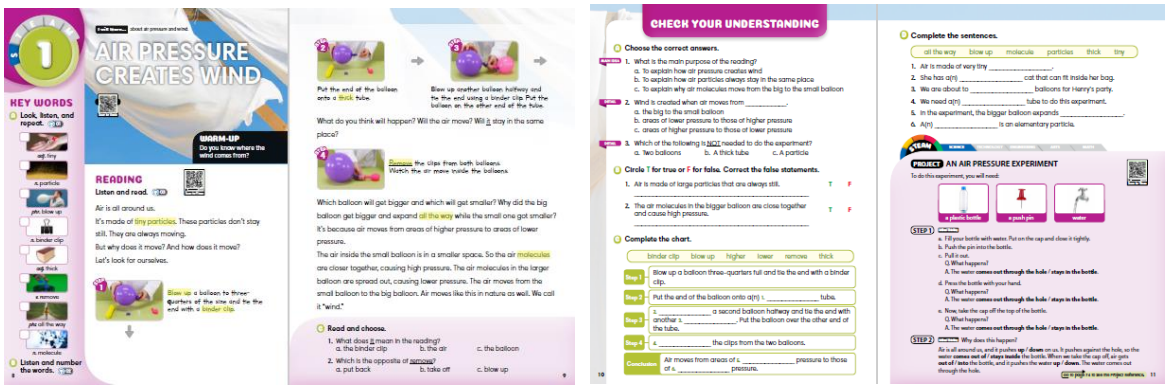
Unit 1. Air Pressure Creates Wind

S	T	E	A	M

Academic Objective	Learn about air pressure and wind
Vocabulary	tiny, particle, blow up, binder clip, thick, remove, all the way, molecule
STEAM Project	An Air Pressure Experiment
	21st Century Skills: Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Yes, I do. / No, I don't.
  Wind is made when air moves from areas of higher pressure to areas of lower pressure.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 6, 8, 2, 5, 1, 3, 7, 4

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. a 2. c 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; Air is made of tiny particles that are always moving.
- 2. F; The air molecules in the smaller balloon are close together and cause high pressure.
- C. Complete the chart.
- 1. thick 2. Blow up 3. binder clip 4. Remove 5. higher 6. lower
- D. Complete the sentences.
- 1. particles 2. tiny 3. blow up 4. thick 5. all the way 6. molecule

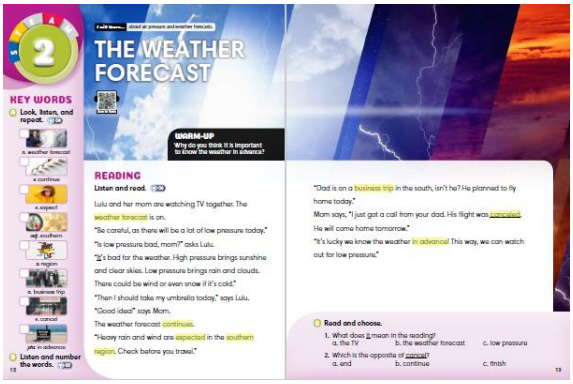
[STEAM PROJECT]

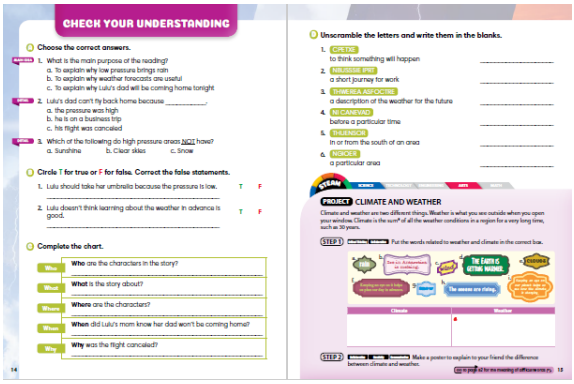
- Have students do the experiment and answer the question.
- Have them share the answers with their partner or group.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer with reasons based on PROJECT REFERENCE.
- Answer:
- Step 1
- c. The water stays in the bottle.
- d. The water comes out through the hole.
- e. The water comes out through the hole.
- Step 2
- Air is all around us, and it pushes down on us. It pushes against the hole, so the water stays inside the bottle. When we take the cap off, air gets into the bottle, and it pushes the water down. The water comes out through the hole.

Unit 2. The Weather Forecast

S T E A M

Academic Objective	Learn about air pressure and weather forecasts
Vocabulary	weather forecast, continue, expect, southern, region, business trip, cancel, in advance
STEAM Project	Climate and Weather
	21st Century Skills: Critical Thinking, Collaboration, Creativity, Communication





[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: It is important to know the weather in advance so you can plan events and prepare ahead of time.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 2, 7, 5, 4, 1, 8, 3, 6

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. c 2. b

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. b 2. c 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. T 2. F; Lulu thinks learning about the weather in advance is good.
- C. Complete the chart.
- Who: Lulu, her mom, (her dad)
- What: Watching weather forecasts and knowing the weather in advance
- Where: At home
- When: Just before, when her dad called that the flight is canceled
- Why: Heavy rain and wind are expected in the region where the flight was traveling from.
- D. Unscramble the letters and write them in the blanks.
- 1. expect 2. business trip 3. weather forecast 4. in advance 5. southern 6. region

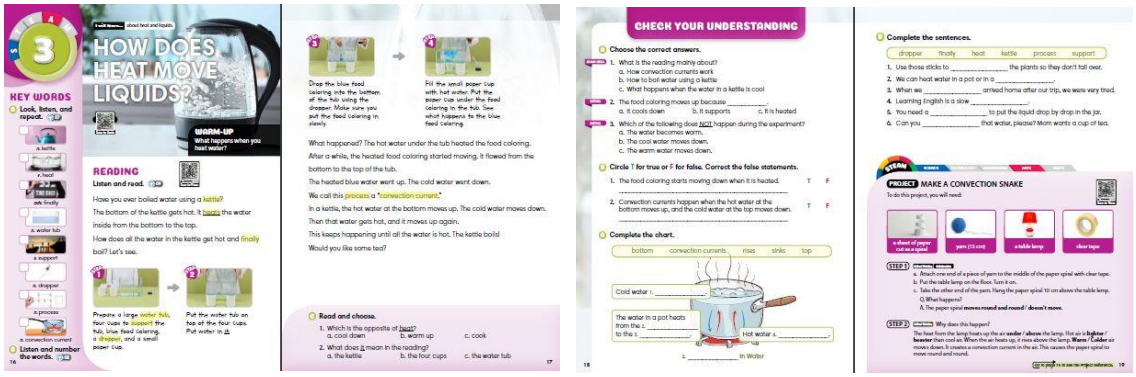
[STEAM PROJECT]

- Have students complete the climate and weather chart.
- Have them share the answers of step 1 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Have them make a poster about climate and weather and explain it to their partner.
- Answer:
- Climate: b, d, h, i Weather: a, c, e, f, g

Unit 3. How Does Heat Move Liquids?

S T E A M

Academic Objective	Learn about heat and liquids
Vocabulary	kettle, heat, finally, water tub, support, dropper, process, convection current
STEAM Project	Make a Convection Snake
	21st Century Skills: Critical Thinking, Collaboration



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: The hot water moves to the top and the cold water moves to the bottom until all of the water is boiling.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 2, 8, 4, 1, 6, 5, 7

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. a 2. c

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. a 2. c 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; The food coloring starts moving up when it is heated. 2. T
- C. Complete the chart.
- 1. sinks 2. bottom 3. top 4. rises 5. Convection Currents
- D. Complete the sentences.
- 1. support 2. kettle 3. finally 4. process 5. dropper 6. heat

[STEAM PROJECT]

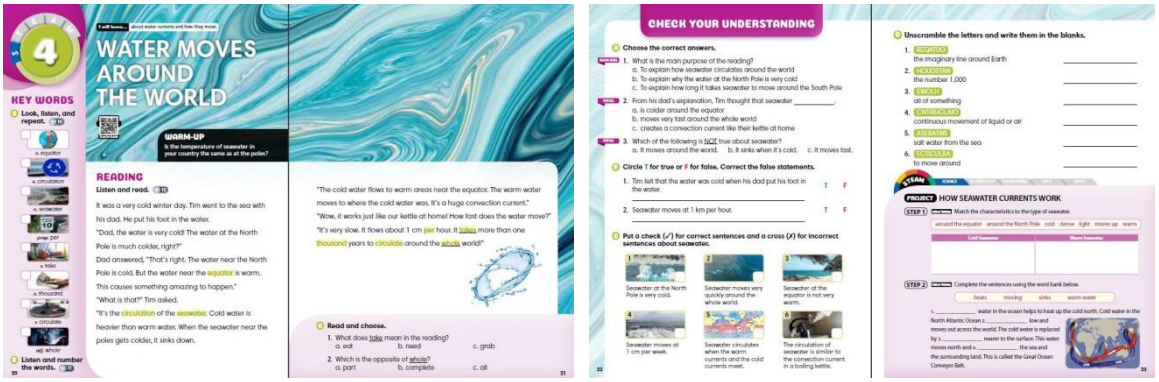
- Have students do the experiment and answer the question.
- Have them share the answers with their partner or group.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer with reasons based on PROJECT REFERENCE.
- Answer:
- Step 1: The paper spiral moves round and round.

- Step 2
- The heat from the lamp's light heats up the air above the lamp. Hot air is lighter than cool air. When the air heats up, it rises above the lamp. Colder air moves down. It creates a convection current in the air. This causes the paper spiral to move round and round.

Unit 4. Water Moves Around the World

S	T	E	A	M

Academic Objective	Learn about water currents and how they move
Vocabulary	equator, circulation, seawater, per, take, thousand, circulate, whole
STEAM Project	How Seawater Currents Work
	21st Century Skills: Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: No, the seawater at the poles is much colder than seawater in my country.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 7, 6, 4, 5, 2, 1, 3, 8

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. a 2. c 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; Tim felt that the water was cold when he put his foot in the water.
- 2. F; Seawater moves at 1 cm per hour.
- C. Put a check (✓) for correct sentences and a cross (X) for incorrect sentences about seawater. 1. ✓ 2. X 3. X 4. X 5. ✓ 6. ✓
- D. Unscramble the letters and write them in the blanks.
- 1. equator 2. thousand 3. whole 4. circulation 5. seawater 6. circulate

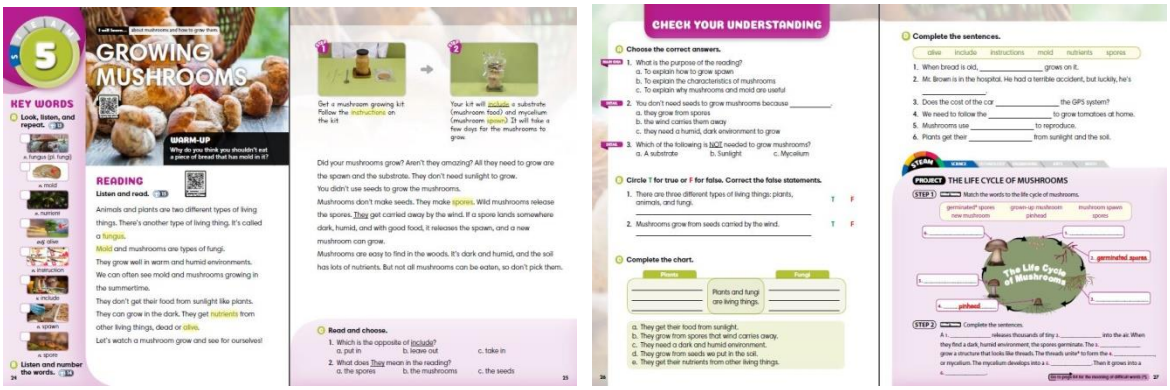
[STEAM PROJECT]

- Have students complete the seawater characteristics chart.
- Have them share the answers with their partner or group.
- Have them complete the paragraph referring to the image next to it.
- Have them share the results of step 2 with their partner or group.
- Answer:
- Step 1
- Cold Seawater: around the North Pole, cold, dense
- Warm Seawater: around the equator, light, moves up, warm
- Step 2
- 1. Moving 2. sinks 3. warm water 4. heats

Unit 5. Growing Mushrooms

S	T	E	A	M

Academic Objective	Learn about mushrooms and how to grow them
Vocabulary	fungus (fungi), mold, nutrient, alive, instruction, include, spawn, spore
STEAM Project	The Life Cycle of Mushrooms
	21st Century Skills: Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Because when you eat moldy bread, you could inhale some of the mold spores which could cause breathing problems.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 1, 7, 8, 5, 2, 6, 4

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. b 2. a 3. b
- B. Circle T for true or F for false. Correct the false statements.
- 1. T 2. F; Mushrooms grow from spores carried by the wind.
- C. Complete the chart.
- Plants: a, d Fungi: b, c, e
- D. Complete the sentences.
- 1. mold 2. alive 3. include 4. instructions 5. spores 6. nutrients

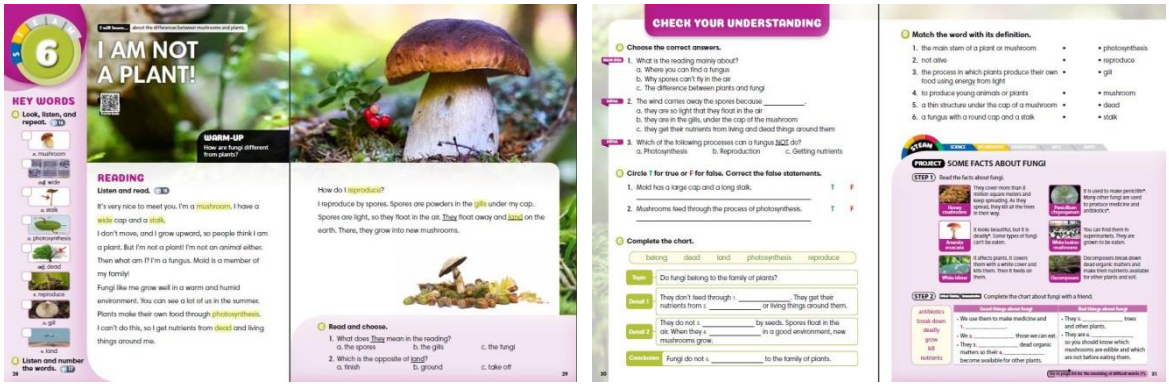
[STEAM PROJECT]

- Have students match the words to the life cycle of mushrooms on step 1 and complete the paragraph on step 2.
- Have them share the answers of the steps.
- Explain them the meaning of difficult words referring to the WORD LIST.
- Answers:
- Step 1
- 1. spores 2. germinated spores 3. mushroom spawn 4. pinhead 5. new mushroom 6. grown-up mushroom
- Step 2
- 1. grown-up mushroom 2. spores 3. germinated spores 4. mushroom spawn 5. pinhead 6. new mushroom

Unit 6. I Am Not a Plant!

S	T	E	A	M

Academic Objective	Learn about differences between mushrooms and plants
Vocabulary	mushroom, wide, stalk, photosynthesis, dead, reproduce, gill, land
STEAM Project	Some Facts About Fungi
	21st Century Skills: Critical Thinking, Communication



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Fungi do not need sunlight to grow, but plants do. Fungi grow from spores, but plants grow from seeds. Fungi do not have leaves, but plants do. Fungi get nutrients from other dead and living things while plants make their own food through photosynthesis.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 4, 8, 2, 1, 7, 6, 5

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. a 2. c

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. c 2. a 3. a
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; A mushroom has a large cap and a long stalk.
- 2. F; Plants feed through the process of photosynthesis.
- C. Complete the chart.
- 1. photosynthesis 2. dead 3. reproduce 4. land 5. belong
- D. Match the word with its definition.
- 1. stalk 2. dead 3. photosynthesis 4. reproduce 5. gill 6. mushroom

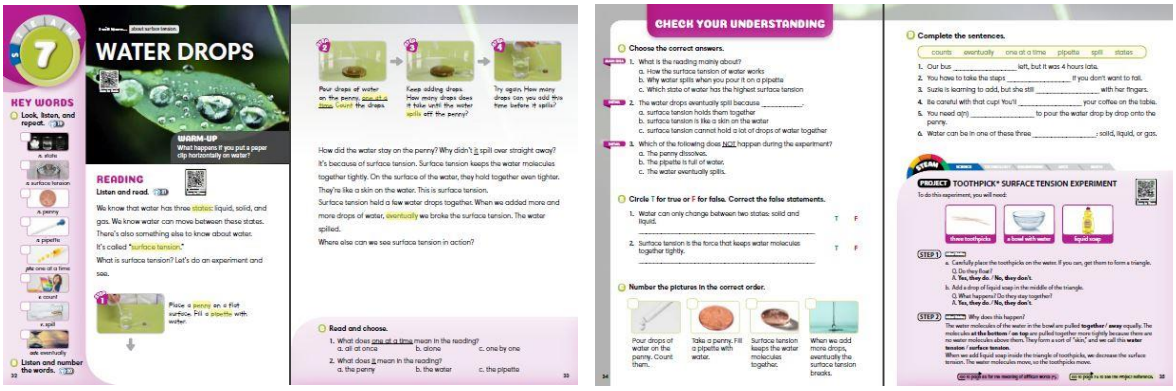
[STEAM PROJECT]

- Have students read the information about fungi.
- Have them complete the chart about fungi with their friends.
- Have them share the answers of step 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer: 1. antibiotics 2. grow 3. break down 4. nutrients 5. kill 6. deadly

Unit 7. Water Drops

S	T	E	A	M

Academic Objective	Learn about surface tension
Vocabulary	state, surface tension, penny, pipette, one at a time, count, spill, eventually
STEAM Project	Toothpick Surface Tension Experiment
	21st Century Skills: Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: The paperclip floats.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 6, 1, 8, 4, 2, 5, 7

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. c 2. b

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. a 2. c 3. a
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; Water can change between three states: solid, liquid, and gas. 2. T
- C. Number the pictures in the correct order. 2, 1, 3, 4
- D. Complete the sentences.
- 1. eventually 2. one at a time 3. counts 4. spill 5. pipette 6. states

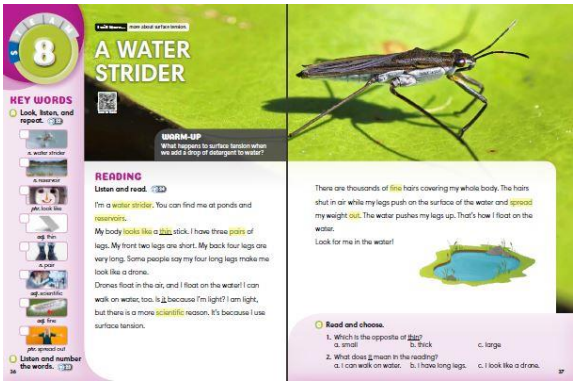
[STEAM PROJECT]

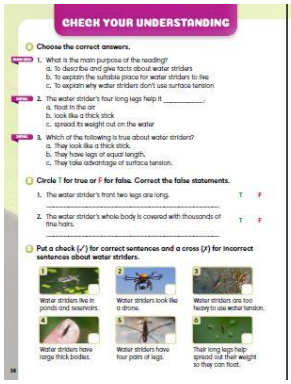
- Have students do the experiment and answer the questions.
- Have them share the results with their partner or group.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer with reasons based on PROJECT REFERENCE.
- Answer:
- Step 1
- a. Yes, they do.
- b. No, they don't.
- Step 2
- The water molecules of the water in the bowl are pulled <u>together</u> equally. The molecules <u>on top</u> are pulled together more tightly because there are no water molecules above them. They form a sort of "skin," and we call this <u>surface tension</u>. When we add liquid soap inside the triangle of toothpicks, we decrease the surface tension. The water molecules move, so the toothpicks move.

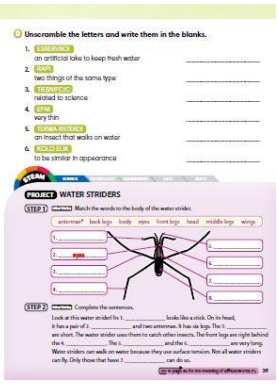
Unit 8. A Water Strider

S	T	E	A	M

Academic Objective	Learn more about surface tension
Vocabulary	water strider, reservoir, look like, thin, pair, scientific, fine, spread out
STEAM Project	Water Striders
	21st Century Skills: Critical Thinking







[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: The detergent causes the surface tension to break.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 1, 2, 6, 5, 4, 8, 7

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. a 2. c 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; The water strider's front two legs are short. 2. T
- C. Put a check (✓) for correct sentences and a cross (X) for incorrect sentences about water striders. 1. ✓ 2. ✓ 3. X 4. X 5. X 6. ✓
- D. Unscramble the letters and write them in the blanks.
- 1. reservoir 2. pair 3. scientific 4. fine 5. water strider 6. look like

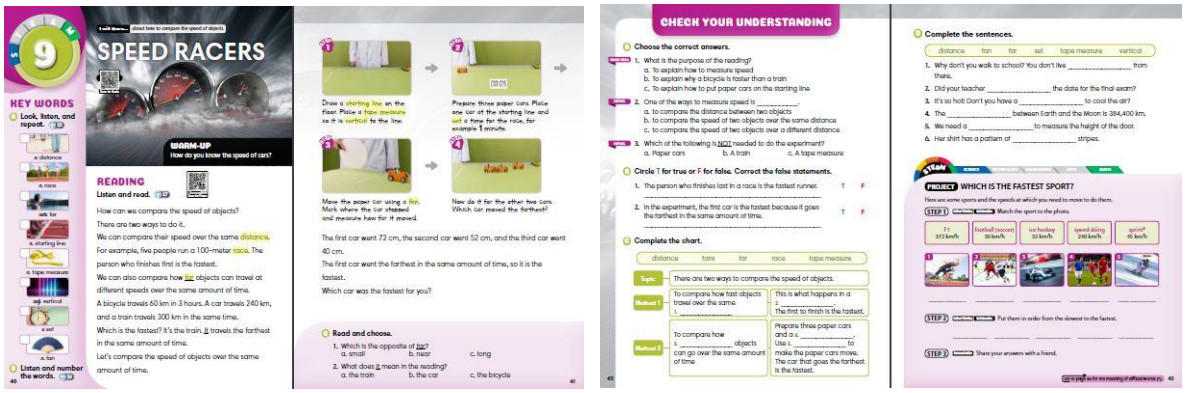
[STEAM PROJECT]

- Have students match the words to the image of the water strider and fill in the blanks to complete the paragraph.
- Have them share the answers of the blanks with their partner or group. Ask different pairs of groups to represent their answers to the class.
- Answer:
- Step 1:
- 1. front legs 2. eyes 3. middle legs 4. back legs 5. antennae 6. head 7. body 8. wings
- Step 2:
- 1. body 2. eyes 3. front legs 4. antennae 5. middle legs 6. back legs 7. wings

Unit 9. Speed Racers

S	T	E	A	M

Academic Objective	Learn about how to compare the speed of objects
Vocabulary	distance, race, far, starting line, tape measure, vertical, set, fan
STEAM Project	Which Is the Fastest Sport?
	21st Century Skills: Critical Thinking, Collaboration, Communication



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: We can know the speed of cars by knowing how long it takes them to travel a certain distance.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 7, 4, 1, 2, 5, 8, 6, 3

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. a 2. b 3. b
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; The person who finishes first in a race is the fastest runner. 2. T
- C. Complete the chart.
- 1. distance 2. race 3. far 4. tape measure 5. fans
- D. Complete the sentences.
- 1. far 2. set 3. fan 4. distance 5. tape measure 6. vertical

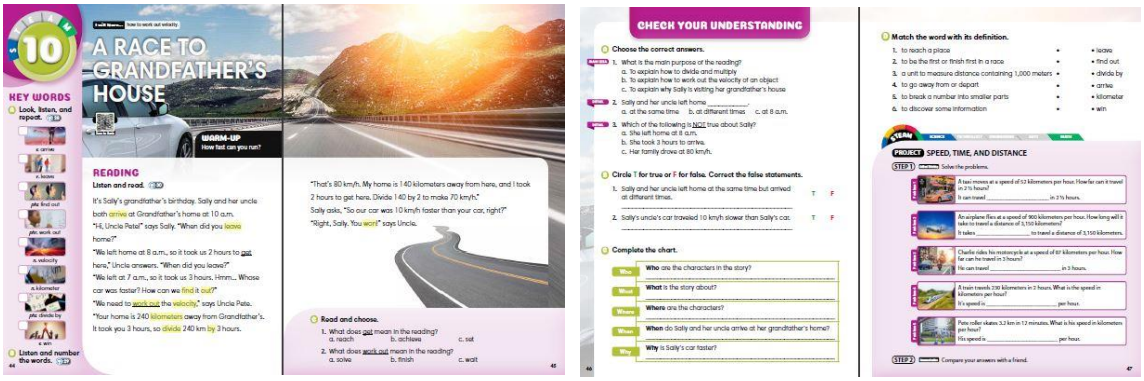
[STEAM PROJECT]

- Have students match the sport to the photo.
- Have them put the words in order from the slowest to the fastest
- Have them share the results of steps 1, 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
  Step 1:
  1. sprint 2. ice hockey 3. F1 4. football (soccer) 5. speed skiing
  Step 2: football (soccer) → ice hockey → sprint → speed skiing → F1

Unit 10. A Race to Grandfather's House

S	T	E	A	M

Academic Objective	Learn how to work out velocity
Vocabulary	arrive, leave, find out, work out, velocity, kilometer, divide by, win
STEAM Project	Speed, Time, and Distance
	21st Century Skills: Critical Thinking, Communication



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: I can run about 10 kilometers per hour.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 6, 8, 5, 2, 1, 7, 4

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. a 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. b 2. b 3. a
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; Sally and her uncle left home at different times but arrived at the same time.
- 2. T
- C. Complete the chart.
- Who: Sally and Uncle Pete
- What: Velocity, and who traveled faster to get to Sally's grandfather's home
- Where: At Sally's grandfather's home
- When: At 10:00 a.m.
- Why: Her car traveled in 80 km/h while Uncle Pete's car went in 70 km/h.
- D. Match the word with its definition.
- 1. arrive 2. win 3. kilometer 4. leave 5. divide by 6. find out

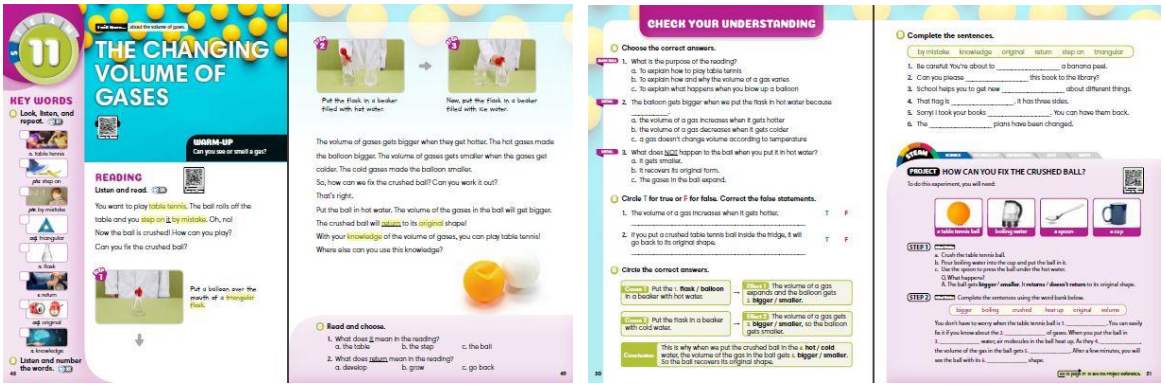
[STEAM PROJECT]

- Have students solve the problems using the formula.
- Have them share the results with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- 1. 130 kilometers 2. 3.5 hours 3. 261 kilometers
- 4. 115 kilometers 5. 16 kilometers

Unit 11. The Changing Volume of Gases

S	T	E	A	M

Academic Objective	Learn about the volume of gases
Vocabulary	table tennis, step on, by mistake, triangular, flask, return, original, knowledge
STEAM Project	How Can You Fix the Crushed Ball?
	21st Century Skills: Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: You can smell some type of gases.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 5, 2, 6, 7, 4, 1, 8

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. c 2. c

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. b 2. a 3. a
- B. Circle T for true or F for false. Correct the false statements.
- 1. T 2. F; If you put a crushed table tennis ball in hot water, it will recover its original shape.
- C. Circle the correct answers. 1. flask 2. bigger 3. smaller 4. hot 5. bigger
- D. Complete the sentences.
- 1. step on 2. return 3. knowledge 4. triangular 5. by mistake 6. original

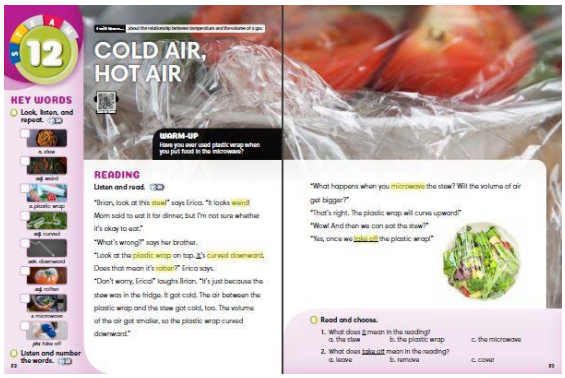
[STEAM PROJECT]

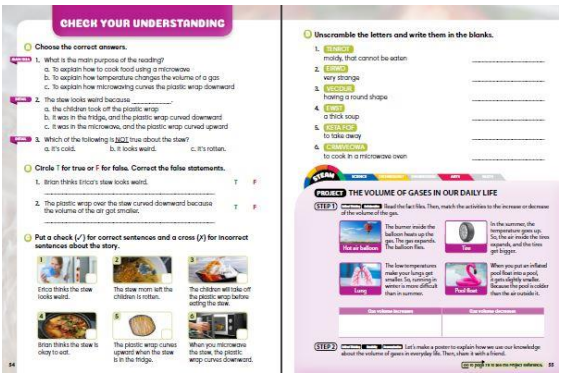
- Have students do the experiment and answer the question.
- Have them complete the paragraph.
- Have them share the answers with their partner or group.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer with reasons based on PROJECT REFERENCE.
- Answer:
- Step 1: The ball gets bigger. It returns to its original shape.
- Step 2:
- 1. crushed 2. volume 3. boiling 4. heat up 5. bigger 6. original

Unit 12. Cold Air, Hot Air

S T E A M

Academic Objective	Learn about the relationship between temperature and the volume of a gas
Vocabulary	stew, weird, plastic wrap, curved, downward, rotten, microwave, take off
STEAM Project	The Volume of Gases in Our Daily Life
	21st Century Skills: Critical Thinking, Collaboration, Creativity, Communication





[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Yes, I used it to microwave leftovers.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 7, 5, 4, 1, 8, 6, 2

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. b

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. b 2. b 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; Erica thinks mom's stew looks weird. 2. T
- C. Put a check (✓) for correct sentences and a cross (X) for incorrect sentences about the story. 1. ✓ 2. X 3. ✓ 4. ✓ 5. X 6. X
- D. Unscramble the letters and write them in the blanks.
- 1. rotten 2. weird 3. curved 4. stew 5. take off 6. microwave

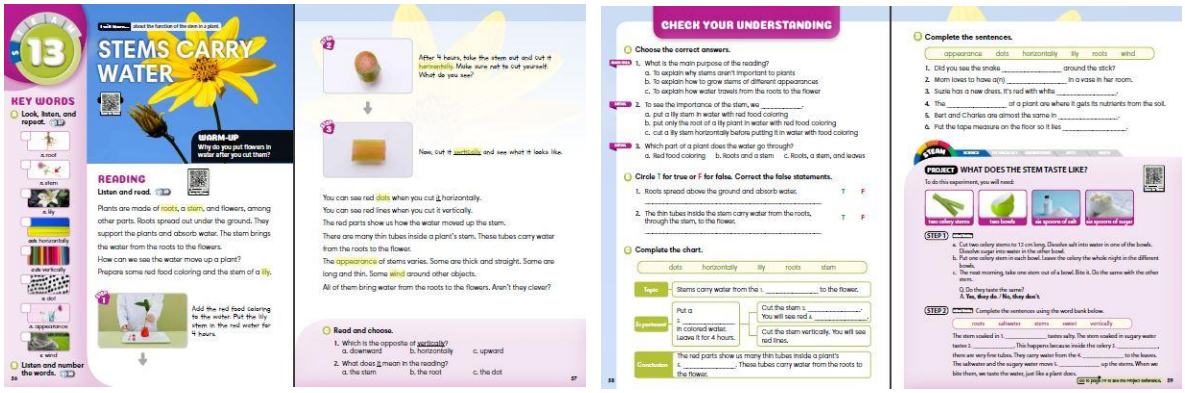
[STEAM PROJECT]

- Have students read the information about the volume of gases and complete the chart about it.
- Have them share the answers of step 1 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Have them make a poster about the volume of gases in everyday life and explain it to their partner.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Answer:
- Gas volume increases: Hot air balloon, Tire
- Gas volume decreases: Lung, Pool float

Unit 13. Stems Carry Water

S	T	E	A	M

Academic Objective	Learn about the function of the stem in a plant
Vocabulary	root, stem, lily, horizontally, vertically, dot, appearance, wind
STEAM Project	What Does the Stem Taste Like?
	21st Century Skills: Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: In that way, water can travel up the stem to the flowers so they can live longer.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 6, 8, 3, 5, 2, 4, 1, 7

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. c 2. a 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; Roots spread out under the ground and absorb water. 2. T
- C. Complete the chart.
- 1. roots 2. lily 3. horizontally 4. dots 5. stem
- D. Complete the sentences.
- 1. wind 2. lily 3. dots 4. roots 5. appearance 6. horizontally

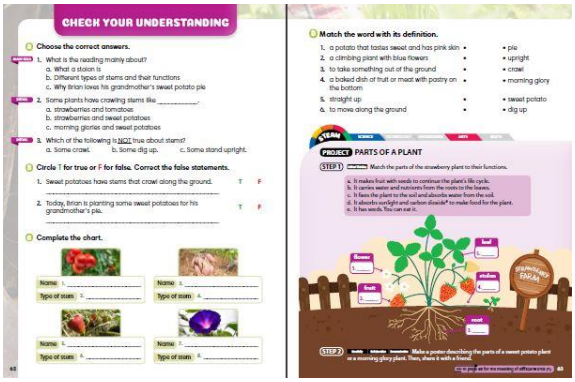
[STEAM PROJECT]

- Have students do the experiment with the stems and answer the question.
- Have them fill out each blank to complete the paragraph.
- Have them share the answers of step 1 and 2 with their partner or group.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer with reasons based on PROJECT REFERENCE.
- Answer:
- Step 1: No, they don’t.
- Step 2: 1. saltwater 2. sweet 3. stems 4. roots 5. vertically

Unit 14. Grandmother's Garden

S T E A M

Academic Objective	Learn more about different types of stems
Vocabulary	weekend, dig up, sweet potato, upright, crawl, stolon, morning glory, pie
STEAM Project	Parts of a Plant
	21st Century Skills: Critical Thinking, Creativity, Collaboration, Communication



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Yes, I have. When I went to the farm with my family last year, we picked carrots together.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 5, 2, 4, 8, 7, 1, 6

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. b 2. b

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. b 2. b 3. b
- B. Circle T for true or F for false. Correct the false statements.
- 1. T 2. F; Today, Brian is digging up some sweet potatoes for his grandmother's pie.
- C. Complete the chart.
- 1. tomato 2. upright stem 3. sweet potato 4. crawling stem (stolon) 5. strawberry 6. crawling stem (stolon) 7. morning glory 8. wrapping/winding stem
- D. Match the word with its definition.
- 1. sweet potato 2. morning glory 3. dig up 4. pie 5. upright 6. crawl

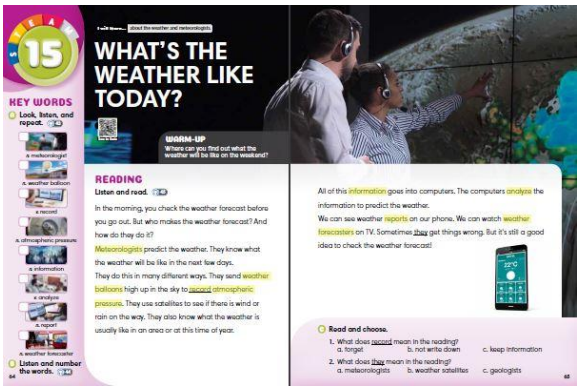
[STEAM PROJECT]

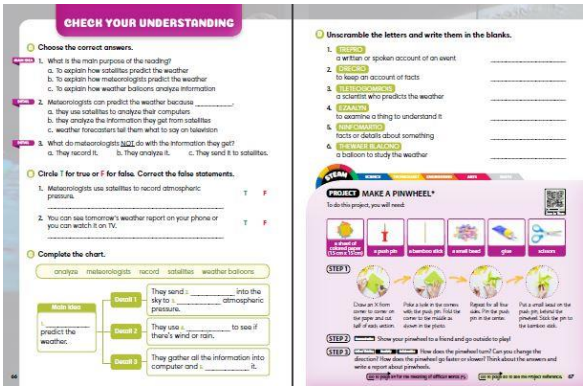
- Have students match the functions to the parts of the strawberry.
- Have them share the answers of step 1 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Have them make a poster describing the parts of a sweet potato plant or a morning glory plant and share it with their partner of group.
- Answer: 1. a 2. e 3. c 4. b 5. d

Unit 15. What's the Weather Like Today?

S T E A M

Academic Objective	Learn about the weather and meteorologists
Vocabulary	meteorologist, weather balloon, record, atmospheric pressure, information, analyze, report, weather forecaster
STEAM Project	Make a Pinwheel
	21st Century Skills: Communication, Critical Thinking, Creativity, Collaboration





[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: I can find it by watching the forecast on television or searching for the Internet.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 6, 1, 2, 8, 4, 3, 5, 7

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. c 2. a

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. b 2. b 3. c
- B. Circle T for true or F for false. Correct the false statements.
- 1. F; Meteorologists use weather balloons to record atmospheric pressure. 2. T
- C. Complete the chart.
- 1. Meteorologists 2. weather balloons 3. record 4. satellites 5. analyze
- D. Unscramble the letters and write them in the blanks.
- 1. report 2. record 3. meteorologist 4. analyze 5. information 6. weather balloon

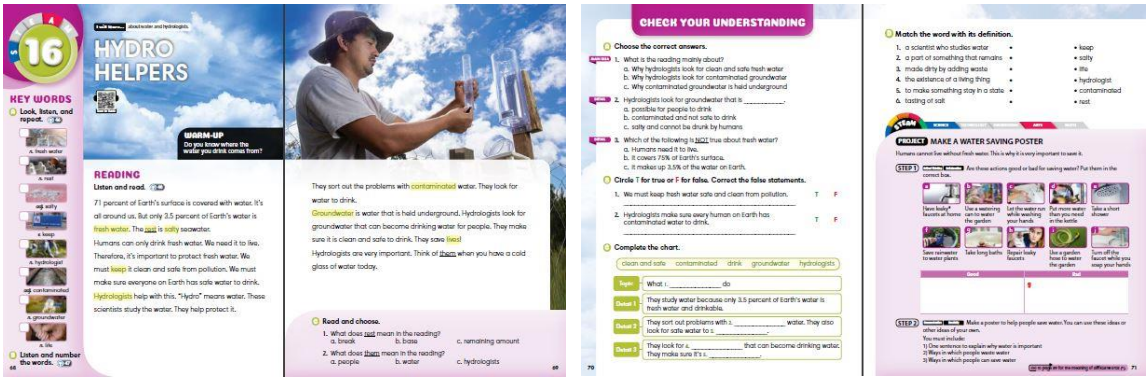
[STEAM PROJECT]

- Have students make a pinwheel following the instructions on step 1.
- Have them show their own pinwheel to their friends and go outside to play.
- Have them observe the pinwheel and write a report about it.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer of step 3 with reasons based on PROJECT REFERENCE.

Unit 16. Hydro Helpers

S T E A M

Academic Objective	Learn about water and hydrologists
Vocabulary	fresh water, rest, salty, keep, hydrologist, contaminated, groundwater, life
STEAM Project	Make a Water Saving Poster
	21st Century Skills: Critical Thinking, Collaboration, Communication, Creativity



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: The water I drink comes from a source of water deep in the ground.

[KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 8, 2, 6, 4, 1, 3, 5, 7

[READING]

- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. After they read one line, they call on another classmate to read the next line.)

[SHORT ACTIVITIES]

- Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. c 2. c

[CHECK YOUR UNDERSTANDING]

- Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
- Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. For purpose, inference, or topic questions, elicit reasons why distractors are incorrect choices (ex. not in text, inaccurate, minor detail, etc.).
- Answer:
- A. Choose the correct answers. 1. a 2. a 3. b
- B. Circle T for true or F for false. Correct the false statements.
- 1. T 2. F; Hydrologists make sure every human on Earth has safe (clean) water to drink.
- C. Complete the chart.
  1. hydrologists 2. contaminated 3. drink 4. groundwater 5. clean and safe
- D. Match the word with its definition.
- 1. hydrologist 2. rest 3. contaminated 4. life 5. keep 6. salty

[STEAM PROJECT]

- Have students put the letters in the correct box.
- Have them share the answers of step 1 with their partner or group.
- Have them make a poster to help people save water including 3 requirements.
- Have them share their works with the class.
- Answer:
- Good: b, e, f, h, j Bad: a, c, d, g, i