

Class

Name

Unit 1 Air Pressure Creates Wind

Listen to the audio and fill in the blanks.

Track 03



Air is all around us.

It's made of tiny (1)_____. These particles don't stay still. They are always moving.

But why does it (2)_____? And how does it move?

Let's look for (3)_____.

Step 1. Blow up a balloon to three-(4)_____ of the size and tie the end with a binder clip.

Step 2. Put the end of the balloon onto a (5)_____ tube.

Step 3. Blow up another balloon (6)_____ and tie the end using a binder clip. Put the balloon on the other end of the (7)_____.

What do you think will happen? Will the air move? Will it stay in the same place?

Step 4. Remove the clips from both (8)_____. Watch the air move inside the balloons.

Which balloon will get bigger and which will get smaller? Why did the big balloon get bigger and (9)_____ all the way while the small one got smaller?

It's because air moves from (10)_____ of higher pressure to areas of (11)_____ pressure.

The air inside the small balloon is in a smaller space. So the air (12)_____ are closer together, causing high (13)_____. The air molecules in the larger balloon are (14)_____ out, causing lower pressure. The air moves from the small balloon to the big balloon. Air moves like this in (15)_____ as well. We call it "wind."

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Unit 2 The Weather Forecast

Listen to the audio and fill in the blanks.

Track 06



Lulu and her mom are watching TV (1)_____. The weather forecast is on.

"Be (2)_____, as there will be a lot of low pressure today."

"Is low pressure bad, mom?" (3)_____ Lulu.

"It's bad for the (4)_____. High pressure brings sunshine and clear skies. Low

(5)_____ brings rain and clouds. There could be (6)_____ or even snow if it's cold."

"Then I should take my (7)_____ today," says Lulu.

"Good (8)_____!" says Mom.

The weather forecast continues.

"(9)_____ rain and wind are expected in the southern region. Check before you (10)_____."

"Dad is on a business trip in the south, isn't he? He (11)_____ to fly home today."

Mom says, "I just got a (12)_____ from your dad. His flight was canceled. He will come home (13)_____."

"It's (14)_____ we know the weather in advance! This way, we can

(15)_____ out for low pressure."

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Unit 3 How Does Heat Move Liquids?

Listen to the audio and fill in the blanks.

Track 09



Have you ever (1)_____ water using a kettle?

The bottom of the kettle gets hot. It heats the water (2)_____ from the bottom to the top.

How does all the water in the kettle (3)_____ hot and finally boil? Let's see.

Step 1. (4)_____ a large water tub, four cups to support the tub, blue food coloring, a dropper, and a small paper cup.

Step 2. Put the water tub on top of the four cups. Put (5)_____ in it.

Step 3. Drop the blue food coloring (6)_____ the bottom of the tub using the dropper. Make sure you put the food coloring in (7)_____.

Step 4. Fill the small paper cup with hot water. Put the paper cup (8)_____ the food coloring in the tub. See what (9)_____ to the blue food coloring.

(10)_____ happened? The hot water under the tub heated the food coloring. After a while, the heated food coloring started moving. It (11)_____ from the bottom to the top of the tub.

The heated blue water went up. The (12)_____ water went down.

We call this (13)_____ a "convection current."

In a kettle, the hot water at the bottom moves up. The cold water moves (14)_____.

Then that water gets hot, and it moves up again.

This (15)_____ happening until all the water is hot. The kettle boils!

Would you like some tea?

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Unit 4 Water Moves Around the World

Listen to the audio and fill in the blanks.

Track 12



It was a very (1)_____ winter day. Tim went to the sea with his dad. He put his (2)_____ in the water.

"Dad, the water is very cold! The water at the North Pole is (3)_____ colder, right?"

Dad answered, "That's right. The water (4)_____ the North Pole is cold. But the water near the equator is (5)_____. This causes something (6)_____ to happen."

"What is that?" Tim asked.

"It's the circulation of the seawater. Cold water is heavier than warm water.

(7)_____ the seawater near the poles gets (8)_____, it sinks down.

The cold water (9)_____ to warm areas near the equator. The warm water (10)_____ to where the cold water was. It's a (11)_____ convection current."

"Wow, it (12)_____ just like our kettle at home! How (13)_____ does the water move?"

"It's very slow. It flows about 1 cm per hour. It (14)_____ more than one thousand years to circulate (15)_____ the whole world!"

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Unit 5 Growing Mushrooms

Listen to the audio and fill in the blanks.

Track 15



Animals and plants are two (1)_____ types of living things. There's another type of living thing. It's called a fungus. Mold and (2)_____ are types of fungi. They grow well in warm and humid environments.

We can (3)_____ see mold and mushrooms growing in the summertime.

They don't get their food from (4)_____ like plants.

They can grow in the (5)_____. They get nutrients from other living things, dead or alive.

Let's watch a mushroom grow and see for (6)_____!

Step 1. Get a mushroom (7)_____ kit. Follow the instructions on the kit.

Step 2. Your kit will include a substrate (mushroom food) and mycelium (mushroom spawn). It will take a (8)_____ days for the mushrooms to grow.

Did your mushrooms grow? Aren't they (9)_____? All they need to grow are the spawn and the substrate. They don't need sunlight to grow. You didn't use (10)_____ to grow the mushrooms.

Mushrooms don't (11)_____ seeds. They make spores. Wild mushrooms

(12)_____ the spores. They get carried away by the wind. If a spore

(13)_____ somewhere dark, humid, and with good food, it releases the spawn, and a new mushroom can grow.

Mushrooms are easy to find in the (14)_____. It's dark and humid, and the soil has lots of nutrients. But not all mushrooms can be (15)_____, so don't pick them.

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Unit 6 I Am Not a Plant!

Listen to the audio and fill in the blanks.

Track 18



It's very nice to (1)_____ you. I'm a mushroom. I have a wide

(2)_____ and a stalk.

I don't move, and I grow (3)_____, so people think I am a plant. But I'm not a

(4)_____. I'm not an animal (5)_____.

Then what am I? I'm a fungus. Mold is a (6)_____ of my family!

Fungi like me grow (7)_____ in a warm and humid environment. You can see a lot of us in the (8)_____.

Plants make their own food (9)_____ photosynthesis.

I can't do this, so I get nutrients (10)_____ dead and living things around me.

(11)_____ do I reproduce?

I reproduce by spores. Spores are (12)_____ in the gills under my cap.

Spores are (13)_____, so they float in the air. They (14)_____ away

and land on the earth. There, they grow into (15)_____ mushrooms.

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Unit 7 Water Drops

Listen to the audio and fill in the blanks.

Track 21



We (1)_____ that water has three states: liquid, solid, and (2)_____.

We know water can move between these states.

There's (3)_____ something else to know about water. It's called "surface tension."

What is surface tension? Let's do an (4)_____ and see.

Step 1. Place a penny on a (5)_____ surface. Fill a pipette with water.

Step 2. (6)_____ drops of water on the penny, one at a time. Count the drops.

Step 3. Keep (7)_____ drops. How many drops does it take (8)_____ the water spills off the penny?

Step 4. Try again. How many drops can you add this time before it spills?

How did the water (9)_____ on the penny? Why didn't it spill over straight away?

It's (10)_____ of surface tension. Surface tension (11)_____ the water molecules together tightly. On the surface of the water, they hold (12)_____ even tighter.

They're like a (13)_____ on the water. This is surface tension.

Surface tension held a few water drops together. When we added more and more drops of water, eventually we (14)_____ the surface tension. The water spilled.

Where else can we see surface tension in (15)_____?

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Unit 8 A Water Strider

Listen to the audio and fill in the blanks.

Track 24



I'm a water strider. You can (1)_____ me at ponds and reservoirs.
My body looks like a thin (2)_____. I have three pairs of (3)_____. My front two legs are short. My back four legs are very (4)_____. Some people say my four long legs make me (5)_____ like a drone.
Drones float in the (6)_____, and I float on the (7)_____! I can walk on water, too. Is it because I'm (8)_____? I am light, but there is a more scientific (9)_____. It's because I use surface tension.
There are (10)_____ of fine hairs covering my whole body. The hairs (11)_____ in air while my legs (12)_____ on the surface of the water and spread my (13)_____ out. The water pushes my legs up. That's how I (14)_____ on the water.
(15)_____ for me in the water!

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Unit 9 Speed Racers

Listen to the audio and fill in the blanks.

Track 27



How can we compare the (1)_____ of objects? There are two ways to do it.

We can compare their speed over the (2)_____ distance.

For example, five (3)_____ run a 100-meter race. The person who

(4)_____ first is the fastest.

We can also (5)_____ how far objects can travel at different speeds over the same amount of time.

A (6)_____ travels 60 km in 3 hours. A car travels 240 km, and a train travels 300 km in the same time.

Which is the fastest? It's the (7)_____. It travels the farthest in the same amount of time.

Let's compare the speed of (8)_____ over the same amount of time.

Step 1. Draw a starting line on the (9)_____. Place a tape measure so it is vertical to the line.

Step 2. Prepare three (10)_____ cars. Place one car at the starting line and set a time for the race, for example 1 (11)_____.

Step 3. Move the paper car using a fan. Mark where the car (12)_____ and measure how far it moved.

Step 4. Now do it for the other two cars. Which car moved the (13)_____?

The first car went 72 cm, the second car went 52 cm, and the third car went 40 cm.

The first car went the farthest in the same (14)_____ of time, so it is the fastest.

Which car was the (15)_____ for you?

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Unit 10 A Race to Grandfather's House

Listen to the audio and fill in the blanks.

Track 30



It's Sally's grandfather's (1)_____. Sally and her uncle both arrive at Grandfather's home at 10 a.m.

"Hi, (2)_____ Pete!" says Sally. "When did you leave home?"

"We left (3)_____ at 8 a.m., so it took us 2 hours to get here," Uncle (4)_____. "When did you leave?"

"We left at 7 a.m., so it (5)_____ us 3 hours. Hmm... Whose car was faster? How can we find it out?"

"We (6)_____ to work out the velocity," says Uncle Pete.

"Your home is 240 kilometers (7)_____ from Grandfather's. It took you 3 (8)_____, so divide 240 km by 3 hours. That's 80 km/h. My home is 140 kilometers away (9)_____ here, and I took 2 hours to get here. Divide 140 by 2 to make 70 km/h."

Sally (10)_____, "So our car was 10 km/h (11)_____ than your car, right?"

"(12)_____, Sally. You won!" says Uncle.

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Unit 11 The Changing Volumes of Gases

Listen to the audio and fill in the blanks.

Track 33



You (1)_____ to play table tennis. The ball rolls off the table and you step on it by mistake. Oh, no! Now the ball is (2)_____.! How can you play?
Can you (3)_____ the crushed ball?

Step 1. Put a (4)_____ over the mouth of a triangular flask.

Step 2. Put the flask in a beaker filled with (5)_____ water.

Step 3. Now, put the flask in a beaker filled with (6)_____ water.

The volume of gases gets (7)_____ when they get hotter. The hot gases made the balloon bigger. The (8)_____ of gases gets smaller when the gases get colder. The (9)_____ gases made the balloon (10)_____.

So, how can we fix the crushed ball? Can you work it out?

That's right.

(11)_____ the ball in hot water. The volume of the gases in the ball will get bigger.

The crushed (12)_____ will return to its original shape!

(13)_____ your knowledge of the volume of (14)_____, you can play table tennis!

Where (15)_____ can you use this knowledge?

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Unit 12 Cold Air, Hot Air

Listen to the audio and fill in the blanks.

Track 36



"Brian, (1)_____ at this stew!" says Erica. "It looks weird! Mom said to eat it for (2)_____, but I'm not sure whether it's okay to eat."

"What's (3)_____?" says her brother.

"Look at the plastic wrap on (4)_____. It's curved downward. Does that (5)_____ it's rotten?" Erica says.

"Don't worry, Erica!" (6)_____ Brian. "It's just because the stew was in the (7)_____. It got cold. The air (8)_____ the plastic wrap and the stew got cold, too. The volume of the air got (9)_____, so the plastic wrap curved downward."

"What (10)_____ when you microwave the stew? Will the volume of air get bigger?"

"That's right. The plastic wrap will curve upward!"

"Wow! And then we can (11)_____ the stew?"

"Yes, (12)_____ we take off the plastic wrap!"

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Unit 13 Stems Carry Water

Listen to the audio and fill in the blanks.

Track 39



(1)_____ are made of roots, a stem, and flowers, among other parts. Roots
(2)_____ out under the ground. They (3)_____ the plants and absorb
water. The stem (4)_____ the water from the roots to the flowers.
How can we see the water (5)_____ up a plant?
(6)_____ some red food coloring and the stem of a lily.

Step 1. Add the red food coloring to the water. Put the lily stem in the red water for 4 hours.

Step 2. (7)_____ 4 hours, take the stem out and cut it horizontally. Make
(8)_____ not to cut yourself. What do you see?

Step 3. Now, cut it vertically and see what it looks like.

You can see (9)_____ dots when you cut it horizontally.

You can see red (10)_____ when you cut it vertically.

The red (11)_____ show us how the water moved up the stem.

There are many thin (12)_____ inside a plant's stem. These tubes carry water
from the roots to the flower.

The appearance of stems (13)_____. Some are thick and straight. Some are
long and thin. Some wind around other (14)_____.

All of them bring water from the roots to the flowers. Aren't they (15)_____?

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Unit 14 Grandmother's Garden

Listen to the audio and fill in the blanks.

Track 42



Brian (1)_____ his grandmother for the weekend. He loves (2)_____ her in her garden.

Today, Brian is digging up some sweet potatoes. He stops digging when he sees something (3)_____.

"Grandma, those (4)_____ plants have upright stems. But these sweet potato stems crawl along the (5)_____."

"That's right," says (6)_____. "A crawling stem, like that of these sweet potatoes, is (7)_____ a stolon. Sweet potatoes and strawberries have stems like this."

"Plants are so interesting. What other plants have (8)_____ stems?" asks Brian.

"Well, morning glory stems wrap around other (9)_____."

"Wow! That's cool."

"Yes, there are many different (10)_____ of stems. They look different, but they all do the (11)_____ thing. They all (12)_____ the plant. They all carry water and nutrients."

Brian (13)_____ digging sweet potatoes. (14)_____ about plant stems is good, but Grandmother's sweet potato pie is (15)_____!

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Unit 15 What's the Weather Like Today?

Listen to the audio and fill in the blanks.

Track 45



In the (1)_____, you check the weather forecast before you go out. But who (2)_____ the weather forecast? And (3)_____ do they do it? Meteorologists (4)_____ the weather. They know what the weather will be like in the next (5)_____ days.

They do this in many (6)_____ ways. They send weather balloons high up in the (7)_____ to record atmospheric pressure. They use satellites to see if there is (8)_____ or rain on the way. They also know what the (9)_____ is usually like in an area or at this time of year.

(10)_____ of this information goes into computers. The (11)_____ analyze the information to predict the weather.

We can see weather reports on our (12)_____. We can watch weather forecasters on (13)_____. Sometimes they get things (14)_____. But it's still a good (15)_____ to check the weather forecast!

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Unit 16 Hydro Helpers

Listen to the audio and fill in the blanks.

Track 48



71 (1)_____ of Earth's surface is covered with water. It's all around us. But
(2)_____ 3.5 percent of Earth's water is fresh water. The rest is salty
(3)_____.

Humans can only (4)_____ fresh water. We need it to (5)_____.

Therefore, it's (6)_____ to protect fresh water. We must keep it clean and
(7)_____ from pollution. We must make sure (8)_____ on Earth has
safe water to drink.

Hydrologists help with this. "Hydro" means water. These (9)_____ study the
water. They help (10)_____ it.

They sort out the (11)_____ with contaminated water. They look for water to
drink.

Groundwater is water that is held underground. Hydrologists look for groundwater that
can (12)_____ drinking water for people. They make sure it is clean and safe to
drink. They (13)_____ lives!

Hydrologists are very important. (14)_____ of them when you have a cold glass
of water (15)_____.