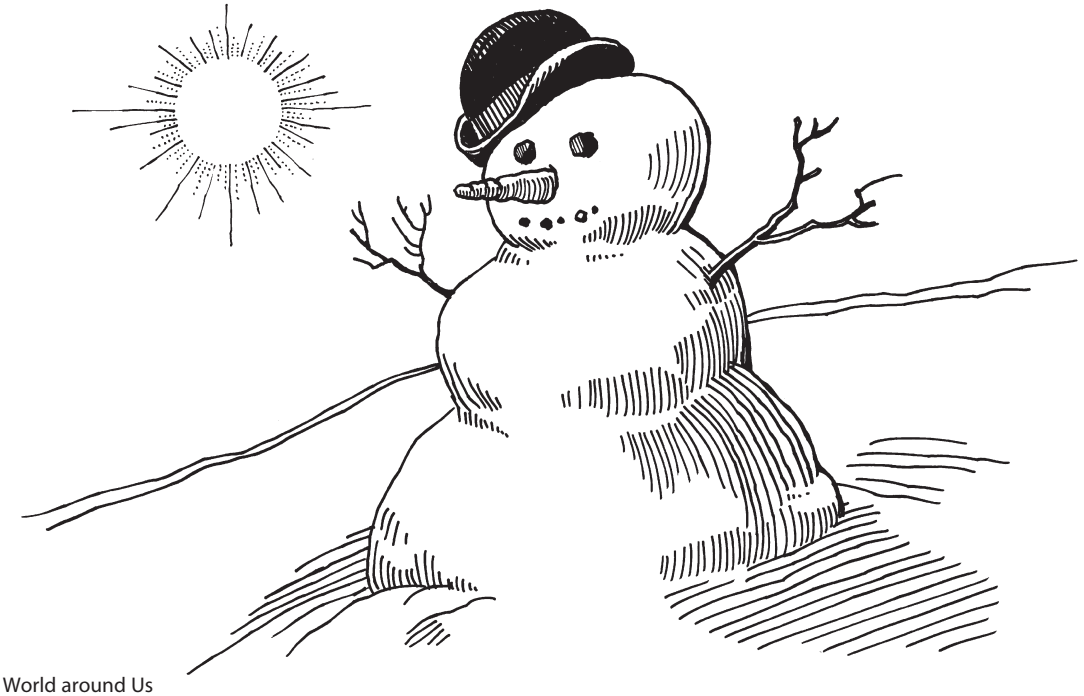
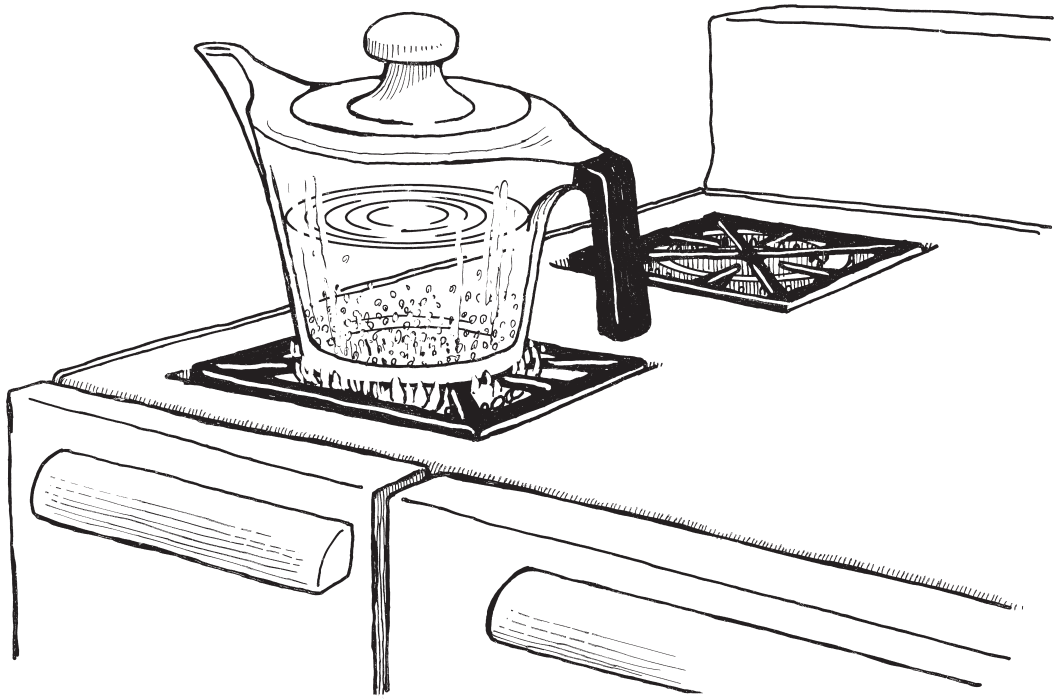
Change Card 1



Changes in the World around Us

STC™ / *Changes*

Change Card 2



Changes in the World around Us

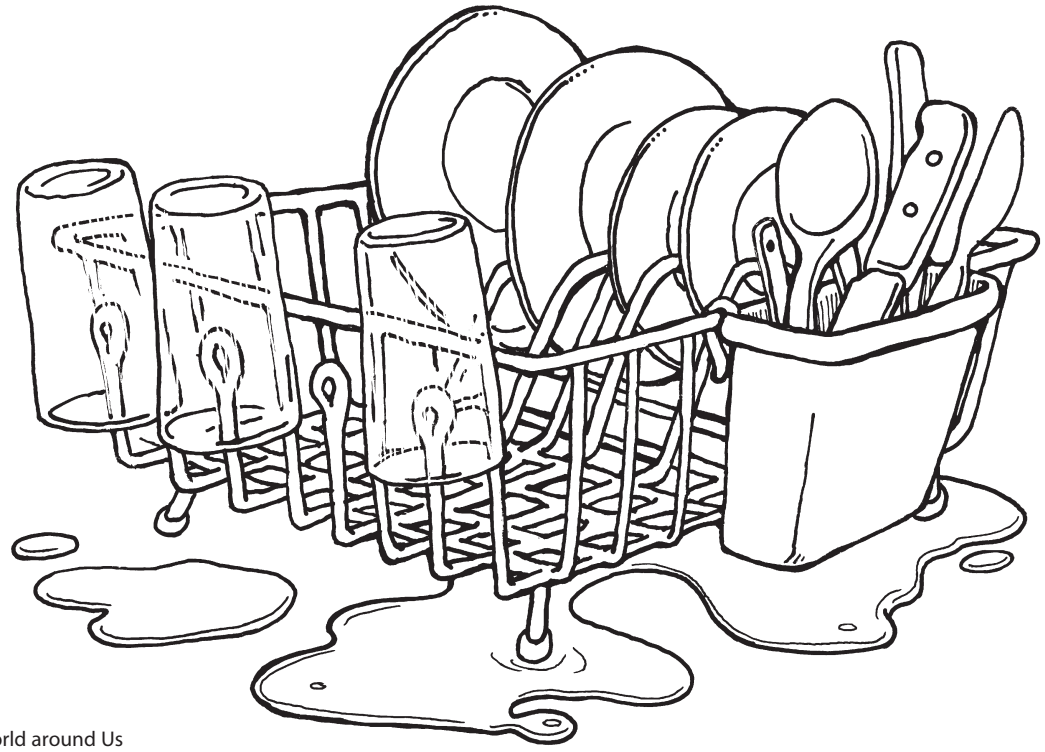
STC™ / *Changes*

Change Card 3

Changes in the World around Us

STC™ / *Changes*

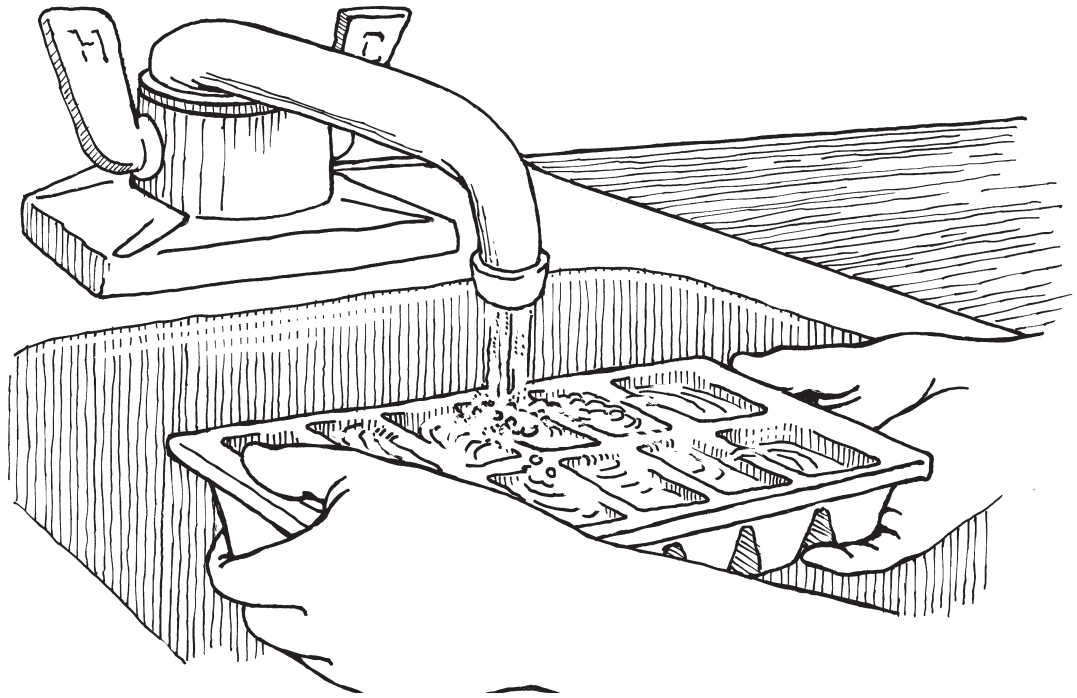
Change Card 4



Changes in the World around Us

STC™ / *Changes*

Change Card 5



Changes in the World around Us

STC™ / *Changes*

Change Card 6

Changes in the World around Us

STC™ / *Changes*

Change Card 7

Changes in the World around Us

STC™ / *Changes*

Change Card 8

Changes in the World around Us

STC™ / *Changes*

Reading Selection

Changes All around Us

Changes aren't unusual.
They happen every day.
Just take a look around you—
You'll see them right away!

In winter, change comes quickly.
It happens overnight.
You wake up in the morning,
And the world is snowy white.

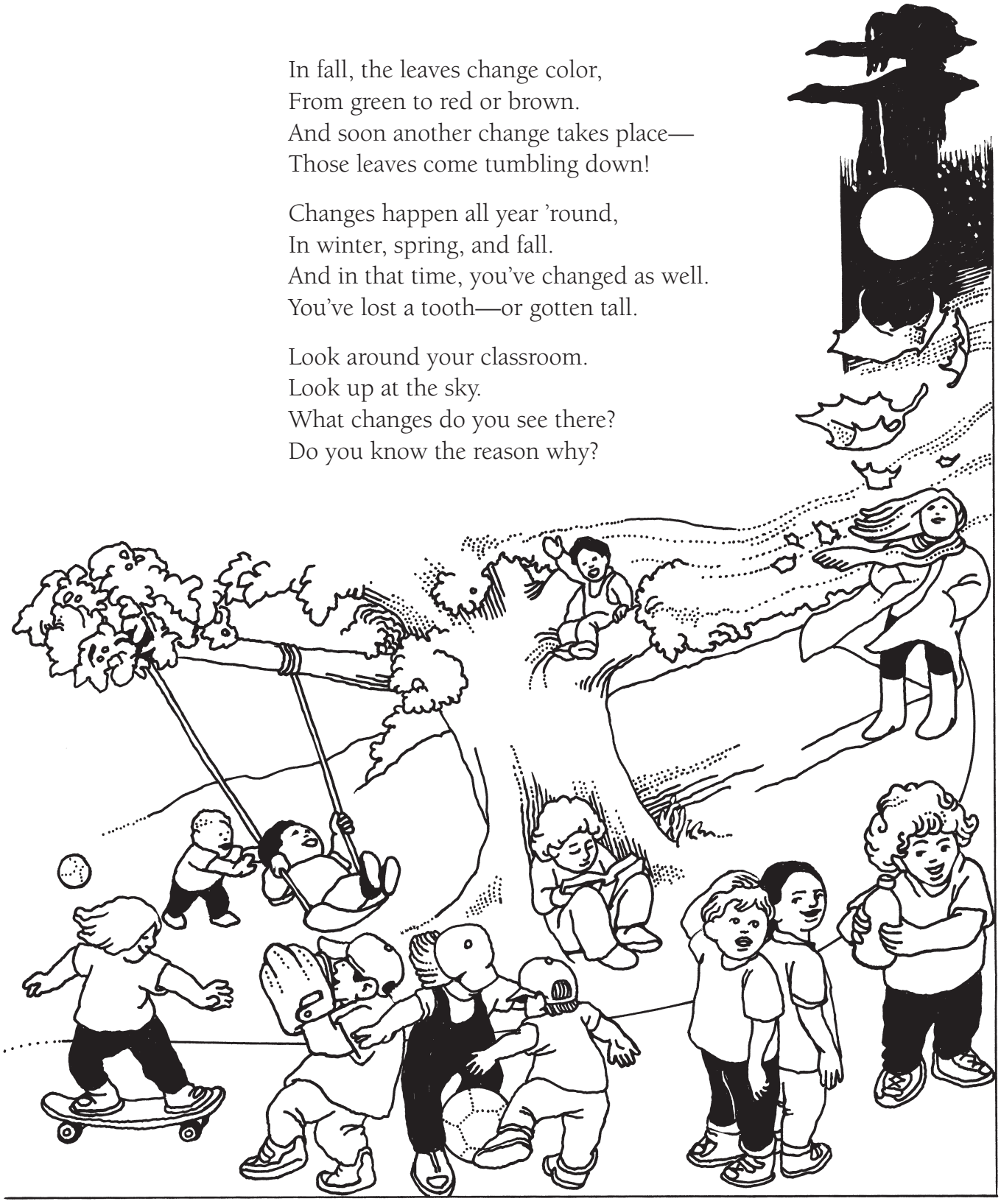
By spring, the snow has melted,
And rain falls from the sky.
The sunlight warms the puddles.
They disappear. It's dry!

In summer, you go biking.
The days are hot and clear.
You open up a soda.
It fizzes! Can you hear?

In fall, the leaves change color,
From green to red or brown.
And soon another change takes place—
Those leaves come tumbling down!

Changes happen all year 'round,
In winter, spring, and fall.
And in that time, you've changed as well.
You've lost a tooth—or gotten tall.

Look around your classroom.
Look up at the sky.
What changes do you see there?
Do you know the reason why?



Name _____

Date _____

Looking at Changes in a Solid and Liquid

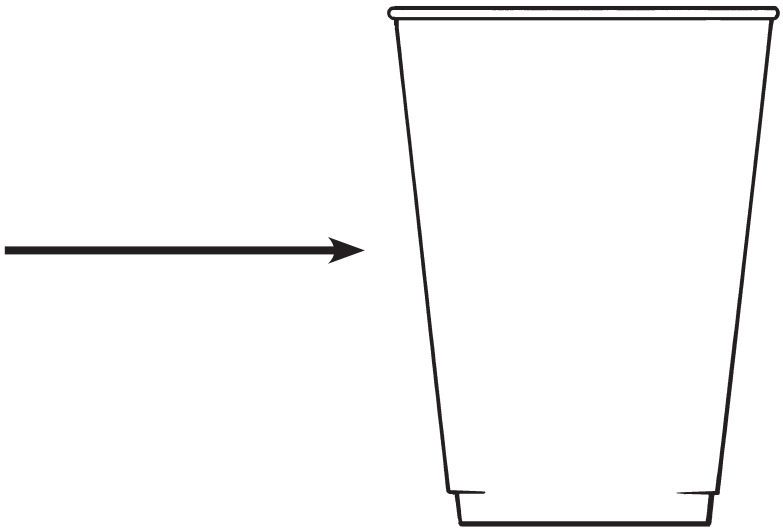
1. Write three words to describe the solid.

_____ _____ _____

2. Write three words to describe the liquid.

_____ _____ _____

3. Put the solid into the liquid.
Draw what you see.



4. Put the solid into the liquid.

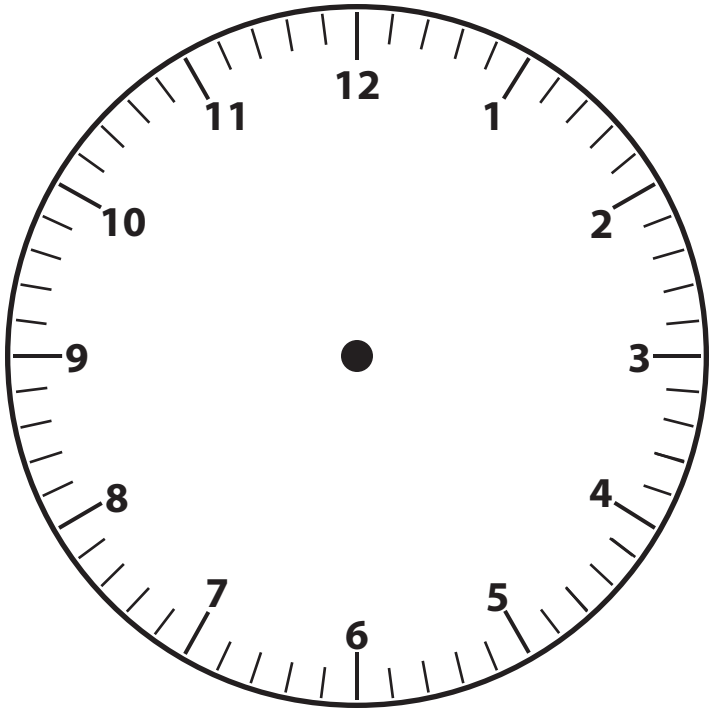
_____

_____

Name _____

Date _____

The Melting Race



1. Describe how you melted your ice.

_____

_____

_____

_____

_____

2. Count the minutes from "Start" to "Finish" on your paper clock. How long did it take the ice cube to melt?

_____ minutes

Reading Selection

A Snowman in July!

"Wow, it's really hot!" April groaned.

April's best friend, Lakeesha, agreed. "I'm glad we went to the pool."

"It was a great day for a swim," said April's mother. "And both of you are becoming good swimmers."

April's mother and the girls sat at the kitchen table. "What can we do now?" April wondered. "It's too hot to play outside."

"I know what will cool you off," said her mother. "Remember last winter when you made a snowman? You called it your 'snowfriend.'"

"I remember!" answered Lakeesha. "When it started to melt the next day, we saved some snow, and you put it in the freezer."

April's mother opened the freezer. She took out a plastic bowl. "Well, here's your snowball," she said.

April opened the bowl. The girls touched the snow. "It's so *coooold,*" Lakeesha said.

Just then, April's 16-year-old brother Matt walked in. "What's this?" he asked. "A snowball in July?"

Lakeesha and April told Matt how they saved the snow last winter. "It was part of our snowfriend."

"Would you like to make a snowman from the snow you saved?" asked Matt.

The girls looked at one another. "But there is not enough snow here," said Lakeesha.

"I've been studying chemistry," said Matt. "Let's see what we can learn about science from your snowball. We can see how water changes back and forth between three different states—solid, liquid, and gas. One of these states will help us make a snowman."

Matt put the snowball in a pan. He placed the pan on the stove and turned on the heat.

"Pull up two chairs. Watch and tell me what happens," said Matt. "But be careful. Don't get too close."

April and Lakeesha watched as the snowball melted. The pan was soon half full of water.

"Look at the bottom of the pan," said Matt. "What do you see?"

"Little bubbles!" cried the girls.

"Keep watching," Matt said.

The water bubbled faster. "It's getting steamy," said Lakeesha.

"Yes, the water is boiling. When it gets hot enough, the water turns to steam, or gas," Matt said.

"But will the water boil away?" asked April. "I don't want the snow from our snowfriend to disappear."

"You can stop it if you know how," explained Matt. He put a glass lid on the pan.

"I see drops of water on the inside of the lid," said April. "They're getting bigger."

"That's because the lid is cool. When the steam hits the cool lid, it turns back to water."

Matt turned off the stove. Carefully, he took off the lid. He held the lid closer for the girls to see. With his finger, Matt drew a picture of a snowman on the wet glass.

"It's our snowfriend!" April said.

"Our snowball disappeared, but the water from it didn't," said Lakeesha.

"And we can change that water back into ice, even in July. Know how?" asked Matt.

"Put it in the freezer!" the girls yelled together.

"Then we can use it to build a new snowfriend next winter," April said.

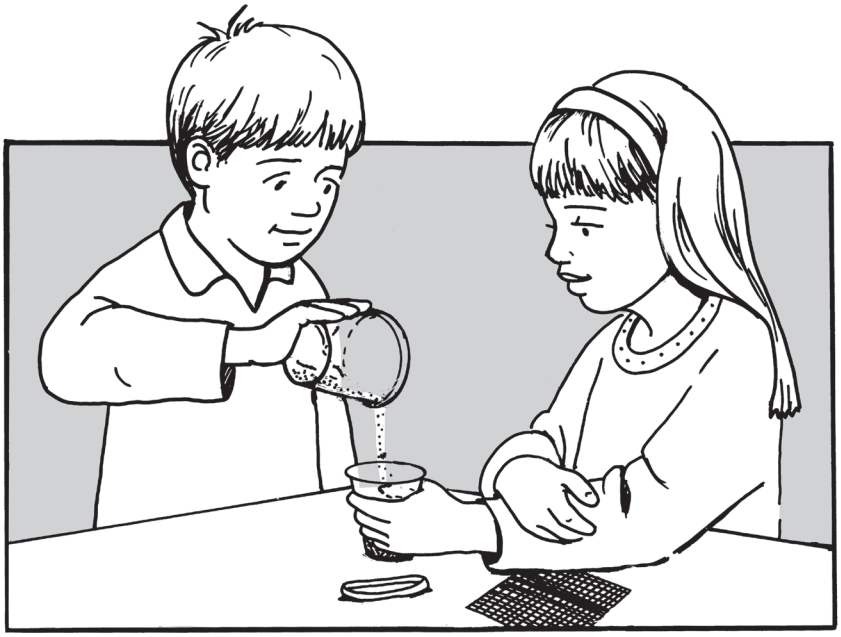
"And when you do," added Matt, "remember how you made a snowman in July!"

Mixing and Separating Solids

1 Use your spoon. Take a few pieces of gravel from your cup. Pour the pieces of gravel on the black paper. Use a hand lens. What does the gravel look like? Touch it. What does the gravel feel like? Talk to your partner.

2 Use your spoon. Take a few grains of salt from your cup. Pour the grains of salt on the black paper. Describe the salt.

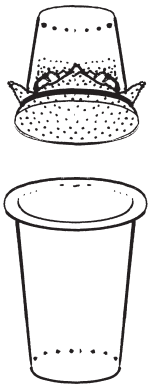
3 Pour the cup of salt into the cup of gravel. Describe what happens. (Make certain your mixture is in the smaller cup.)



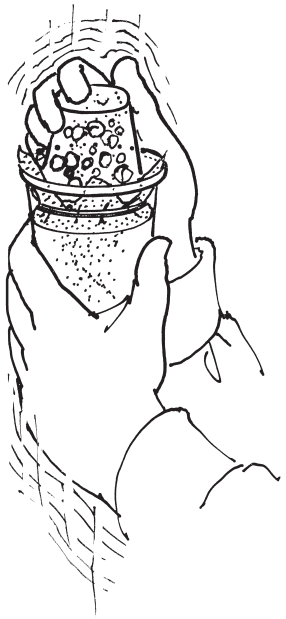
4 Mix the solids with your wooden stirrer. Did the solids change when you mixed them? If so, how?

5 Cover the smaller cup with mesh. (The smaller cup is the one that holds the salt and gravel.) Put a rubber band around the mesh.

6 Put the smaller cup upside down in the larger cup.



7 Shake both cups. What happens?



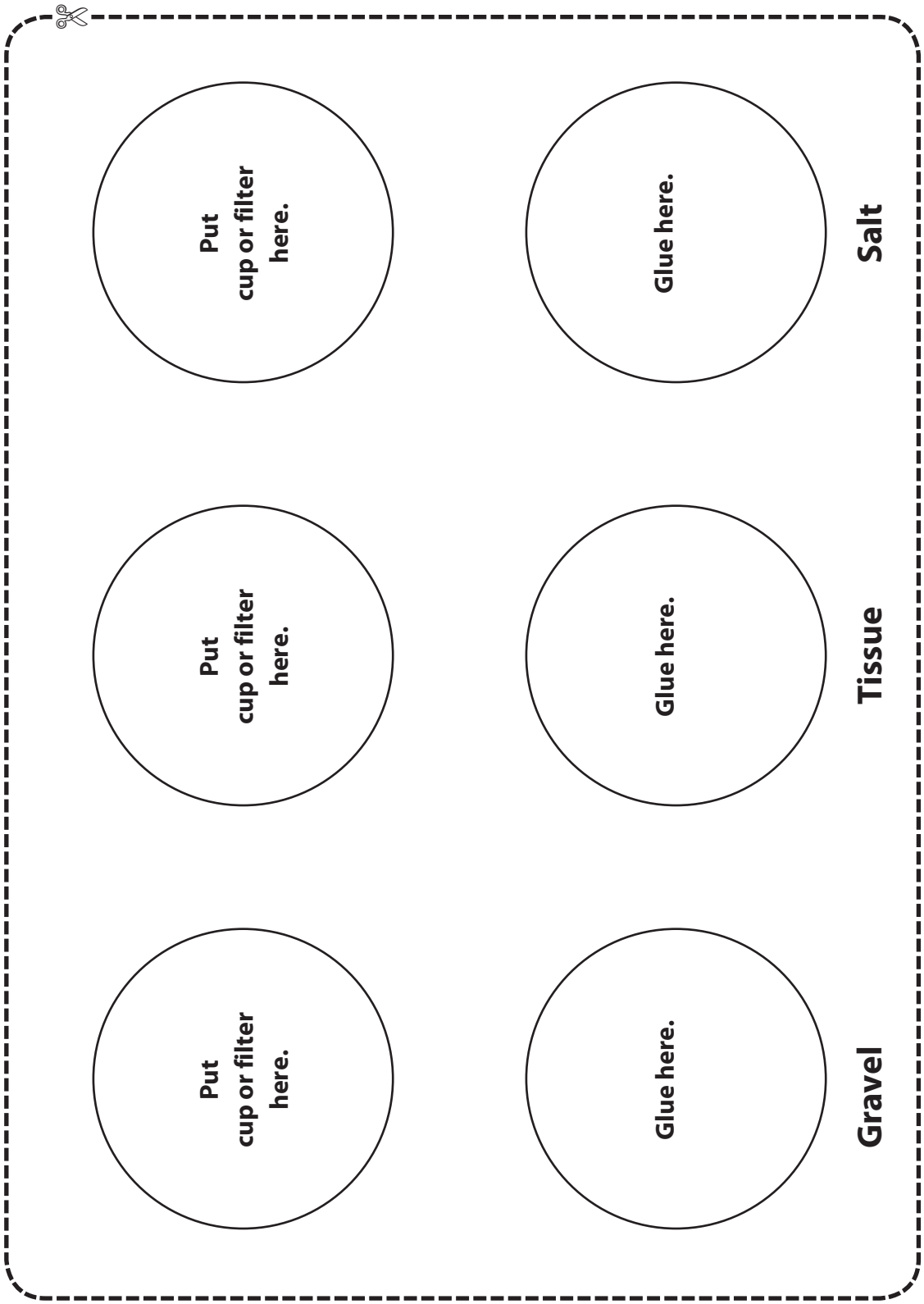
Name _____

Date _____

Mixing Solids and Liquids

Mixture	Before Stirring	After Stirring
Gravel and water		
Toilet tissue and water		
Kosher salt and water		

Test Mat


Put cup or filter here.
Glue here.
Salt
Put cup or filter here.
Glue here.
Tissue
Put cup or filter here.
Glue here.
Gravel

Record Sheet 7–A

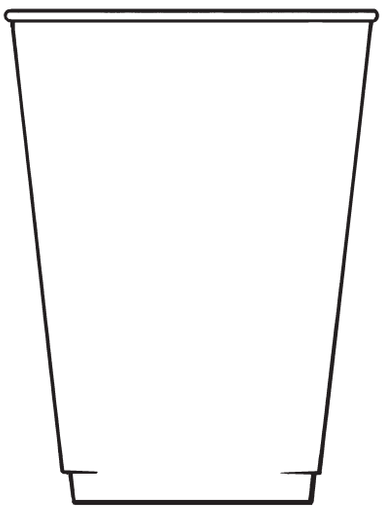
Name _____

Date _____

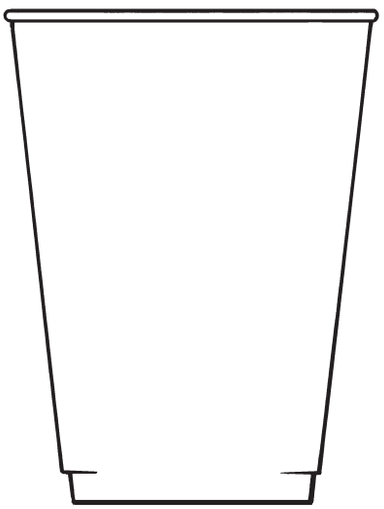
A Dissolving Race: Two Forms of Sugar

1. Put each solid in a separate cup of water. Stir.

2. Draw what you see.



Sugar cube and Water



Sugar Grains and Water

3. Which solid won the race? _____

I think it won because

_____

_____

_____

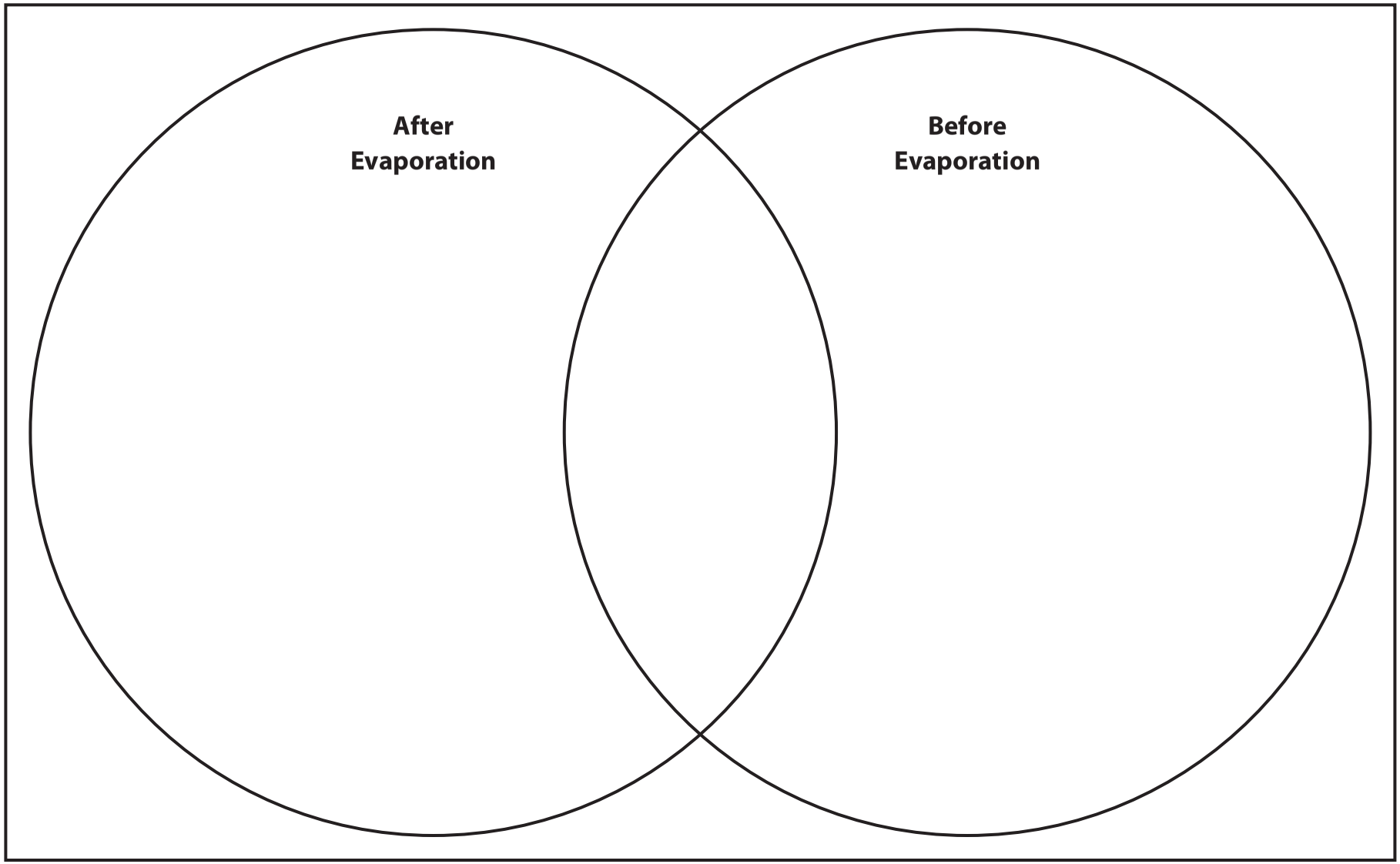
_____

_____.

Record Sheet 9–A

Name _____ Date _____

Comparing Salt Crystals



Record Sheet 10–A

Names _____

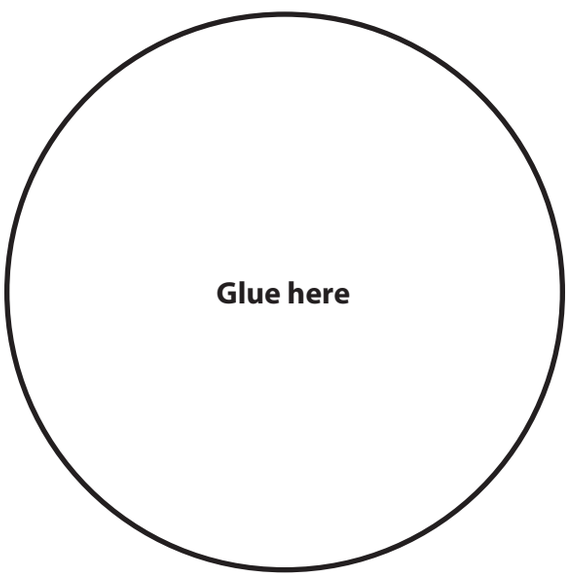
Date _____

Separating Mixtures of Colors

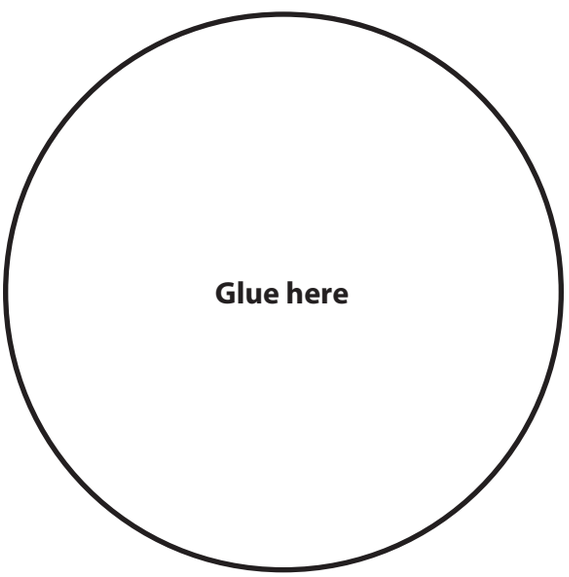
Color	What I see
Black	
Green	

My separated colors:

Black Ink



Green Ink



Record Sheet 11–A

Name _____

Date _____

Becoming Mixture Detectives

I predict that the mystery mixture is made up of

_____ and _____.

I can describe my mystery mixture. It is

_____ _____ _____

_____.

I tested my mystery mixture by doing the following (check):

❑ I used a sieve with my mixture. I observed

_____

_____.

❑ I added water to my mixture. I observed

_____

_____.

Record Sheet 11–A

Name _____

Date _____

Becoming Mixture Detectives, *continued*

❑ I filtered my mixture. I observed

_____

_____

_____

_____

_____

_____.

❑ After _____ days, I will observe my filter paper and dish of liquid again. I predict

_____

_____

_____

_____

_____

_____

_____.

I found out that the two solids in the mystery mixture are

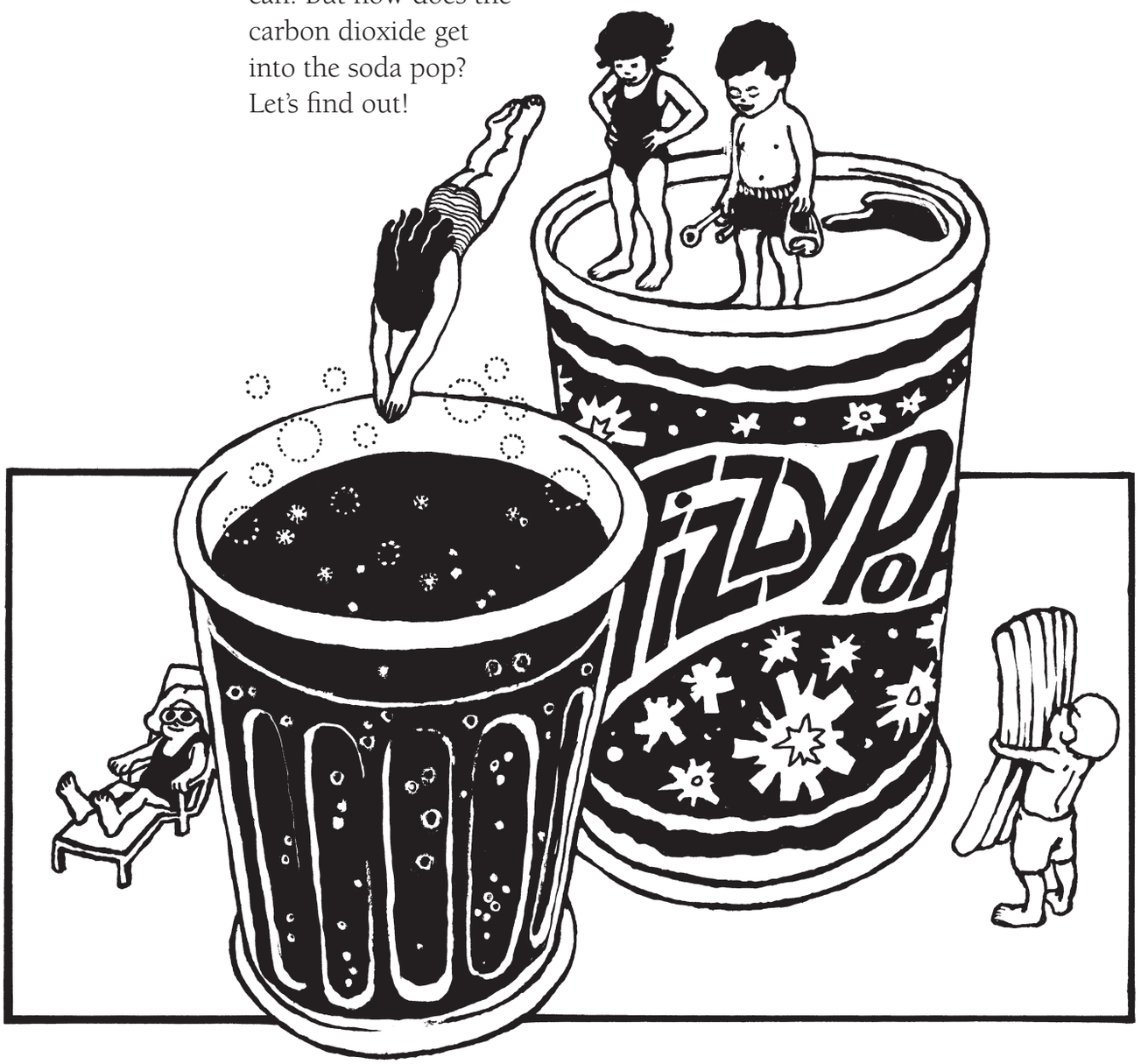
_____ and _____

_____ _____.

Reading Selection

Putting the "Pop" in Soda Pop

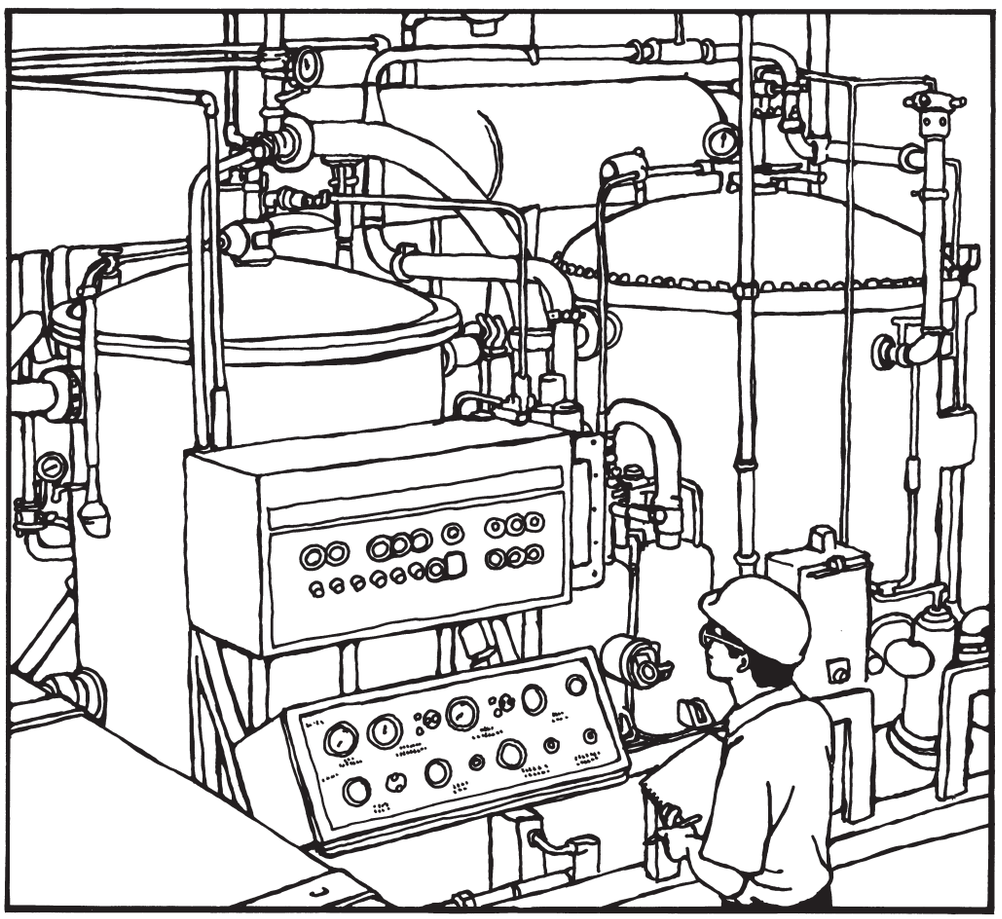
If you could make yourself small and dive into a can of soda pop, what would you see? Liquid and bubbles, right? The liquid is made of water, sugar, and flavors. It has a sweet taste. But what makes the bubbles? The bubbles are a gas called carbon dioxide. Carbon dioxide does not have a color or a smell. You know it's there because you hear a "Ssss" sound when you open the can. That is the carbon dioxide leaving the can. But how does the carbon dioxide get into the soda pop? Let's find out!



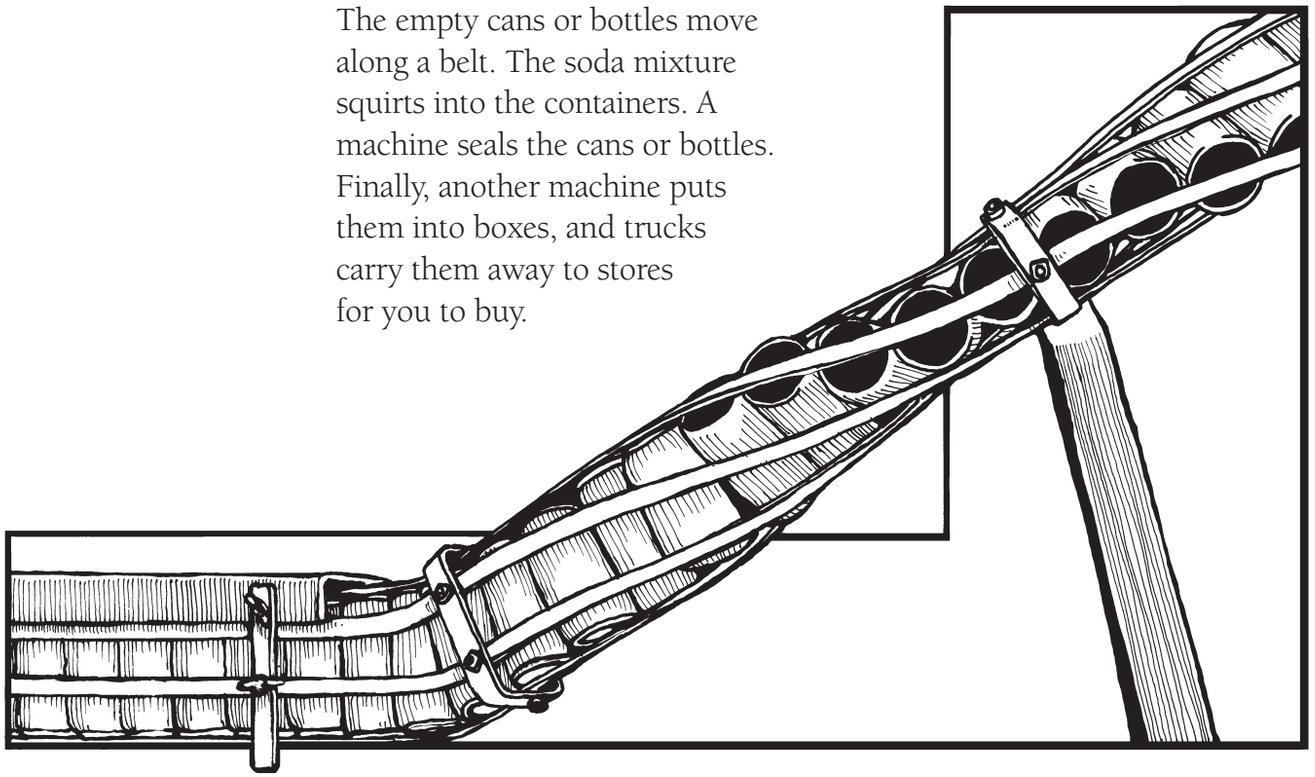
Inside the Soda Pop Factory

In the factory, a machine mixes water, sugar, and flavors. This makes a mixture almost like soda—but without the bubbles.

Next, workers put carbon dioxide gas into a tank and cool it. As the gas gets colder, it changes into a liquid. The workers add the liquid to the mixture of water, sugar, and flavors. Then the carbon dioxide warms up. It turns back to a gas. What does that make? Soda pop—with bubbles. Now the soda pop is ready to be put into cans or bottles.



The empty cans or bottles move along a belt. The soda mixture squirts into the containers. A machine seals the cans or bottles. Finally, another machine puts them into boxes, and trucks carry them away to stores for you to buy.



So, what is the sound you hear when you open a can or bottle of soda? What are the bubbles you see? That's right! Carbon dioxide gas!

Blackline Master

Recipe Card

Recipe Card Number _____

Written by _____ and _____

1. Use the following ingredients:

Solid _____

Liquid _____

2. Place _____ spoonfuls of the solid in the large cup.

3. Now add _____ spoonfuls of the liquid to the cup.

Changes

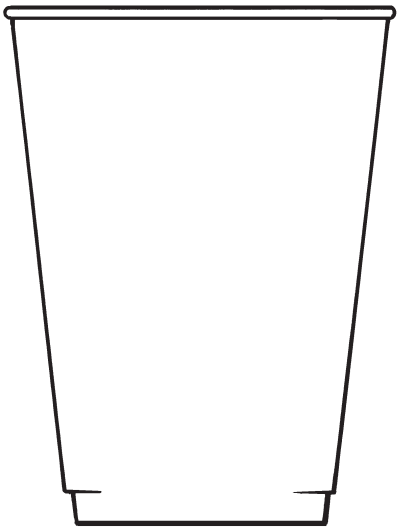
Observation Booklet

Name _____

Date _____

Changes Observation Booklet, *continued*

Recipe Card Number _____



Ingredients

Solid: _____

Liquid: _____

Changes we predict will happen today:

_____

Changes we observed: _____

_____

Changes we predict will happen overnight:

_____