

# Material Mix-Up

## Play a game to find the best material for the job.

### What you need:

Object Spinner and Material Spinner (See next page for instructions on making spinners)  
Scotch tape  
Play dough  
Aluminum foil  
Cotton balls  
Construction paper

### What to do

1. Cut out and make the spinners on the next page.
2. Take turns spinning both spinners. You can spin one then the other or both at the same time.
3. Challenge yourself to make the object the pointer landed on using the material shown by the other pointer. For example, if your spins came up play dough and spoon, you will make a spoon out of play dough.

### What to ask

- Are some combinations harder to make than others? Why do you think that is so?
- Can you use the object you created? How practical do you think it is?
- Is your material the best for the job? Why or why not?
- If you could make your object out of a better material what would it be? How would you know its better?

### Did you know?

Ever wonder why we don't wear clothes made out of aluminum foil, or ride bicycles made out of foam? A material's properties, or unique characteristics, make it good for some purposes and bad for others. A designer or engineer needs to understand all of a material's properties in order to select appropriate materials for creating useful, and appropriate items.

### What's next?

- As a group, choose five different things you want to make using different materials available.
- Write those objects on the blank spinners.
- Challenge yourself to create these new items.

### Directions for making the spinners

#### What you need:

Two spinners (templates on next page)  
Masking tape  
Scissors  
4 paper clips  
Stiff paper, an old file folder, or paper plate

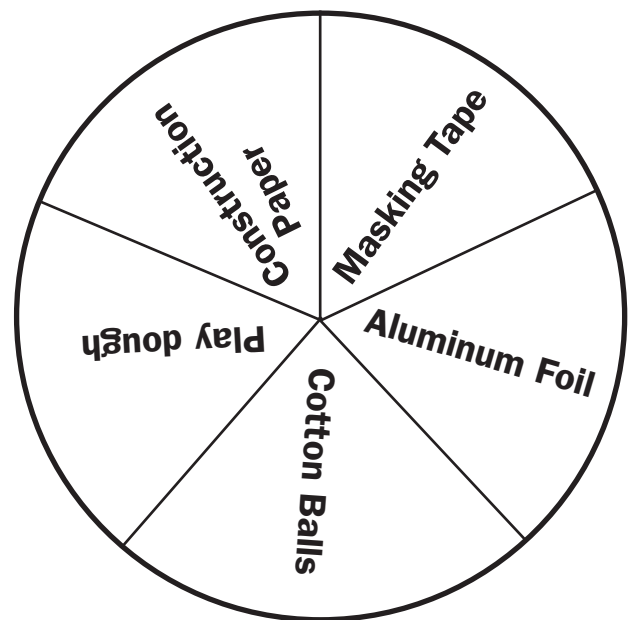
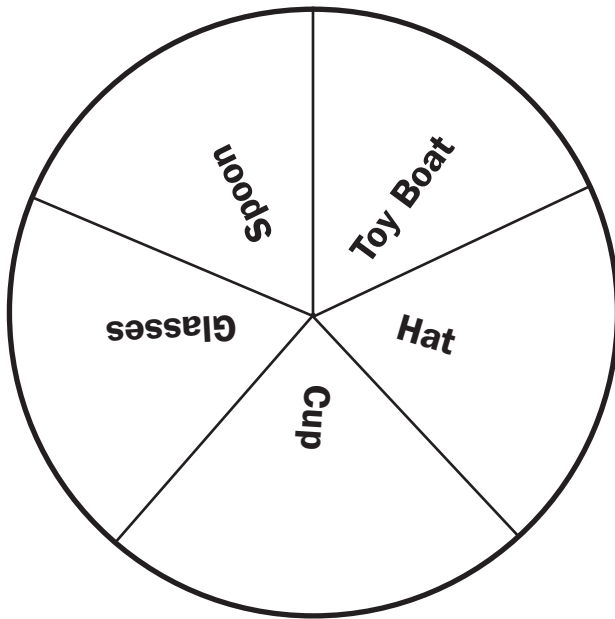


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# Material Mix-Up continued

## What to do

1. Cut out the spinners.
2. Glue each one to a piece of stiff paper
3. Bend the end wire of a paper clip from the end to the first bend straight up so that it is perpendicular to the rest of the clip.
4. Place the paper clip under the spinner and carefully poke the straight wire through the center of the spinner and out the top, leaving the remaining portion of the paper clip under the spinner.
5. Tape the paperclip to the spinner on the underside of the paper.
6. Place the other paper clip over the wire sticking up from the spinner. This will be the arrow for the spinner.
7. Put a small piece of tape across the top of the straight wire to keep the second paper clip from flying off.
8. Gently flick the paper clip spinner and watch it spin.



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