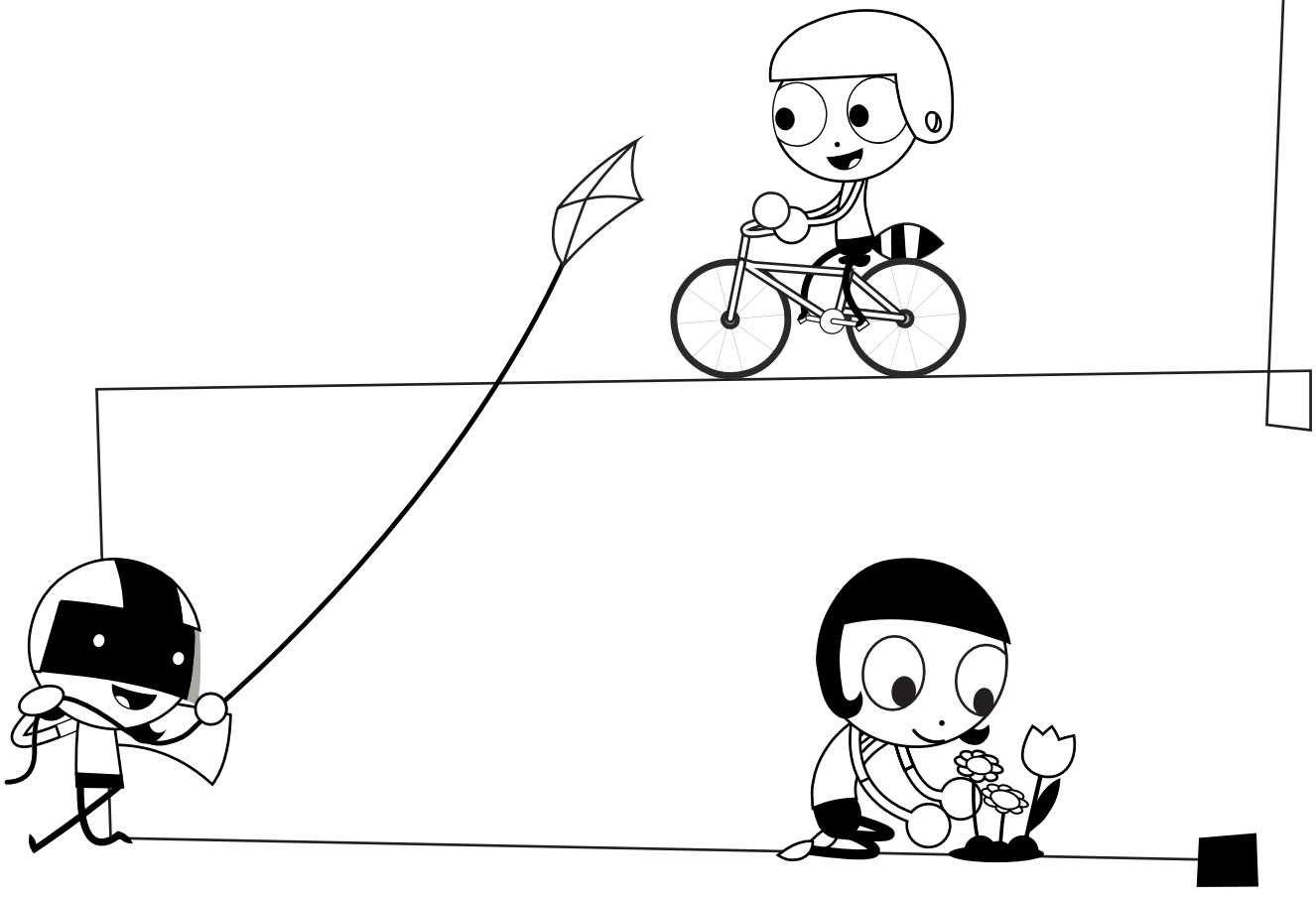
Learn at Home with PBS KIDS

Freezing and Melting

BINGO



Learn at Home with PBS KIDS

Week of February 22nd

Hello, Families!

Welcome to **Learn Along Bingo**! We're happy to share PBS KIDS activities with you and to work with PBS member stations and community partners across the country to help support learning at home. With Learn Along Bingo, children can view, explore, and play as they learn alongside their PBS KIDS friends on the PBS KIDS 24/7 channel. We hope your family will use it to inspire learning each and every day.

It's Freezing and Melting Week!

In this packet, there are printable activities and everyday learning ideas for you and your child to choose from. As you complete each square, mark it off to celebrate the learning.

Learning Spotlight: Freezing and Melting

Water is one of nature's resources. We learn that water can exist as solid ice and in liquid form.

Show What You Know: Playing With Water

The last activity in this packet is a perfect way for children to explore vocabulary and science as they talk about water in different states.

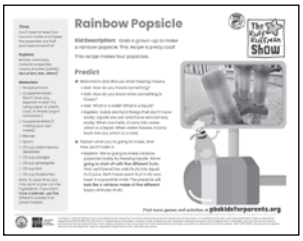
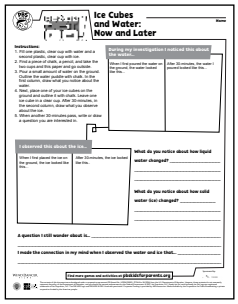
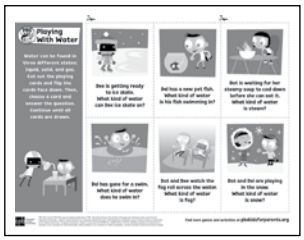
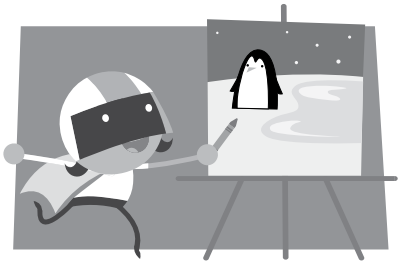
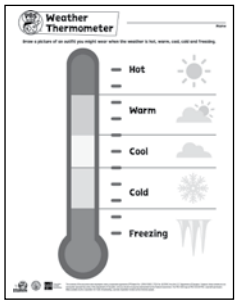
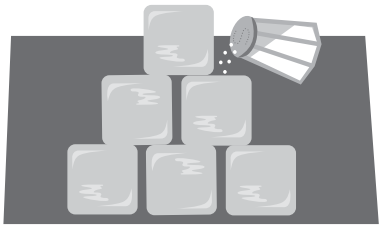
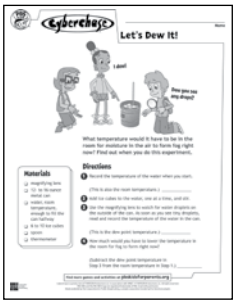
Tune in: Watch HERO ELEMENTARY at 8pm ET on Tuesday, February 23rd on the PBS KIDS 24/7 channel.

Ready for more? Watch your favorite PBS KIDS shows on the 24/7 channel and live stream at pbskids.org/video/livetv or on your local PBS station.

Happy learning!
PBS KIDS

Find free activities, articles and tips to support at-home learning on pbskidsforparents.org

Freezing and Melting BINGO

 Rainbow Popsicles	5 Name five objects that will melt when you heat them and five objects that will not melt.	 Ice Cubes: Now and Later
 Will ice melt faster in a cup of sugar water or a cup of salt water? Test your hypothesis.	 Playing With Water	 Draw a picture of where you might find ice at home or outside.
 Thermometer	 Make towers using ice (that is not watery). You can stick them together with salt!	 Let's Dew It

Grades 1-2

Find more games and activities at pbs.org/parents/learn-at-home

Rainbow Popsicle

Time:
You'll need at least four hours to make and freeze the popsicles, but Ruff promises it's worth it!

Explore:
kitchen chemistry, material properties, inquiry process (predict, document, test, reflect)

Materials:
- ☐ Recipe printout
- ☐ 4 popsicle molds (Don't have any popsicle molds? Try using paper or plastic cups, or empty yogurt containers.)
- ☐ 4 popsicle sticks (if making your own molds)
- ☐ Blender
- ☐ Spoon
- ☐ 1/3 cup watermelons, deseeded
- ☐ 1/3 cup oranges
- ☐ 1/3 cup pineapples
- ☐ 1/3 cup kiwi
- ☐ 1/3 cup blueberries

Note: To save time, you may want to pre-cut the ingredients. If you don't have a blender, use five different colored fruit juices instead.

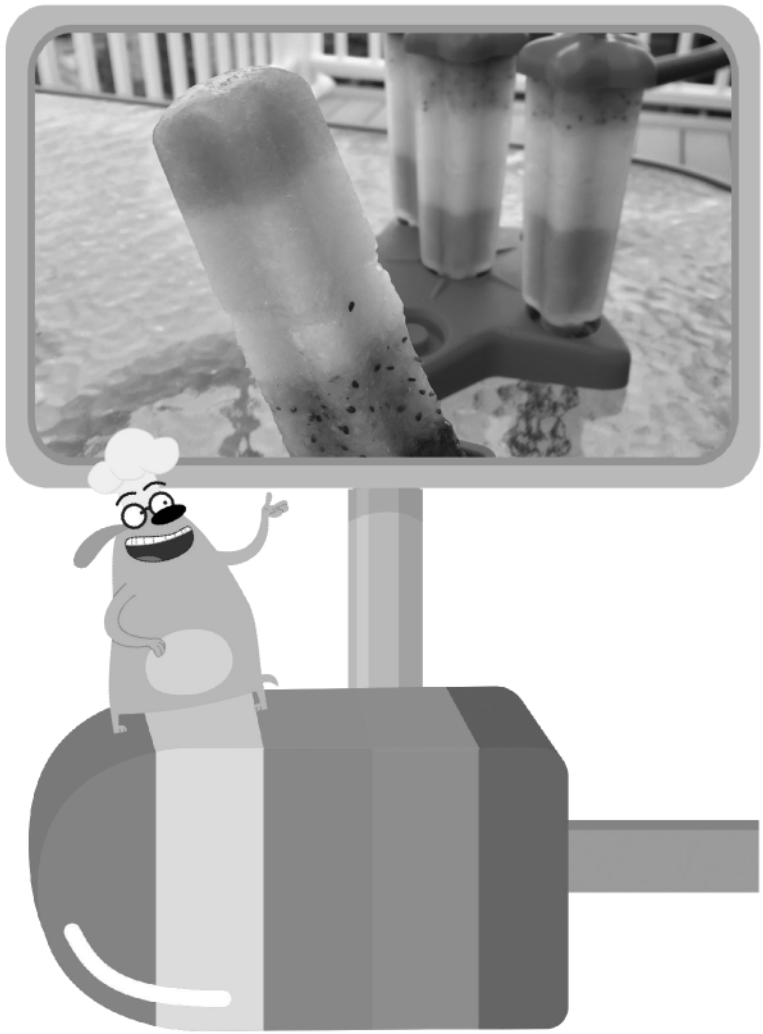
Kid Description: Grab a grown-up to make a rainbow popsicle. This recipe is pretty cool!

This recipe makes four popsicles.

Predict

★ Brainstorm and discuss what freezing means.
- **Ask:** How do you freeze something?
- **Ask:** How do you know when something is frozen?
- **Ask:** What is a solid? What is a liquid?
- **Explain:** Solids are hard things that don't move easily. Liquids are wet and move around very easily. When ice melts, it turns into water, which is a liquid. When water freezes, it turns back into ice, which is a solid.

★ Explain what you're going to make, and how you'll make it.
- **Explain:** We're going to make rainbow popsicles today by freezing liquids. We're going to start off with five different fruits. First, we'll blend the solid fruits into liquid fruit juice. We'll freeze each fruit in its own layer in a popsicle mold. The popsicle will look like a rainbow made of five different layers of frozen fruits.



Find more games and activities at **pbskidsforparents.org**

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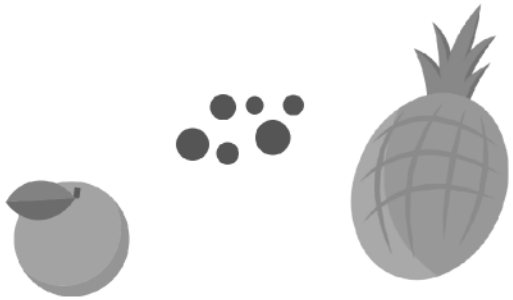
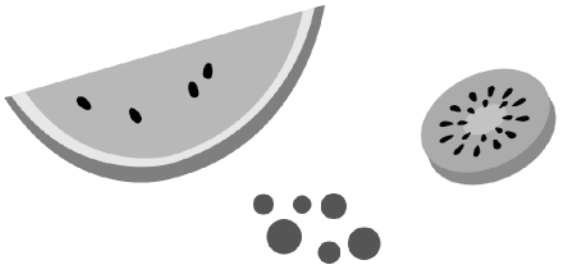


- Introduce the ingredients you'll use.
  - **Ask:** Are these fruits solids or liquids?
  - **Ask:** What will happen when we put the fruits in the blender?
- On the printout, write down the kid's predictions about how long it will take for each layer of the popsicle to freeze.
  - **Ask:** Based on our investigation of the ingredients, how long do you think it will take for each layer to freeze? I'll document your prediction by writing it on the printout.
  - **Ask:** Do you think each layer will take the same amount of time or different amounts?



Prepare

- Make sure kids wash their hands!
- Have kids follow along with the recipe on the printout. If there are multiple kids, help them take turns measuring each ingredient.
  - **Explain:** This is the recipe. A recipe tells us all of the ingredients we need and the instructions to make something. Follow along and check off each ingredient as we add it to the popsicle mold to make sure we don't miss anything!
- Kids can put the ingredients in the blender, and an adult can operate the blender. Adults should cut up all ingredients. Kids can choose whichever order they would like to combine the fruits in their popsicle mold, or they can follow the order on the recipe to create a true "rainbow" popsicle. Note: If you are using fruit juice instead of fruit, omit the blender step.
  - **Ask:** What happens to the fruit when you put it in a blender? Is it a solid or a liquid now?
  - **Ask:** What will happen to the fruit when you put it in the freezer?
- Have kids check the first layer after every 15 minutes to see how long it takes to freeze. Document the time it takes to make each layer on their recipe printout.
  - **Ask:** How long did it take for the popsicle layer to freeze? Document it on your printout.

The Recipe

(Repeat for each fruit layer)

1. Add one fruit to blender.
2. Pulse until blended.
3. Add 1-2 tablespoons of fruit to each popsicle mold.
4. Put in freezer until frozen.

- Note: The first two layers each should take about one hour to freeze. The last three layers should each take about 40 minutes to freeze.
- If making your own popsicle molds, insert the popsicle sticks after the second layer is frozen. The sticks should be able to stand straight up.

Find more games and activities at pbskidsforparents.org

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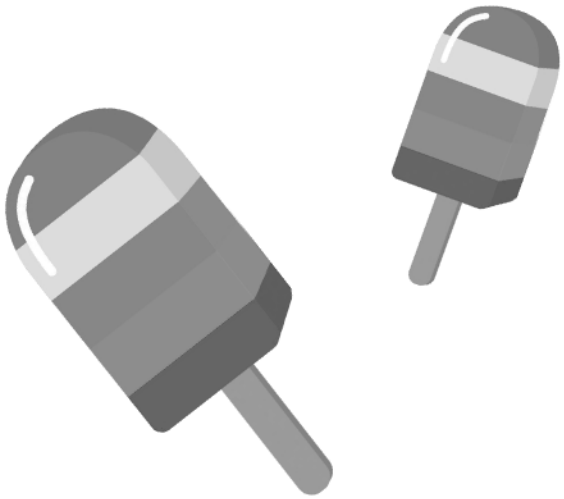
Test

★ Take the popsicles out of the freezer.

- **Ask:** Can you see each of the ingredients now?
- **Ask:** How does the popsicle look different from when the ingredients were first cut up?
- **Ask:** Did each layer take the same time to freeze? Why or why not?

★ Time to eat!

- **Ask:** What does the popsicle taste like?
- **Ask:** Which fruits can you taste?



Reflect

- **Ask:** What made the ingredients change into a popsicle?
- **Ask:** What would happen if you put the ingredients in the freezer for less time? What about more time?
- **Ask:** What would happen if you heated the ingredients?

Next:

Now try making the **chocolate mug cake recipe** to see what happens when you heat ingredients!

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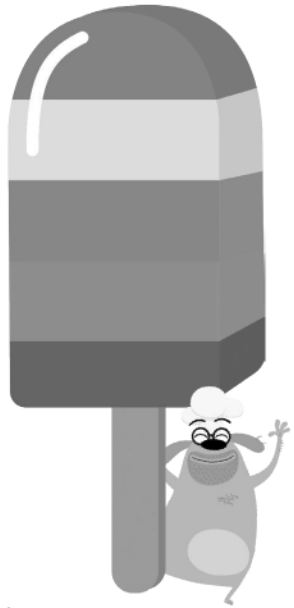
Recipe

Rainbow Popsicle

Predict how long it will take for each popsicle layer to freeze.
Observe what happens and document how long it took for each layer to freeze.

Layer	Prediction	Result
Fruit:		
Fruit:		
Fruit:		
Fruit:		
Fruit:		



Make it

Ingredients

1/3 cup watermelon
1/3 cup orange
1/3 cup pineapple
1/3 cup kiwi
1/3 cup blueberry

Recipe

Repeat for each fruit layer.

1. Add one fruit to blender.
2. Pulse until blended.
3. Add 1-2 tablespoons of fruit to each popsicle mold.
4. Put in freezer until frozen.

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Ice Cubes and Water: Now and Later

Name _____

Instructions:

1. Fill one plastic, clear cup with water and a second plastic, clear cup with ice.
2. Find a piece of chalk, a pencil, and take the two cups and this paper and go outside.
3. Pour a small amount of water on the ground. Outline the water puddle with chalk. In the first column, draw what you notice about the water.
4. Next, place one of your ice cubes on the ground and outline it with chalk. Leave one ice cube in a clear cup. After 30-minutes, in the second column, draw what you observe about the ice.
5. When another 30-minutes pass, write or draw a question you are interested in.

During my investigation I noticed this about the water...

When I first poured the water on the ground, the water looked like this...	After 30-minutes, the water I poured looked like this...

I observed this about the ice...

When I first placed the ice on the ground, the ice looked like this...	After 30-minutes, the ice looked like this..

What do you notice about how liquid water changed? _____

_____

_____

What do you notice about how solid water (ice) changed? _____

_____

_____

A question I still wonder about is... _____

_____

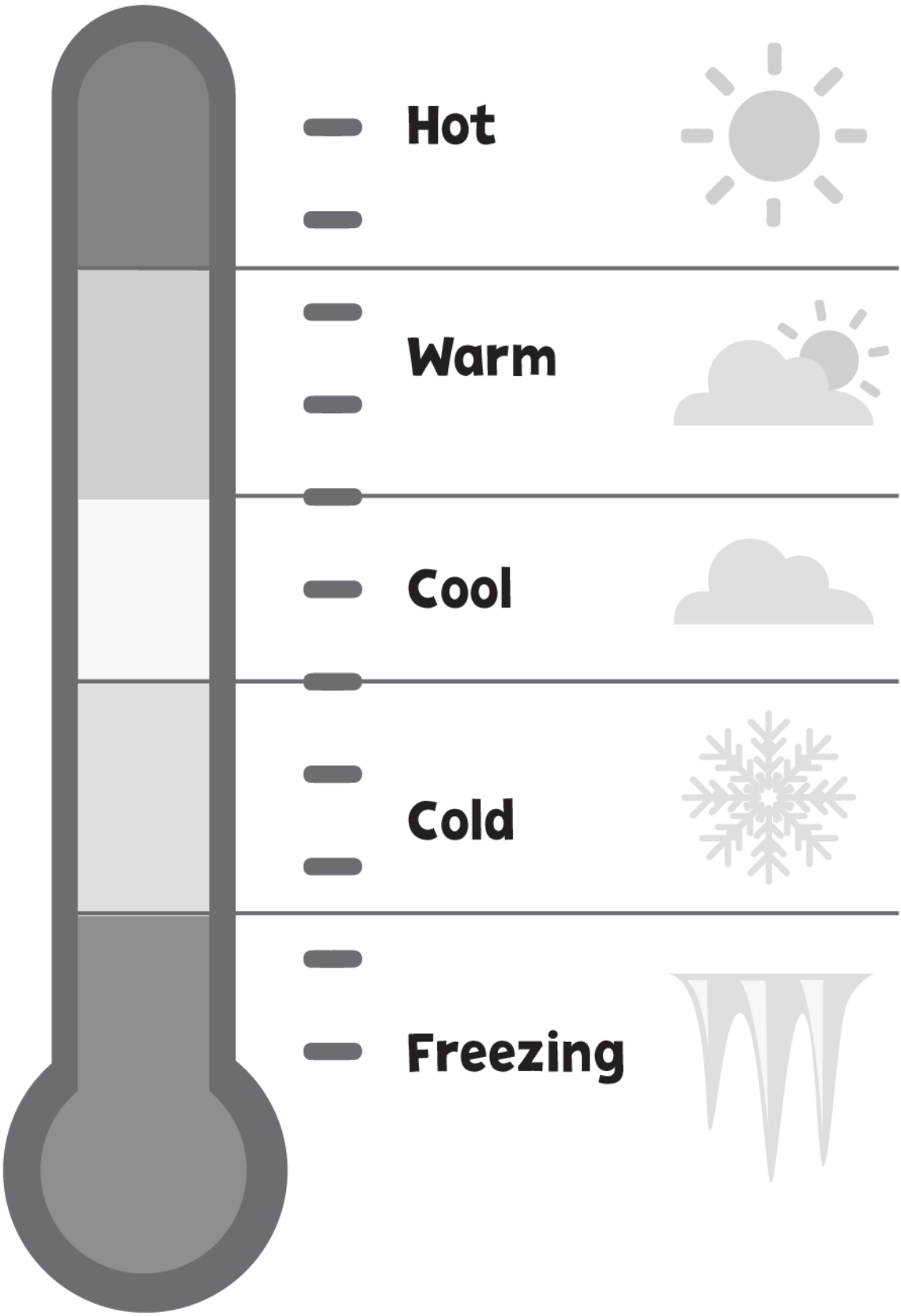
I made the connection in my mind when I observed the water and ice that... _____

_____

Weather Thermometer

Name _____

Draw a picture of an outfit you might wear when the weather is hot, warm, cool, cold and freezing.



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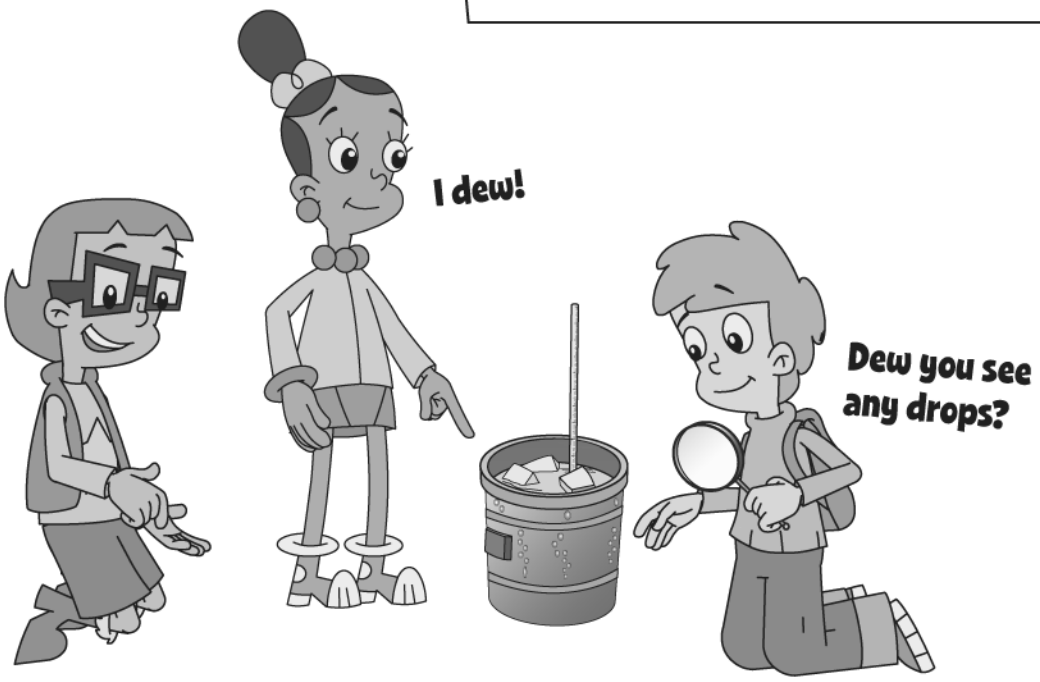
Name

Let's Dew It!



What temperature would it have to be in the room for moisture in the air to form fog right now? Find out when you do this experiment.

Materials

- ❑ magnifying lens
- ❑ 12- to 16-ounce metal can
- ❑ water, room temperature, enough to fill the can halfway
- ❑ 6 to 10 ice cubes
- ❑ spoon
- ❑ thermometer

Directions

1. Record the temperature of the water when you start.

   (This is also the room temperature.) _____

2. Add ice cubes to the water, one at a time, and stir.
3. Use the magnifying lens to watch for water droplets on the outside of the can. As soon as you see tiny droplets, read and record the temperature of the water in the can.

   (This is the dew point temperature.) _____

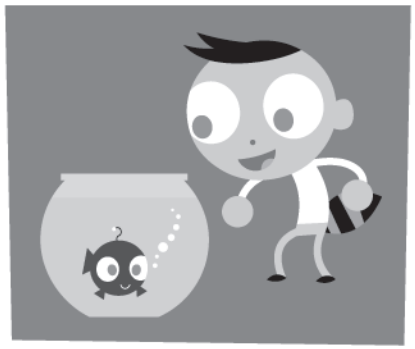
4. How much would you have to lower the temperature in the room for fog to form right now?

   (Subtract the dew point temperature in Step 3 from the room temperature in Step 1.) _____

Playing With Water

Water can be found in three different states: liquid, solid, and gas. Cut out the playing cards and flip the cards face down. Then, choose a card and answer the question. Continue until all cards are drawn.

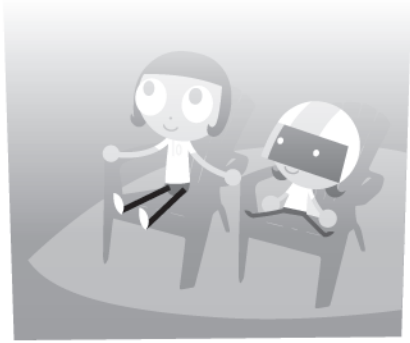
Dee is getting ready to ice skate. What kind of water can Dee ice skate on?



Del has a new pet fish. What kind of water is his fish swimming in?

Dot is waiting for her steamy soup to cool down before she can eat it. What kind of water is steam?

Del has gone for a swim. What kind of water does he swim in?



Dot and Dee watch the fog roll across the water. What kind of water is fog?

Dot and Del are playing in the snow. What kind of water is snow?

Learn at Home with PBS KIDS

Schedule Begins October 5, 2020

Explore reading, math, science, life lessons, and more on the PBS KIDS 24/7 channel and live stream! The TV schedule below offers you and your child a chance to learn anytime alongside your favorite PBS KIDS characters.

TIME (M-F)	SHOW	GRADE	LEARNING GOAL
6/5c am	Splash and Bubbles	PK-K	Science
6:30/5:30c am	WordWorld	PK-K	Literacy
7/6c am	Peg + Cat	PK-K	Math
7:30/6:30c am	Peep and the Big Wide World	PK-K	Science
8/7c am	Sid the Science Kid	PK-K	Science
8:30/7:30c am	Super WHY!	PK-K	Literacy
9/8c am	Pinkalicious & Peterrific	PK-1	The Arts
9:30/8:30c am	Clifford the Big Red Dog	PK-K	Social & Emotional Learning, Literacy
10/9c am	Let's Go Luna!	K-2	Social Studies
10:30/9:30c am	Dinosaur Train	PK-K	Science
11/10c am	The Cat in the Hat Knows a Lot About That!	PK-1	Science & Engineering
11:30/10:30c am	Martha Speaks	K-2	Literacy
12 pm/11c am	Nature Cat	K-3	Science
12:30 pm/11:30c am	Ready Jet Go!	K-2	Science & Engineering
1/12c pm	Arthur	K-2	Social & Emotional Learning
1:30/12:30c pm	Odd Squad	K-2	Math
2/1c pm	Cyberchase	1-5	Math
2:30/1:30c pm	Molly of Denali	K-2	Literacy
3/2c pm	Pinkalicious & Peterrific	PK-1	The Arts
3:30/2:30c pm	Elinor Wonders Why	PK-K	Science & Engineering
4/3c pm	Sesame Street	PK-K	Literacy, Math, Social & Emotional Learning
4:30/3:30c pm	Daniel Tiger's Neighborhood	PK-K	Social & Emotional Learning
5/4c pm	Curious George	PK-K	Math, Science & Engineering
5:30/4:30c pm	Curious George	PK-K	Math, Science & Engineering
6/5c pm	Wild Kratts	K-2	Science
6:30/5:30c pm	Wild Kratts	K-2	Science

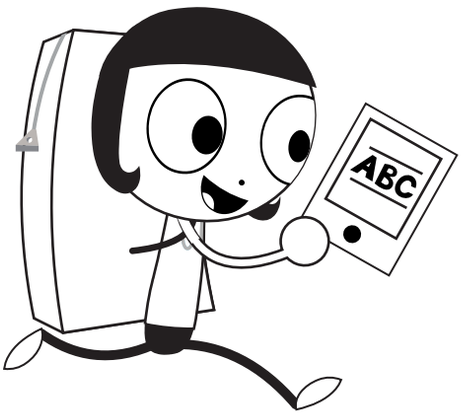
Access FREE, at-home learning activities, tips, and more on pbskidsforparents.org

Learn at Home with PBS KIDS

Play and learn anytime and anywhere with free apps from PBS KIDS! Use the chart below to find the app that aligns to your child's grade, learning goal, and favorite PBS KIDS show - then download it on your on your mobile or tablet device to play online, offline, or anytime.

Apps for Social & Emotional Learning

Daniel Tiger for Parents	PK-K	Social & Emotional Learning
PBS KIDS Games app	K-2	Multiple Learning Goals
PBS KIDS Video app	K-2	Multiple Learning Goals



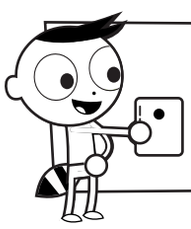
Apps for Literacy Learning

Dinosaur Train A to Z	PK-K	Literacy, Science
Molly of Denali	K-2	Literacy
PBS KIDS Games app	K-2	Multiple Learning Goals
PBS KIDS Video app	K-2	Multiple Learning Goals

Apps for STEM Learning (Science, Technology, Engineering & Math)

PBS Parents Play & Learn	PK-K	Literacy, Math
Play & Learn Engineering	PK-K	Science and Engineering
Play & Learn Science	PK-K	Science
Splash and Bubbles for Parents	PK-K	Science
Splash and Bubbles Ocean Adventure	PK-K	Science
The Cat in the Hat Builds That!	PK-K	Science and Engineering
The Cat in the Hat Invents	PK-K	Science and Engineering
Jet's Bot Builder: Robot Games	K-2	Science and Engineering
Photo Stuff with Ruff	K-2	Science

Ready Jet Go! Space Explorer	K-2	Science
Ready Jet Go! Space Scouts	K-2	Science and Engineering
Nature Cat's Great Outdoors	K-3	Science
PBS KIDS ScratchJr	1-2	Coding
Outdoor Family Fun with Plum	1-3	Science and Engineering
Cyberchase Shape Quest	1-5	Math, Science
PBS KIDS Games app	K-2	Multiple Learning Goals
PBS KIDS Video app	K-2	Multiple Learning Goals



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