

STEM



- Includes 30 high-interest STEM tasks
- Reinforces essential skills in science, technology, engineering, and math
- Promotes collaborative learning
- Encourages higher-order thinking

Name _____

Read the task. Then, follow the steps to complete the task.

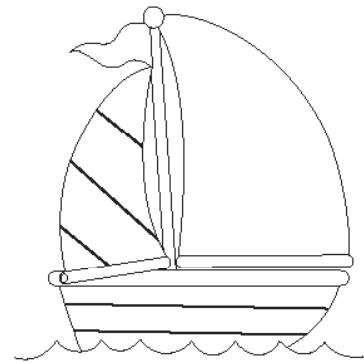
Float Your Boat

Use only the aluminum foil provided to create a boat that can hold the most marbles without sinking.

Materials

1-foot (30 cm)-square piece of aluminum foil
water container, water

marbles (or a variety of objects to weigh, such as dice, counters, or eraser caps)



Ask

What do you already know? What do you need to know to get started? Where can you find the information you need?



Imagine

What are the possibilities? Come up with several different options.



Plan

Choose an idea. Draw a model and label it. Consider making different models for each stage of construction or separate diagrams of more complex parts.



Plan

What are your steps? Use your drawing to guide your plan. Number your steps and write clearly so that others can understand them.



Create

Follow your plan to create your model. What worked? What didn't? What did you need to change as you went through your plan? Why?



Improve

How could you improve your model? Do you need to start over, or can you redo a single part? If it works, can it work even better?



Communicate

How well did it work? Is the problem solved? Write a statement to describe how your model meets the guidelines of the task and why it is successful.



Reflect

How did the shape of the boat affect its strength?

Name _____

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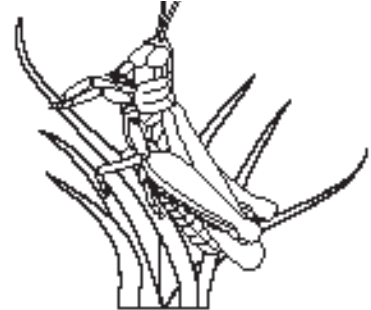
Happily Hidden: Camouflage

Create a habitat and a creature that is camouflaged from view.

Materials

art supplies, such as
markers or crayons
chenille stems
construction paper
cotton balls
craft sticks

glue
scissors
shoe box
small rocks
sticks and twigs
tape



Caution: Before beginning any nature activity, ask families' permission and inquire about students' plant and animal allergies. Remind students not to touch plants or animals during the activity.



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Reflect

Does your creature's camouflage keep it safe from predators both in the air and on the ground? Explain.

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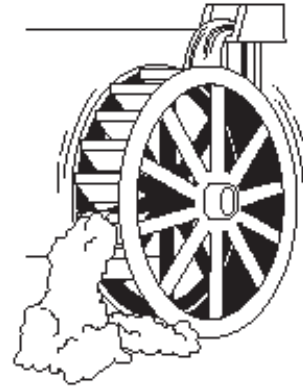
Wheel-y Fun

Create a working model of a waterwheel.

Materials

small plastic cups
pencils or dowels
scissors
small disposable foam
plates

string
tape
water



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How could you improve your model? Do you need to start over, or can you redo a single part? If it works, can it work even better?




How well did it work? Is the problem solved? Write a statement to describe how your model meets the guidelines of the task and why it is successful.



How did you design your waterwheel to "catch" the water?

Name _____

Read the task. Then, follow the steps to complete the task.

<h3>Melting Master</h3>	
Find a way to prevent candy from melting under a lamp.	
Materials aluminum foil chocolate chips cotton balls lamp newspaper	paper plate paper towels plastic wrap timer
	

Caution: Before beginning any food activity, ask families' permission and inquire about students' food allergies and religious or other food restrictions.



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Reflect

Do you think some kinds of candy melt more easily than others? Explain.

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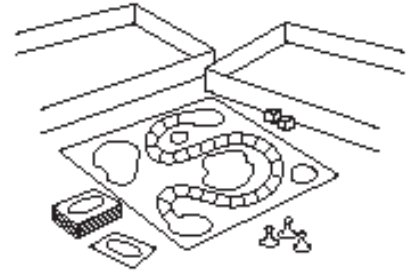
Ready, Set, Recycle!

Create an educational game or puzzle with recycled materials.

Materials

bottle caps
brass fasteners
cardboard
cereal boxes
used wrapping paper

glue
kid-friendly magazines
markers
scissors
dice (optional)



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Reflect

What are the pros and cons of using recycled materials? Which point is most important?
