**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.”

**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.”

**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?

**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!”

**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.

**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.

**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)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?**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!

**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?

**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.

**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?

**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!”

**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)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?

**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)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

**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!

**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)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.