

\_\_\_\_\_  
Name

Date

Unit 3 A



20. (continued)

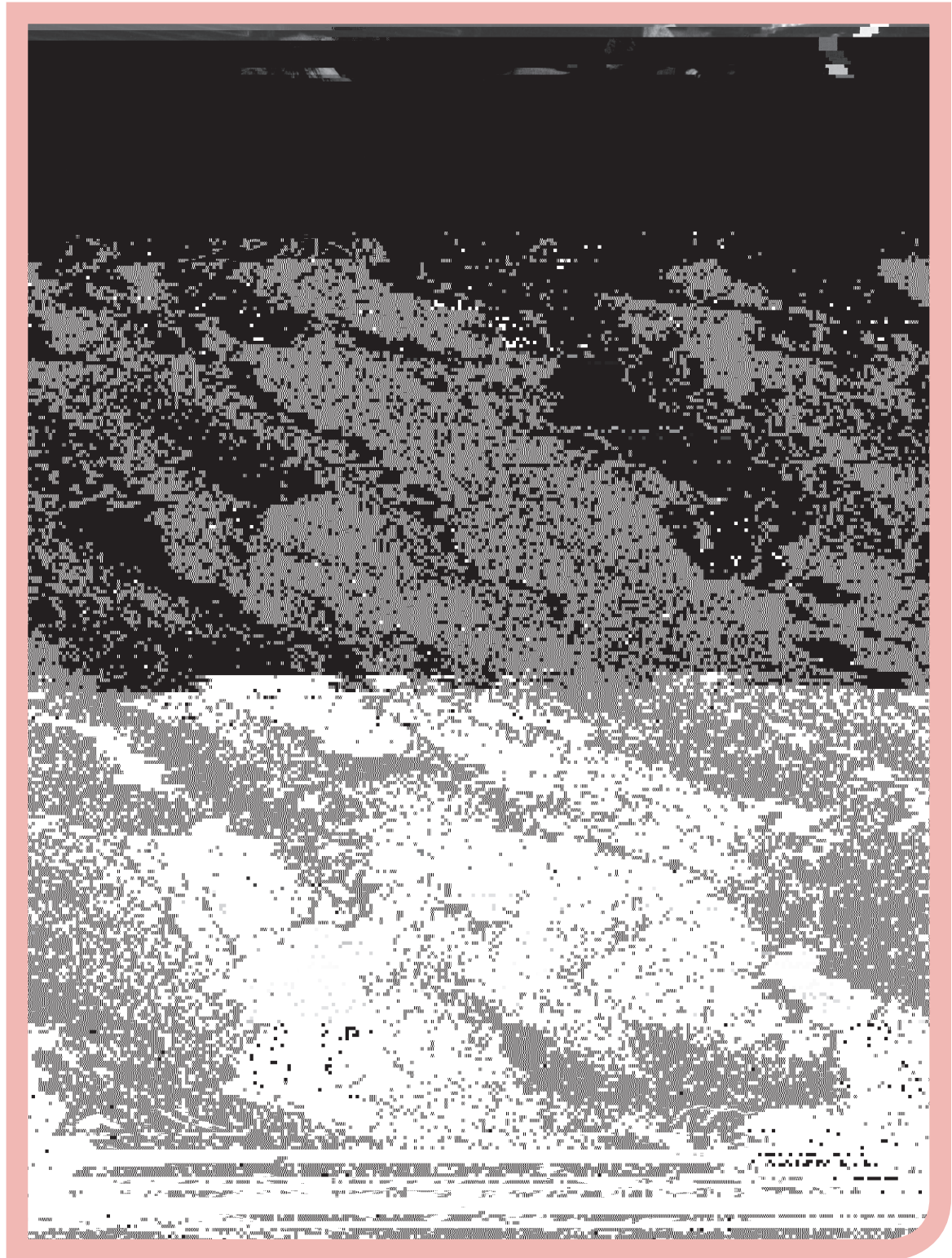






## Sorting Solids: Scientists Do It Every Day!

• According to  
• Dr. Sorensen,  
• some of the  
• rocks in the  
• museum's  
• collection are  
• nearly 4 billion  
• years old!



Even though quartz is found in many colors, it always has the same shape. Quartz always has six sides. Some minerals have a cube

Then Dr. Wise takes the mineral down the hall to a special kind of X-ray machine. He puts the mineral on a small shelf inside the machine and takes an X-ray. The X-ray gives him an inside view of the mineral, just like an X-ray of your arm tells your doctor whether you broke a bone when you fell off your bicycle. With the X-ray, Dr. Wise can see how the tiny particles inside the mineral are arranged. Then he can identify the mineral.

Dr. Sorensen and Dr. Wise are now working on a new permanent exhibit in the museum called Geology, Gems, and Minerals. It will have rocks and minerals from all over the world. One section will focus just on the shape of minerals.

If your family takes a vacation to Washington, D.C., you might want to visit this exhibit. You might even see Dr. Sorensen or Dr. Wise leading a tour through the exhibit.

And now that you have learned how geologists sort minerals, you can explore them on your own. Because rocks and minerals aren't just in museums. These solids are on display right in your own backyard!



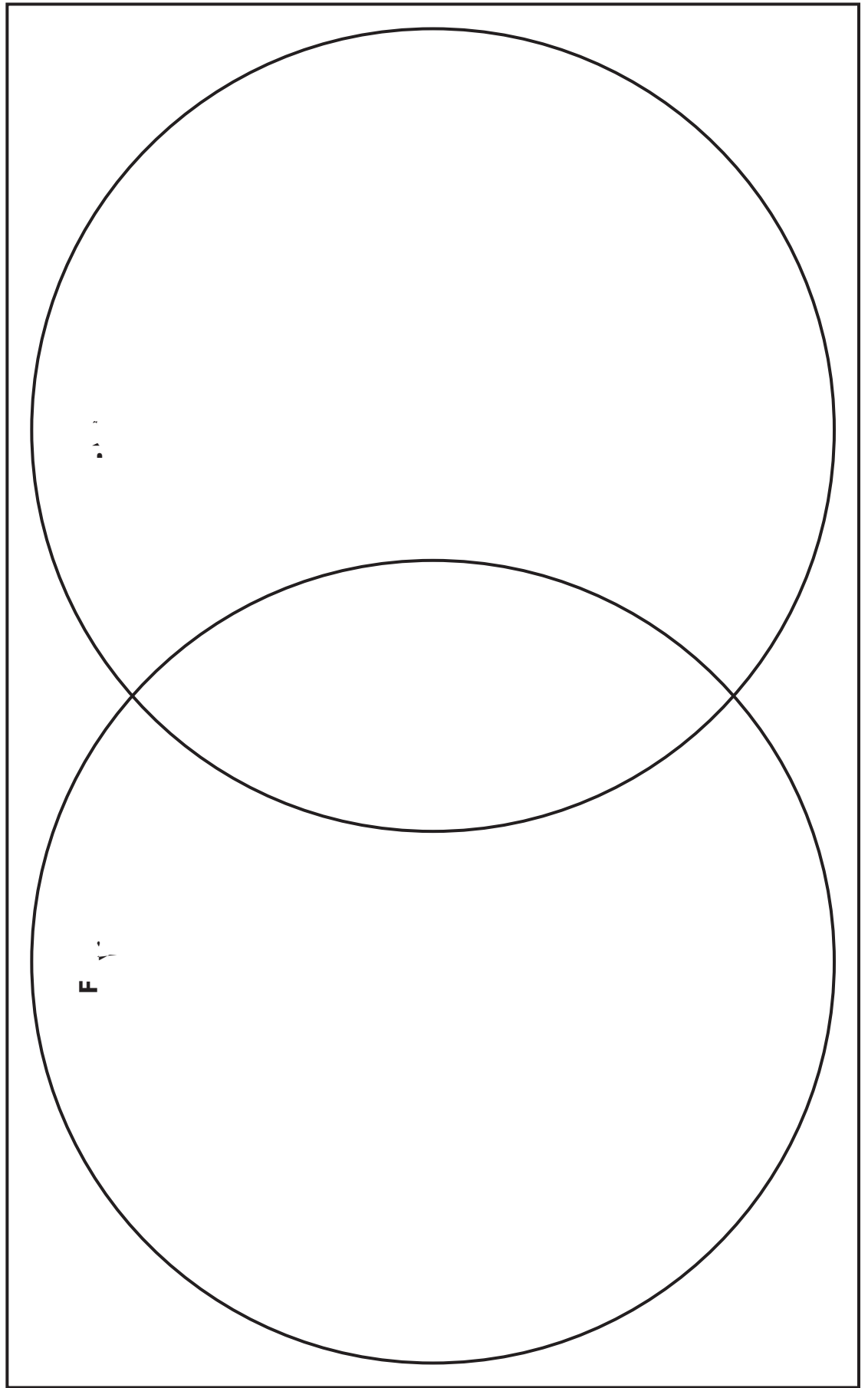
6 A

Name \_\_\_\_\_

Date \_\_\_\_\_

F

F



Name

Date

Is the solid attracted to the magnet?

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Name

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Date

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	B	
Color		
Shape		
Hardness		
Rolls		
Stacks		
Floats or sinks		
Magnetic		

## Snow Friends

Guess what, April. Its snowing!

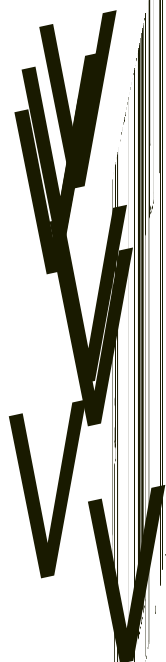
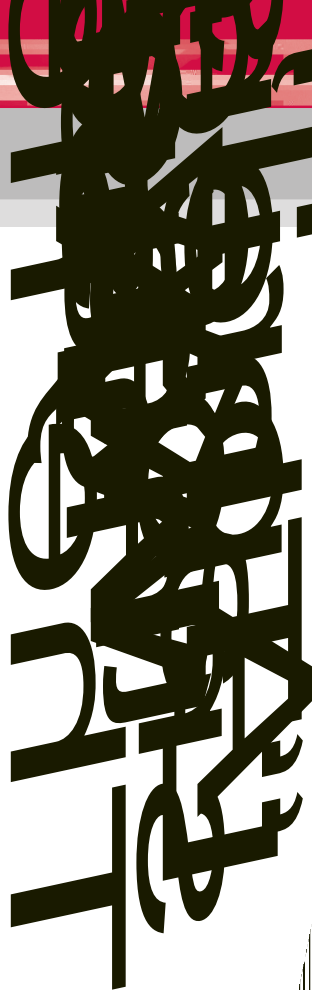
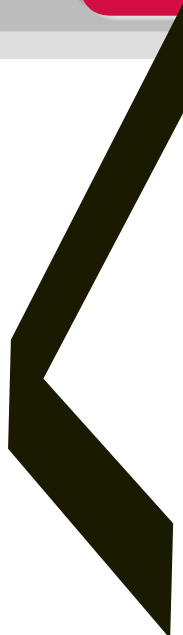
When she heard her mothers voice, April jumped out of bed. She ran to the window. A blanket of snow covered the yard. Maybe you would like to build a snowman today, her mother said.

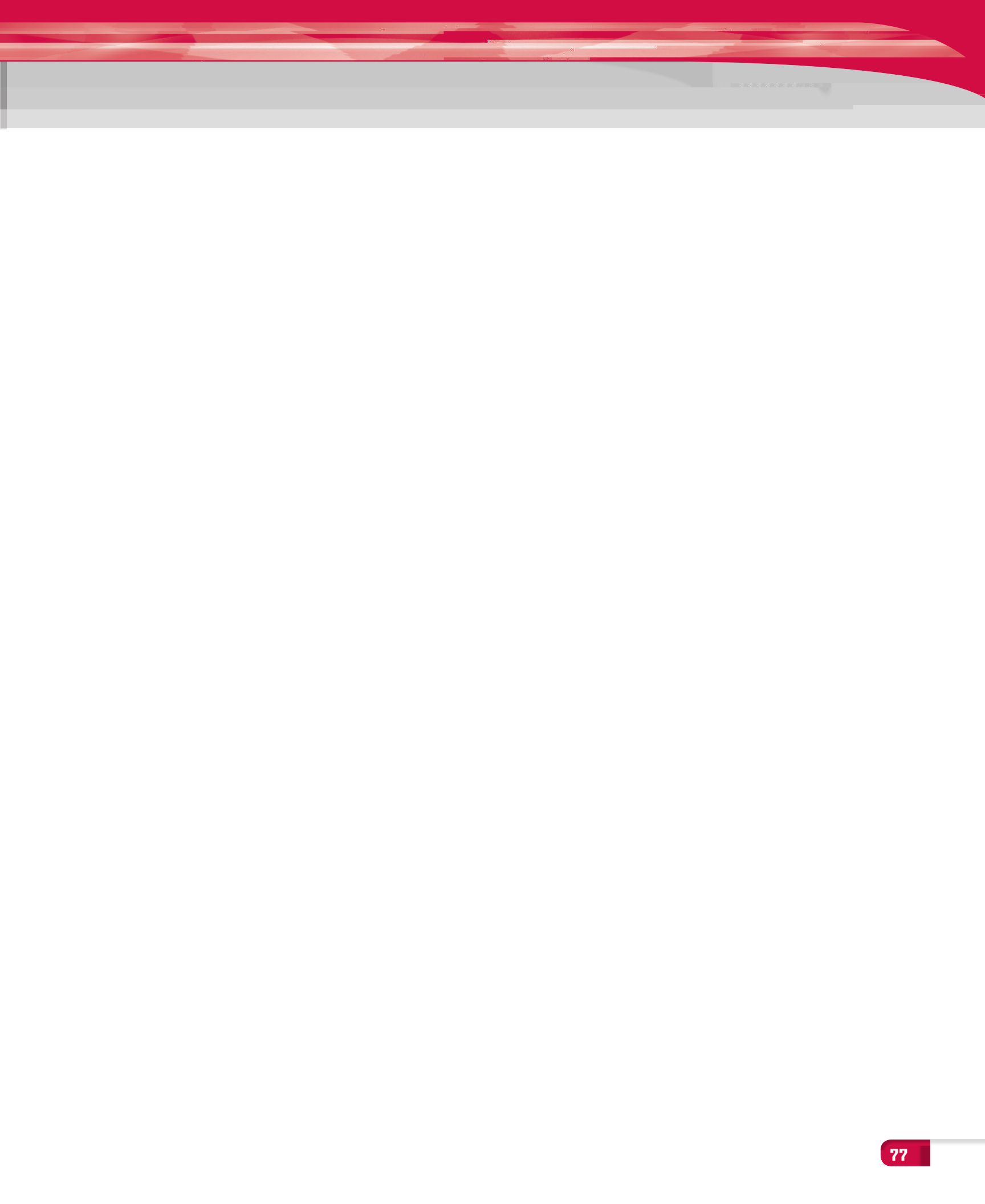
It was Aprils rst snowfall. Her family had just moved to Michigan from Florida. April couldnt wait to go outside and start her snowman.

She put on her warm coat, boots, a hat, and gloves. Wow, its cold out here, she said as she stepped into the snow. She looked up. Long icicles hung from the gutter of her house.

April started to roll a ball of snow for her snowman. It was hard work!



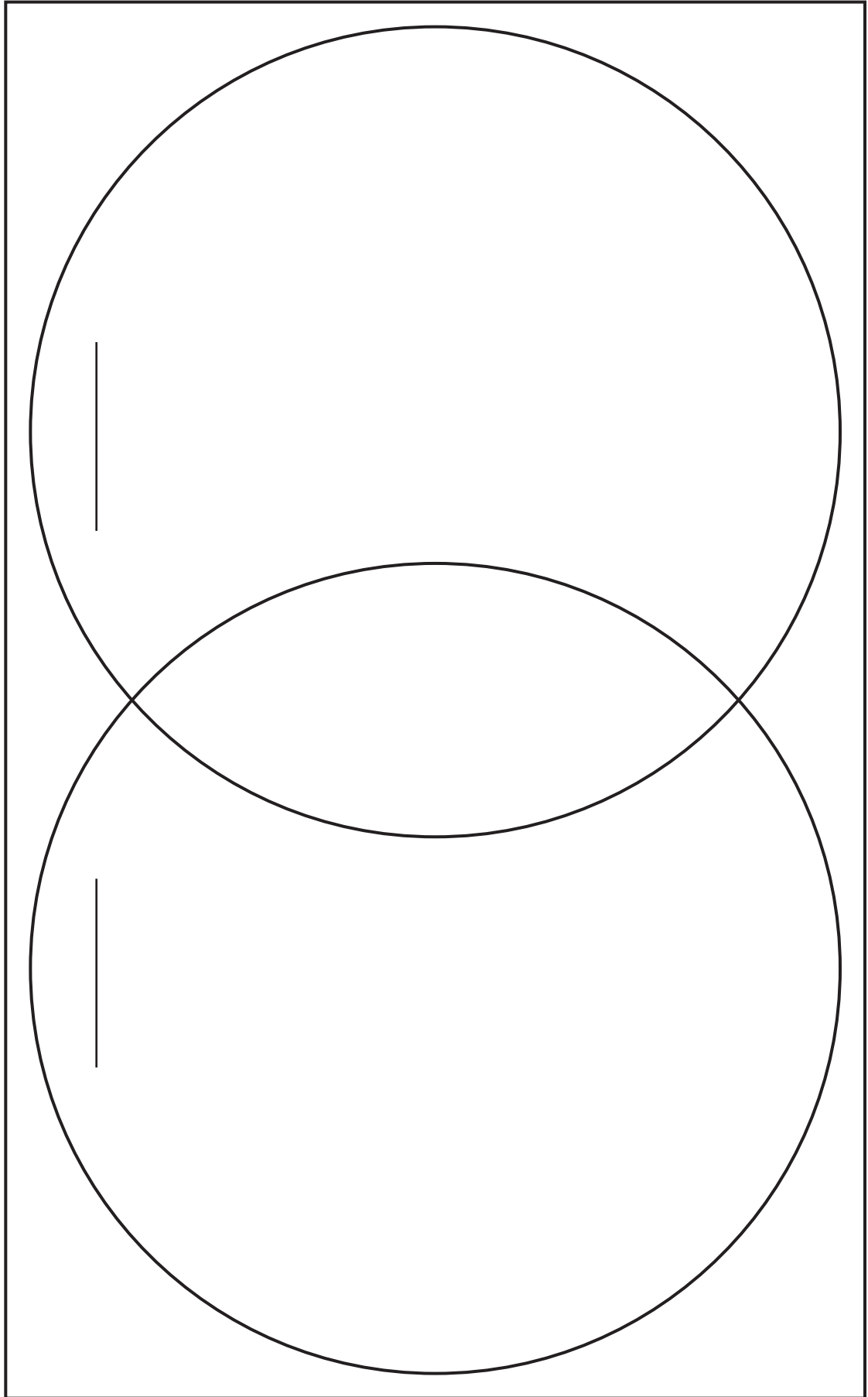




Name \_\_\_\_\_

Date \_\_\_\_\_

C



Name \_\_\_\_\_

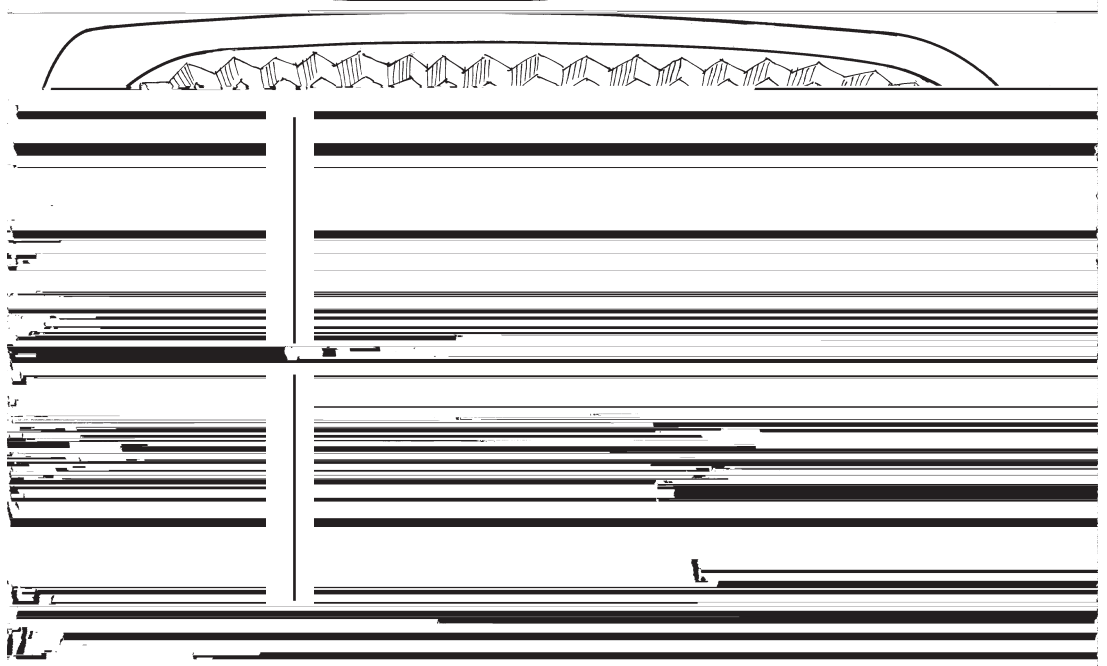
Date \_\_\_\_\_

Y  
1  
D

I think \_\_\_\_\_

will win the race because \_\_\_\_\_

Circle the name of the liquid that wins.





# Reading Selection

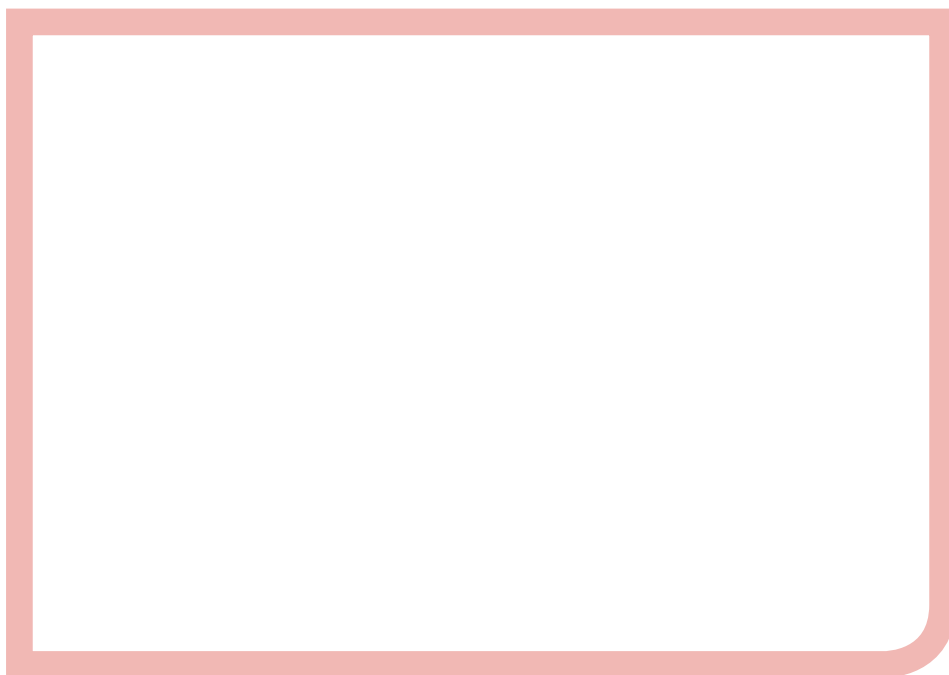
Oil can be spilled by oil tankers. These are ships that carry oil that will be used for fuel. Sometimes the oil tankers get into accidents, and the ship's tanks are ripped open.

Oil gushes out from the tank in a thick, black blanket. The oil coats the water and spreads out. Because the water is cold, the oil usually gets more viscous—like honey that has been in the refrigerator.

Large spills kill many animals and plants. Animals are poisoned if they eat food that is covered with oil. They also get sick when they lick oil off their fur or feathers. Others drown because they can't y or swim when they are covered with oil. Sometimes animals freeze to death because oily fur and feathers can't keep them warm.

Rescuing animals covered with oil is hard work. Rescue workers wipe oil from around the eyes and beaks of seabirds. They give seals and other animals baths with gentle soap. Imagine how hard it is to give a bath to a seal!

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People are still trying to figure out the best ways to clean up oil spills. What works well in one place might not work as well in another place. Everyone agrees, though, that what's most important is to act quickly. First you have to try to trap the oil, and then you have to decide how to clean it up.

One way to trap the oil is to use a kind of huge floating fence called a boom. Cleanup workers then use a giant vacuum cleaner to suck up the oil that's floating on the water. They might also float pads on the oil. Just like a sponge soaks up water, these pads soak up oil.

But what if the oil can't be trapped? If nothing more is done, wind and waves may mix the water with the oil, just like you did when you mixed the oil and water in science class. The oil breaks into tiny drops that spread out into the water.

Cleanup workers may spray soapy chemicals on the spill. These chemicals break up the oil into little drops. This is like what happens when you use soap to wash oil off your hands.

Sometimes the workers set larger spills on fire to burn up the oil. This works well, but it can lead to other problems. For example, the smoke may pollute the air, and the ashes pollute the water.

Cleaning up oil that reaches the shore is the hardest job of all. The oil covers everything with a sticky, slimy blanket that may harden like road tar. Sometimes workers spray hot water on the shore. Hot water makes the oil less viscous, so it will rinse off. Unfortunately, this puts oil back into the water. The hot water may also harm animals and plants living on the shore.

Finally, scientists are experimenting with bacteria that eat up oil. Bacteria are very small organisms that you can't even see. This new cleanup method is very exciting because it does not appear to harm plants or animals.

What's the best solution to the oil-spill problem? It's to stop the spills before they happen. Have you ever seen a puddle of water with shiny rainbows in the middle of your street? That's an oil spill! These "slicks" are usually caused by oil that has leaked from cars or lawn mowers. Rain washes these spills into bays and lakes, where they pollute the water. In some cases, they pollute the water so much that they kill the fish.

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### Mixing Liquids

\_\_\_\_\_  
Name \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Date \_\_\_\_\_  
\_\_\_\_\_

Two New Liquids

Describe how the corn syrup looks and feels and how it flows

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Describe how the red shampoo looks and feels and how it flows

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Two New Liquids, continued

Mixing corn syrup and water

Before stirring

After stirring

Mixing red.8QRampooand water

Name \_\_\_\_\_

Date \_\_\_\_\_

Two New Liquids, continued

I think \_\_\_\_\_

will win the race because \_\_\_\_\_

Circle the name of the liquid that wins

