves.
6. Ask them to guess which leaf came from which tree based on the smell of each.

Follow-up questions:

What do the leaves smell like?

How does each smell different from the others?

Why do some trees have bigger leaves than others?

Why do the leaves have little veins?

For more about science, and all the other subjects your grandchildren are studying, visit our [Grandparents' Guide to Education](#).

Do you have more fun ideas for science projects with children? Do you have wonderful memories of these kinds of activities from your childhood? Share your thoughts in the comments section below.
