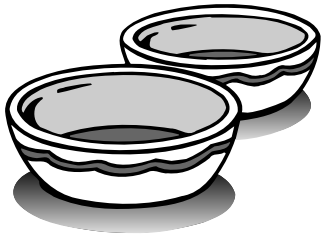
Chapter Science Investigation Name _____

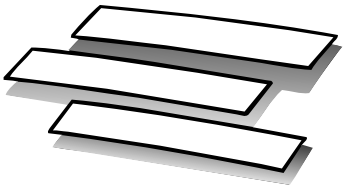
Creating a Moonscape

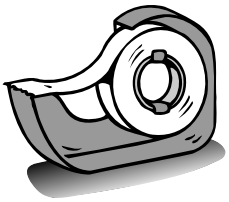
What You Need

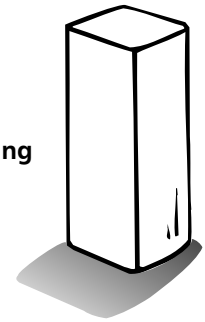

two large bowls

waxed paper

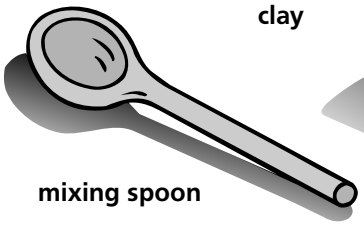
flour

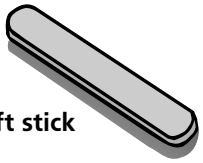

newspaper torn into 3-cm-wide strips


tape


modeling clay


water


mixing spoon


craft stick


toothpick

Find Out

Do this activity to see how the different features on the surface of the moon look.

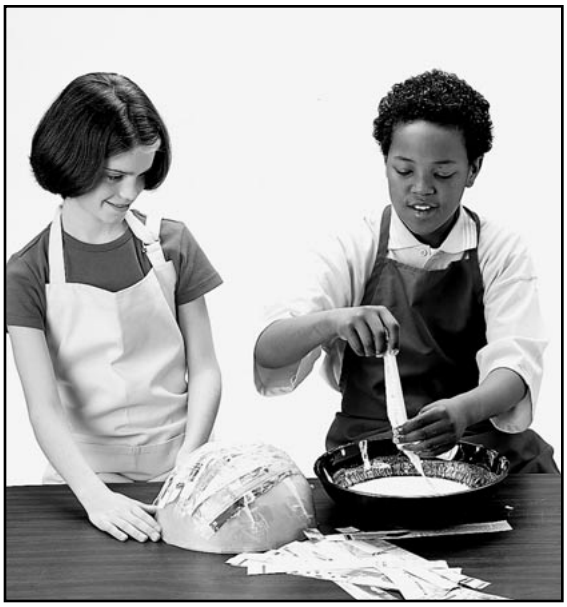
Process Skills

Constructing Models
Measuring
Observing
Communicating
Defining Operationally

Time

- 45 minutes the first day
- 30 minutes three or four days later
- 30 minutes one week later

What to Do



1. Turn one of the bowls upside down and cover it with waxed paper. Tape the waxed paper to the bowl so it will not slide off.

2. To make a papier-mâché base, use the other bowl to mix together the flour and water. Use enough water to make a smooth paste.

3. Dip a strip of newspaper into the paste. Place the coated strip on the waxed-paper-covered bowl. Continue dipping and placing strips on the bowl in a crisscross pattern to cover the entire bowl. Place the covered bowl where it can dry for three or four days.

4. When the strips on the bowl have dried, add another layer of papier-mâché strips to cover the bowl. Again, let this dry for three or four days.

5. When the papier-mâché dome is completely dry, use modeling clay to cover the entire dome. Use the craft stick and the toothpick to form different surface features in the clay. Use the chart to help you model different features that are found on the surface of the moon.

Physical Features Found on the Moon	
Maria	Large, dark plains that look like smooth “seas” from Earth. These are not real seas, because there is no water on the moon.
Craters	Round, low areas surrounded by raised walls, like mountains. Some lunar craters are very small. Others are thousands of kilometers across and thousands of meters deep.
Rays	On Earth, we can see bright streaks that go out from the middle of some lunar craters.
Rills	Long, narrow trenches that can be very deep. From Earth, they look like winding rivers that can be hundreds of kilometers long, but remember that there is no water on the moon.
Domes	Smooth, low mounds that are similar to sand dunes. Domes are not large enough to cast any shadows. Most are 5–20 km across.
Scarps	Lunar cliffs. They can be very small (65 cm) or many thousands of meters high.

Conclusions

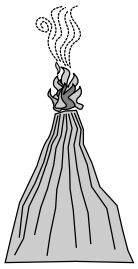
1. What similarities and differences do you see between the surface of Earth and the surface of the moon?

2. What features on the moon can we see from Earth?

New Questions

1. Which do you think changes faster, the surface of Earth or the surface of the moon? Explain why you think so.

2. Write one new question you have about the surface of the moon.



Name _____

ACTIVITY

Modeling the Solar System

Is your group **modeling** the sun or a planet? If a planet, which one?

Is your planet one of the smaller inner planets or one of the large outer planets?

What size should your group's model be?

What are some special features about your planet?

What does your group's planet's orbit look like?

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Conclusions

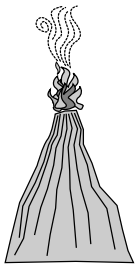
1. How is your group's part of the class **model** different from the others?

2. How is your group's part similar to the others?

Asking New Questions

1. Pluto is sometimes not the farthest planet from the sun. How can this happen?

2. Which planets do you **think** are easiest to see from Earth?



Name _____

ACTIVITY

Gravitational Pull

Draw a picture or **record** how the washer moved when you whirled the string.

What do you **think** would happen if the string broke? Where would the washer go?

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Conclusions

1. What did the washer **represent?**

2. What did you **represent** when you whirled the washer around?

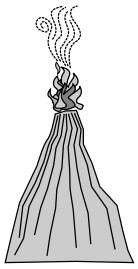
3. What did the string **represent?**

4. How do you think this is like the relationship between Earth and the moon?

Asking New Questions

1. How would your life be different if Earth did not have a moon?

2. What do you **think** would happen to the moon if Earth's mass greatly increased?



Name _____

ACTIVITY

Making a Balloon Rocket

Draw the plan for your balloon rocket.

Record your test firings and changes in the table below.

Test Firing	What Happened?	Changes Made
1		
2		
3		
4		

Name _____

Conclusions

1. What caused your rocket to move?

2. What things had an effect on the flight of your rocket?

3. What changes did you make that helped your rocket fly better or fly worse?

Asking New Questions

1. What did you change to make your rocket more accurate? How well did these changes work? If you were able to change your rocket again, how could you make it even more accurate?

2. Compared to scientists who build actual rockets, what advantages did you have in building yours? What disadvantages did you have?

3. Why do people build rockets?