

**Class**

**Name**

## Unit 1 What's the Temperature?

**Listen to the audio and fill in the blanks.**

**Track 03**



(1)\_\_\_\_\_ tell us when it is hot or cold. They tell us the

(2)\_\_\_\_\_ temperature. We use them in our daily lives.

How do they (3)\_\_\_\_\_?

Can we make our own thermometer?

Let's make a thermometer with everyday (4)\_\_\_\_\_.

Step 1. Pour water into a small (5)\_\_\_\_\_ and add a few drops of food coloring.

Step 2. (6)\_\_\_\_\_ a small hole in the lid.

Step 3. Close the lid. Put the straw (7)\_\_\_\_\_ the hole so it touches the water. Seal it with clay.

Step 4. Draw (8)\_\_\_\_\_ lines on a piece of paper and put it on the (9)\_\_\_\_\_.

What did we see?

When the (10)\_\_\_\_\_ was warm, the water went up inside the straw.

When the temperature was cold, the water went (11)\_\_\_\_\_ into the bottle.

How does it work? (12)\_\_\_\_\_ increase when they meet something warm.

The water moves up the straw. Water (13)\_\_\_\_\_ when it meets something cold. So, it (14)\_\_\_\_\_ down the straw.

The thermometer showed us the (15)\_\_\_\_\_ in temperature.

**Class**

**Name**

## Unit 2 James Feels Hot

**Listen to the audio and fill in the blanks.**

**Track 06**



James (1)\_\_\_\_\_. He feels sick.

"Mom, my forehead is too (2)\_\_\_\_\_!" he says.

Mom takes a thermometer out of a (3)\_\_\_\_\_.

She checks his (4)\_\_\_\_\_. It's normal.

"You seem okay," she says.

James looks at the (5)\_\_\_\_\_. "Mom, what's the red stuff

(6)\_\_\_\_\_?"

Mom says, "It's alcohol. (7)\_\_\_\_\_ changes its volume, so it goes up and down (8)\_\_\_\_\_. For this reason, alcohol is used in thermometers.

"There are many (9)\_\_\_\_\_ of thermometers. This one measures your (10)\_\_\_\_\_ temperature. I also use one in the

(11)\_\_\_\_\_ for cooking. There are thermometers in

(12)\_\_\_\_\_ gardens and hospitals as well!"

"Wow. Do we have any more thermometers at home?"

"Let's go and see!"

**Class**

**Name**

## Unit 3 Melting Points

**Listen to the audio and fill in the blanks.**

**Track 09**



It was very (1)\_\_\_\_\_. Mandy and Mark went to the movie (2)\_\_\_\_\_. When the movie finished, they (3)\_\_\_\_\_.  
"The ice on the street didn't (4)\_\_\_\_\_!" said Mandy.

When they got home, Mark put some ice in a (5)\_\_\_\_\_ of water. It melted in five (6)\_\_\_\_\_!

Does ice melt at a different speed in different (7)\_\_\_\_\_? Let's see!

Step 1. Pour (8)\_\_\_\_\_, milk, and water into different bowls. Put an ice cube in each (9)\_\_\_\_\_ at the same time.

Step 2. See how long it takes for the (10)\_\_\_\_\_ to melt in each bowl.

The ice melts in this (11)\_\_\_\_\_: first in water, then in cola, and then in (12)\_\_\_\_\_.

Ice melts fastest in (13)\_\_\_\_\_ water. But ice melts slowest in milk.

The (14)\_\_\_\_\_ is the temperature when a solid changes to a liquid.

The melting point of water is higher than the other liquids.

Water is a pure substance. Mixtures have lower melting points than pure (15)\_\_\_\_\_. That is why ice melts the fastest in water.

**Class**

**Name**

## Unit 4 The Case of the Disappearing Snowman

**Listen to the audio and fill in the blanks.**

**Track 12**



Emma (1)\_\_\_\_\_ early on Christmas morning.

Snow was (2)\_\_\_\_\_!

"Dad, let's make a (3)\_\_\_\_\_!" she said. So they did.

Then she (4)\_\_\_\_\_ to her grandparents' for a (5)\_\_\_\_\_ meal. That evening, they came home.

"Dad, the snowman (6)\_\_\_\_\_! Where is it?"

"It was (7)\_\_\_\_\_ today," said her dad. "The snow melted.

"Last night, the temperature was (8)\_\_\_\_\_ zero degrees Celsius.

The water (9)\_\_\_\_\_ in the air froze. It turned to snow and fell from the (10)\_\_\_\_\_.

"Today, the temperature was warm. It was more than zero

(11)\_\_\_\_\_ Celsius. So the snow melted. Zero degrees

(12)\_\_\_\_\_ is the melting point of water.

"Look, can you see the (13)\_\_\_\_\_ where your snowman was?"

"I see it! Can we make a snowman next time it (14)\_\_\_\_\_?"

"Of course! Now, who wants some (15)\_\_\_\_\_?"

**Class**

**Name**

## Unit 5 Wet and Dry

**Listen to the audio and fill in the blanks.**

**Track 15**



Do you know what high (1)\_\_\_\_\_ is? It's when there is a lot of water vapor in the air.

When it's hot and humid, you sweat a lot. The (2)\_\_\_\_\_ stays on your body. You feel hotter.

When it's cold and humid, your (3)\_\_\_\_\_ get wet.

When cold wind (4)\_\_\_\_\_ on them, you feel colder.

Let's see how humidity works.

Let's make a (5)\_\_\_\_\_.

Step 1. Make an arrow out of a (6)\_\_\_\_\_. Make a hole in the (7)\_\_\_\_\_. It should be slightly larger than the size of a pin.

Step 2. Put a pin through the hole, and pin it to the bottom of a thick piece of (8)\_\_\_\_\_.

Step 3. Take a long hair. Stick one end to the top of the cardboard. (9)\_\_\_\_\_ the other end to the arrow.

Step 4. Take a hairdryer and blow hot air on the hair.

Step 5. Now, put the hygrometer in a bag with a wet (10)\_\_\_\_\_.

Close the bag and wait.

**Class****Name**

When we used the (11)\_\_\_\_\_ on the hair, it got shorter, and the arrow moved.

When we put the hygrometer in the bag, the hair got (12)\_\_\_\_\_, and the arrow moved the other way.

Why did this (13)\_\_\_\_\_? The hairdryer dried out the air around the hair. It made the hair (14)\_\_\_\_\_. In contrast, hair expands when it's wet or humid. Humidity can even make your hair (15)\_\_\_\_\_!

**Class**

**Name**

## Unit 6 Hot and Humid

**Listen to the audio and fill in the blanks.**

**Track 18**



It (1)\_\_\_\_\_ all day yesterday, but today it's sunny.

Mia goes to the (2)\_\_\_\_\_ with her mom. It's really hot and (3)\_\_\_\_\_.

Mom says, "The weather today is really hot and (4)\_\_\_\_\_."

"Humid? What's that?" Mia (5)\_\_\_\_\_.

"Humidity is how much water (6)\_\_\_\_\_ there is in the air. High (7)\_\_\_\_\_ means there is a lot of water vapor in the air.

(8)\_\_\_\_\_ humidity means there is little water vapor in the air.

"When the humidity is too (9)\_\_\_\_\_, like today, you feel hotter.

You (10)\_\_\_\_\_ more. And food goes bad quickly!"

"So high humidity is (11)\_\_\_\_\_?" asks Mia.

"(12)\_\_\_\_\_. When the humidity is too low, the air is dry. It

(13)\_\_\_\_\_ your skin and eyes. It can be hard to

(14)\_\_\_\_\_."

"Well, it's too humid today. Let's go (15)\_\_\_\_\_, " says Mia.

**Class**

**Name**

## Unit 7 Heat Transfer

**Listen to the audio and fill in the blanks.**

**Track 21**



Leave a spoon in a hot pot of (1)\_\_\_\_\_. When you touch it later, the (2)\_\_\_\_\_ is hot!

But the spoon handle wasn't inside the soup. Why did it get hot?

(3)\_\_\_\_\_ moved up the spoon.

When you heat part of a (4)\_\_\_\_\_ material, that part gets hotter.

Then the heat moves to the (5)\_\_\_\_\_ of the object.

The whole object gets hot over time. Heat moves through solid materials. This is called "(6)\_\_\_\_\_."

Let's watch it happen. This (7)\_\_\_\_\_ involves fire, so be careful.

Step 1. (8)\_\_\_\_\_ three different copper sheets.

Step 2. (9)\_\_\_\_\_ thermochromic adhesive labels to the three different (10)\_\_\_\_\_ sheets.

Step 3. Heat a corner of each copper sheet and (11)\_\_\_\_\_ the color change on the labels.

Step 4. Draw the (12)\_\_\_\_\_ the color changes when heating the copper (13)\_\_\_\_\_.

The first part of the sheet to (14)\_\_\_\_\_ color is the part near the fire. Then the rest of it changes.

Heat (15)\_\_\_\_\_ from a high temperature to a low temperature.



**Class**

**Name**

## Unit 8 Insulating Ice

**Listen to the audio and fill in the blanks.**

**Track 24**



Danny saw a (1)\_\_\_\_\_ of an igloo in a magazine.

"Wow, Mom, look! A house (2)\_\_\_\_\_ ice! But isn't it cold in there?"

"No, not at all. The house is made of cold (3)\_\_\_\_\_. But it isn't cold inside because of (4)\_\_\_\_\_!"

"What's insulation?"

"Insulation (5)\_\_\_\_\_ heat escaping from an object or a place.

"Put a (6)\_\_\_\_\_ on a hot cup of tea. The tea (7)\_\_\_\_\_ hotter for longer. Wear a (8)\_\_\_\_\_ in winter. Hot air stays near your body."

"Oh, that's why you tell me to (9)\_\_\_\_\_ the windows in winter! To (10)\_\_\_\_\_ the hot air in the house."

"That's right."

"I'm (11)\_\_\_\_\_ that even people at the North Pole can stay (12)\_\_\_\_\_."

**Class**

**Name**

## Unit 9 Dissolving Substances

**Listen to the audio and fill in the blanks.**

**Track 27**



Put (1)\_\_\_\_\_ in your tea. Put salt in your (2)\_\_\_\_\_.

They mix with the liquid. They seem to (3)\_\_\_\_\_.

You can't see them, but the sugar and the salt are (4)\_\_\_\_\_ there.

Drink the tea. It tastes sweet.

Try the soup. It tastes (5)\_\_\_\_\_. The sugar and the salt mixed with the (6)\_\_\_\_\_.

When a substance mixes with another (7)\_\_\_\_\_, we call this "dissolution."

Step 1. Pour water in a beaker. Put the beaker on an (8)\_\_\_\_\_ scale.

Step 2. Put a sugar cube on the scale, too. (9)\_\_\_\_\_ them together.

Step 3. Now, put the sugar cube in the beaker, and (10)\_\_\_\_\_ it completely in the water.

Step 4. Weigh the (11)\_\_\_\_\_ again.

The (12)\_\_\_\_\_ of the beaker doesn't change. It is the same before and after dissolving the sugar (13)\_\_\_\_\_ in it.

The sugar cube is still in the (14)\_\_\_\_\_. It dissolved in the water. It (15)\_\_\_\_\_ with the water.

**Class**

**Name**

## Unit 10 Solvents and Solutes

**Listen to the audio and fill in the blanks.**

**Track 30**



Today, some (1)\_\_\_\_\_ of Lisa's mom came to visit her at home.

They ate (2)\_\_\_\_\_ and drank coffee.

Lisa's mom put sugar cubes in her bitter coffee.

The sugar (3)\_\_\_\_\_ disappeared!

Lisa wanted to ask what happened, but her mom was (4)\_\_\_\_\_

talking. So Lisa looked (5)\_\_\_\_\_.

"Oh, the sugar didn't disappear. It just (6)\_\_\_\_\_. It got very small,

and it (7)\_\_\_\_\_ into the coffee. Now mom's coffee is much

(8)\_\_\_\_\_!"

Lisa saw that substances that dissolve in other substances are called

"(9)\_\_\_\_\_." Sugar and salt are solutes.

The substance they dissolve in is called a "(10)\_\_\_\_\_." Water and

coffee are solvents. That's why you can (11)\_\_\_\_\_ salt when you

(12)\_\_\_\_\_ it on your food. But you can't see it.

Then Lisa mixed some (13)\_\_\_\_\_ together. Sugar dissolved in milk.

But not (14)\_\_\_\_\_ worked. Water didn't dissolve in oil!

**Class**

**Name**

## Unit 11 All the Stars in the Sky

**Listen to the audio and fill in the blanks.**

**Track 33**



There are (1)\_\_\_\_\_ stars in the night sky. People group the (2)\_\_\_\_\_ stars together into recognizable shapes called (3)\_\_\_\_\_. Some of them look like (4)\_\_\_\_\_ or animals. Let's make a (5)\_\_\_\_\_ and see the constellations at home.

Step 1. Look at a (6)\_\_\_\_\_ of the stars. Make holes in the lid of a box to (7)\_\_\_\_\_ one constellation.

Step 2. Make a large hole in the (8)\_\_\_\_\_ of the box. Put a flashlight in the (9)\_\_\_\_\_.

Step 3. Show your friends the constellation light box that you made. Go to a (10)\_\_\_\_\_ room, shine the flashlight at the (11)\_\_\_\_\_ or the walls, and enjoy the constellation (12)\_\_\_\_\_.

Constellations are different in (13)\_\_\_\_\_ and winter.

This is because Earth moves (14)\_\_\_\_\_ the sun. As Earth moves in space, we can see (15)\_\_\_\_\_ stars.

**Class**

**Name**

## Unit 12 Orion and the Big Dipper

**Listen to the audio and fill in the blanks.**

**Track 36**



Ryan went (1)\_\_\_\_\_ with his dad. They sat around the campfire at (2)\_\_\_\_\_.

Ryan looked up at the night (3)\_\_\_\_\_. Wow! There were so many stars in the sky. Ryan couldn't see that many in the (4)\_\_\_\_\_.

In the city, fog, (5)\_\_\_\_\_, and tall buildings (6)\_\_\_\_\_ the stars.

Dad pointed to the sky. "Look! There's (7)\_\_\_\_\_!"

"Orion? What's that?"

"Orion is a man, but not a (8)\_\_\_\_\_ man. It's a constellation. That's

a (9)\_\_\_\_\_ of stars that looks like something. It's

(10)\_\_\_\_\_ to spot Orion in the winter sky here. Just

(11)\_\_\_\_\_ three stars that look like a (12)\_\_\_\_\_."

"I see them!" says Ryan. "I can see Orion. Are there (13)\_\_\_\_\_ more?"

"Many more. Look over there. That one looks like a (14)\_\_\_\_\_. It's called the Big (15)\_\_\_\_\_."

**Class**

**Name**

## Unit 13 Water in the Air

**Listen to the audio and fill in the blanks.**

**Track 39**



Go (1)\_\_\_\_\_ early in the morning. Can you see drops of water on the grass or (2)\_\_\_\_\_? These drops are called dew.

There are low and thick (3)\_\_\_\_\_ close to the ground, making it difficult to see. That's called (4)\_\_\_\_\_.

Fog and dew are different. But both are (5)\_\_\_\_\_ water in the air.

Dew forms when water vapor meets cold leaves or branches. Then, the air (6)\_\_\_\_\_, and the water vapor in the air condenses.

Let's watch it (7)\_\_\_\_\_.

Step 1. Fill 2/3 of a (8)\_\_\_\_\_ with water and ice cubes.

Step 2. Wipe the surface of the jar with a dry (9)\_\_\_\_\_. Then, observe the changes on the surface of the jar.

The vapor outside the jar (10)\_\_\_\_\_. It forms water drops on the surface of the cold jar.

**Class****Name**

Fog (11)\_\_\_\_\_ from water vapor as well.

Step 1. Fill up the jar with warm water to (12)\_\_\_\_\_ it up. Then pour out the water.

Step 2. Put a lit (13)\_\_\_\_\_ stick into the jar for a minute. Then, take it out.

Step 3. Place a dish with (14)\_\_\_\_\_ on top of the jar. See what happens.

The ice cools the warm water vapor. The water (15)\_\_\_\_\_ condenses, and it makes fog inside the jar.

**Class**

**Name**

## Unit 14 Steaming Hot Soup

**Listen to the audio and fill in the blanks.**

**Track 42**



Kevin is very (1)\_\_\_\_\_. Dad made carrot soup for dinner. Mmm!  
Dad puts the hot (2)\_\_\_\_\_ on the table and starts to eat.  
Kevin starts laughing.

"What's (3)\_\_\_\_\_?" asks his dad.

"Your (4)\_\_\_\_\_ are foggy! You look like Grandfather!"

Kevin's dad (5)\_\_\_\_\_.

"That's because of the (6)\_\_\_\_\_, " he says. "Hot water vapor  
comes out from the soup, and it (7)\_\_\_\_\_ my cold glasses. The  
vapor cools down quickly and turns to (8)\_\_\_\_\_."

Kevin thinks about his (9)\_\_\_\_\_ shower.

"That's why the mirror steams up when I have a (10)\_\_\_\_\_!"

"Yes! That's right," says Dad. "Now eat your (11)\_\_\_\_\_ before it  
cools down."

Look for steam (12)\_\_\_\_\_ you when you get home today.



**Class**

**Name**

## Unit 15 Aerospace Engineers

**Listen to the audio and fill in the blanks.**

**Track 45**



Do you know about the Wright (1)\_\_\_\_\_?

The Wright brothers (2)\_\_\_\_\_ the first airplane in 1903. It only flew for 12 seconds! It flew just 36 (3)\_\_\_\_\_.

Now, planes can fly from (4)\_\_\_\_\_ to America. They can fly for 21 hours (5)\_\_\_\_\_. Planes can fly over 15,000km!

Who made planes better? (6)\_\_\_\_\_ engineers did. They keep designing better (7)\_\_\_\_\_.

They make planes faster, quieter, and (8)\_\_\_\_\_. They make planes from better materials. They (9)\_\_\_\_\_ better shapes. They make planes better for the (10)\_\_\_\_\_.

Aerospace engineers don't just (11)\_\_\_\_\_ planes. They design drones and helicopters. They even design things that can (12)\_\_\_\_\_ in space, like satellites and space (13)\_\_\_\_\_.

Would you like to design a rocket to visit the (14)\_\_\_\_\_ of the universe?

Become an aerospace (15)\_\_\_\_\_!

**Class**

**Name**

## Unit 16 3D Printing

**Listen to the audio and fill in the blanks.**

**Track 48**



We can print (1)\_\_\_\_\_. We can print books.

Can we print a (2)\_\_\_\_\_? Or a cup? Or even a pizza?

Yes, we can! 3D printers can (3)\_\_\_\_\_anything we can imagine.

(4)\_\_\_\_\_ 3D printers can even print food!

(5)\_\_\_\_\_ special software on your computer. (6)\_\_\_\_\_ anything you want.

Your computer (7)\_\_\_\_\_ the design to the 3D printer. The printer moves in all (8)\_\_\_\_\_. It makes your design real.

(9)\_\_\_\_\_ engineers designed the first 3D printers 40 years ago. The printers used to be very big and very (10)\_\_\_\_\_. They couldn't print many things. Now they are smaller, and they are (11)\_\_\_\_\_. They can print more and more things.

(12)\_\_\_\_\_ can make artificial 3D-printed hearts.

(13)\_\_\_\_\_ can 3D-print their art. You can print your own

(14)\_\_\_\_\_.

We can print anything we like (15)\_\_\_\_\_ 3D printers!