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TEACHER GUIDE

WHAT IS SCIENCE?

GRADES K-2

COMMON MISCONCEPTIONS

- **Scientists only blow things up.**
Many science shows involve making things blow up because it gets the audience's attention. But scientists do much more than blow things up. Some scientists might be working on finding a better energy source for our cars, while others might be studying Mars to see if humans can live there someday.
- **All Scientists wear a lab coat and work in a lab.**
Some scientists work in labs, but most do not. There are a variety of different kinds of scientists, from marine biologists who might work at an aquarium to paleontologists who study fossils to learn about dinosaurs. The variety of scientists is amazing.
- **Science experiments are complicated and hard.**
Scientific experiments can be complicated, but many are simple. Even young children can conduct scientific experiments. Simple experiments might be comparing how fast different liquids dissolve candy.

TEACHER BACKGROUND

Conducting fair tests in science experiments is important for testing a specific variable. You must keep all conditions the same except for one. For example, if you wanted to see how different liquids affect the growth of a plant, you would need to make sure that the plants you were testing had the exact same conditions (same amount of sunlight, same amount of liquid, same soil, same plant type). The only variable that would be different would be the type of liquid given to the plant (water, milk, apple juice). That way you will know that it was the liquid that affected the growth of the plant.

TIPS FOR TEACHERS

Have your students keep a science notebook to record their experiments. This will help them understand how important it is to make careful observations and record data. Giving students an organized format can help. Start with a question, follow with a hypothesis, have a place to record data or observations and a results section for after the experiment.