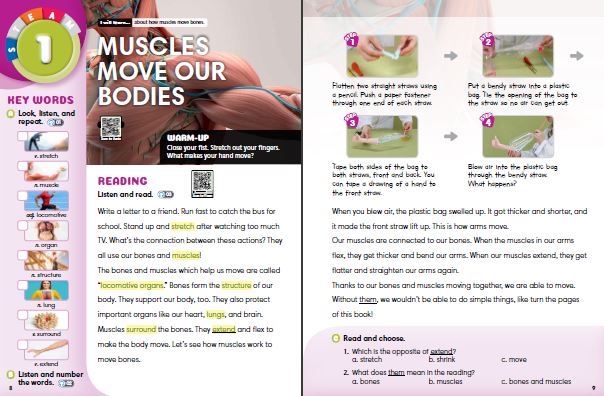
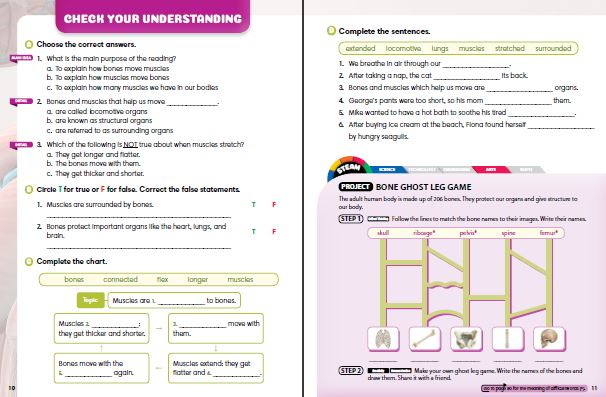
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| **Unit 1**. Muscles Move Our Bodies | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about how muscles move bones |
| Vocabulary | stretch, muscle, locomotive, organ, structure, lung, surround, extend |
| STEAM Project | Bone Ghost Leg Game |
| 21st Century Skills:  Critical Thinking, Creativity, Communication |

**[WARM-UP]**

* Discuss the warm-up question to see how much background information students possess about the topic.
* Sample Answer: The muscles in my hand make it move.

**[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, 8, 4, 2, 5, 6, 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]**

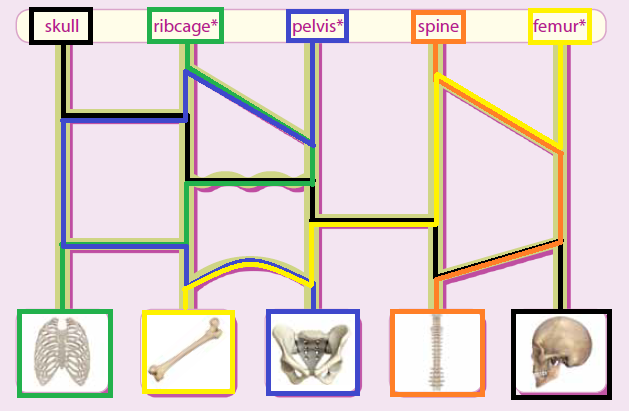
* Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
* Answer: 1. b 2. c

**[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. c
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Bones are surrounded by muscles. 2. T
* C. Complete the chart.
* 1. connected 2. flex 3. Bones 4. longer 5. muscles
* D. Complete the sentences.
* 1. lung 2. stretched 3. locomotive 4. extended 5. muscles 6. surrounded

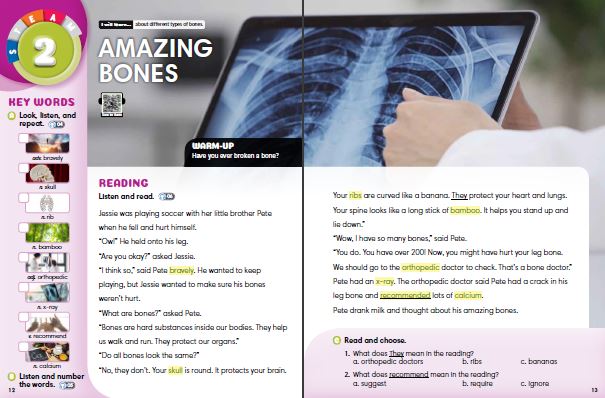
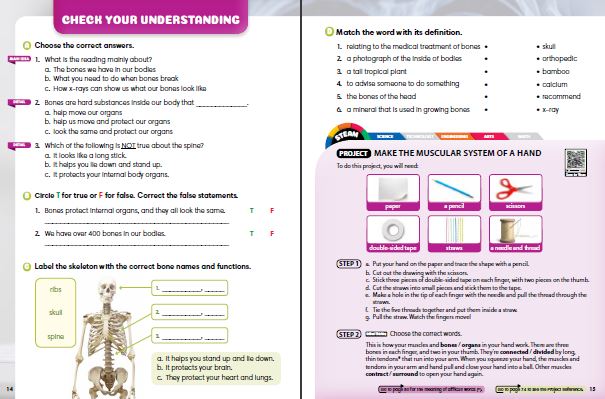
**[STEAM PROJECT]**

* Have students complete the ghost leg to find out each bone’s name.
* Have them make their own ghost leg about names of bones and share them with their friend.
* Answer:



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| **Unit 2**. Amazing Bones | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about different types of bones |
| Vocabulary | bravely, skull, rib, bamboo, orthopedic, x-ray, recommend, calcium |
| STEAM Project | Make the Muscular System of a Hand |
| 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 have. I broke the radius bone in my arm.

**[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: 1, 8, 2, 6, 4, 5, 7, 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.)

**[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]**

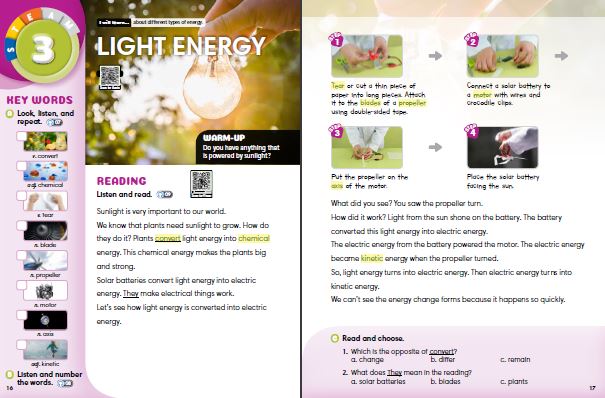
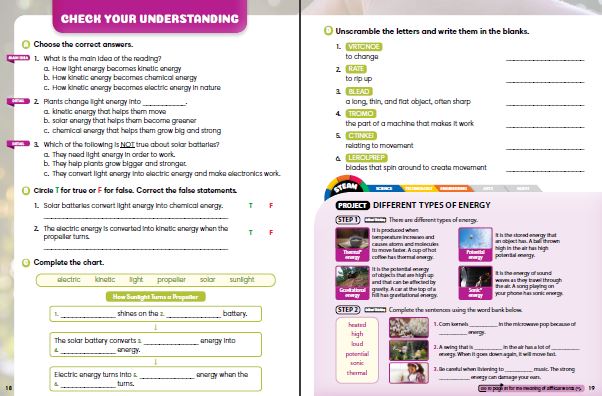
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. c
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Bones protect internal organs, and they all look different.
* 2. F; We have over 200 bones in our bodies.
* C. Label the skeleton with the correct bone names and functions.
* 1. skull, b 2. ribs, c 3. spine, a
* D. Match the word with its definition.
* 1. orthopedic 2. x-ray 3. bamboo 4. recommend 5. skull 6. calcium

**[STEAM PROJECT]**

* Have students make a model muscular system referring to step 1.
* Have them show their models to their friends or groups.
* Have them choose the correct words and complete the paragraph.
* Refer to PROJECT REFERENCE at the end of the book for further explanation.
* Give the answer with reasons based on PROJECT REFERENCE.
* Answer:
* This is how your muscles and bones in your hand work. There are three bones in each finger, and two in your thumb. They’re connected by long, thin tendons that run into your arm. When you squeeze your hand, the muscles and tendons in your arm and hand pull and close your hand into a ball. Other muscles contract to open your hand again.

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| **Unit 3**. Light Energy | **S** | **T** | **E** | **A** | **M** |

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| Academic Objective | Learn about different types of energy |
| Vocabulary | convert, chemical, tear, blade, propeller, motor, axis, kinetic |
| STEAM Project | Different Types of Energy |
| 21st Century Skills:  Critical Thinking |

**[WARM-UP]**

* Discuss the warm-up question to see how much background information students possess about the topic.
* Yes, I have a calculator that is powered by sunlight.

**[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, 1, 3, 5, 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. c 2. a

**[CHECK YOUR UNDERSTANDING]**

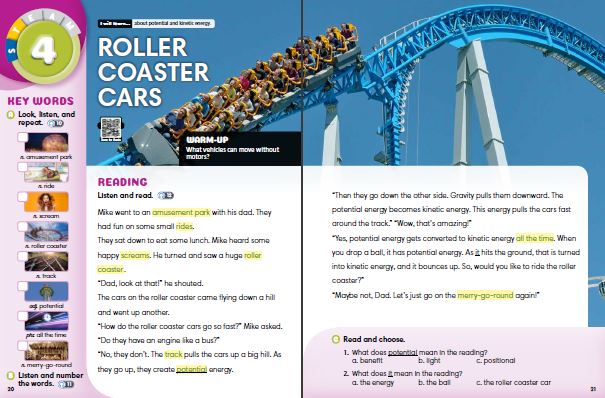
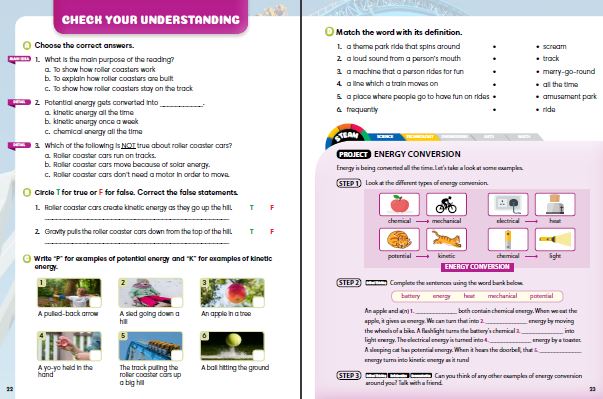
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. a 2. c 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Solar batteries convert light energy into electric energy. 2. T
* C. Complete the chart.
* 1. Sunlight 2. solar 3. light 4. electric 5. kinetic 6. propeller
* D. Unscramble the letters and write them in the blanks.
* 1. convert 2. tear 3. blade 4. motor 5. kinetic 6. propeller

**[STEAM PROJECT]**

* Have students read the explanations about different types of energy.
* Ask them to think about more examples of energy in the daily life.
* Have them complete the sentences in step 2 and share the answers with their friends.
* Answer: 1. heated, thermal 2. high, potential 3. loud, sonic

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| **Unit 4**. Roller Coaster Cars | **S** | **T** | **E** | **A** | **M** |

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| Academic Objective | Learn about potential and kinetic energy |
| Vocabulary | amusement park, ride, scream, roller coaster, track, potential, all the time, merry-go-round |
| STEAM Project | Energy Conversion |
| 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: Bicycles, sailboats, and roller coasters can move without motors.

**[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, 8, 1, 2, 5, 3, 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. c 2. b

**[CHECK YOUR UNDERSTANDING]**

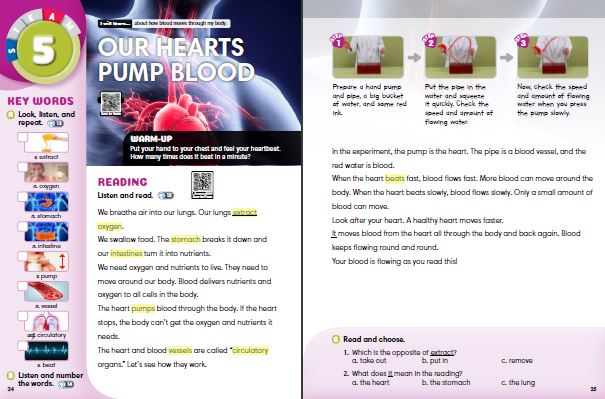
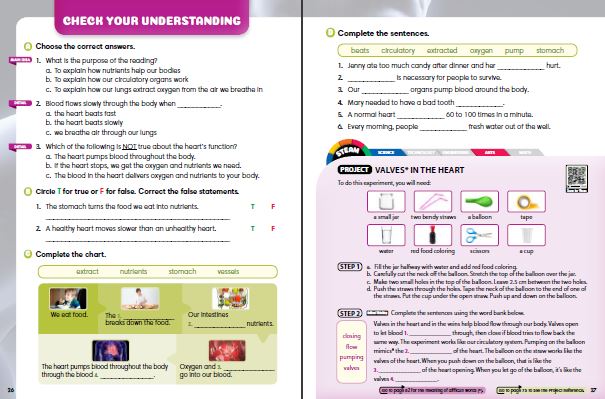
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. a 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Roller coaster cars create potential energy as they go up the hill. 2. T
* C. Write “P” for examples of potential energy and “K” for examples of kinetic energy. 1. P 2. K 3. P 4. P 5. P 6. K
* D. Match the word with its definition.
* 1. merry-go-round 2. scream 3. ride 4. track 5. amusement park 6. all the time

**[STEAM PROJECT]**

* Have students understand the different types of energy conversion.
* Have them complete the paragraph and share the answers of step 2 with their partner or group.
* Have them think about other examples of energy conversion and talk with their friends,
* Answer: 1. battery 2. mechanical 3. energy 4. heat 5. potential

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| **Unit 5**. Our Hearts Pump Blood | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about how blood moves through my body |
| Vocabulary | extract, oxygen, stomach, intestine, pump, vessel, circulatory, beat |
| STEAM Project | Valves in the Heart |
| 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: My heart beats 65 times in a minute.

**[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, 8, 4, 1, 6, 2, 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]**

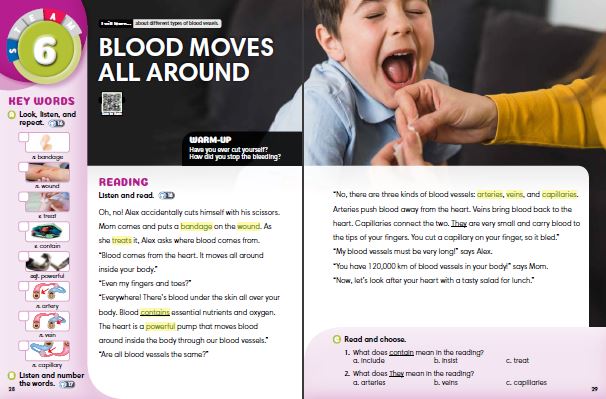
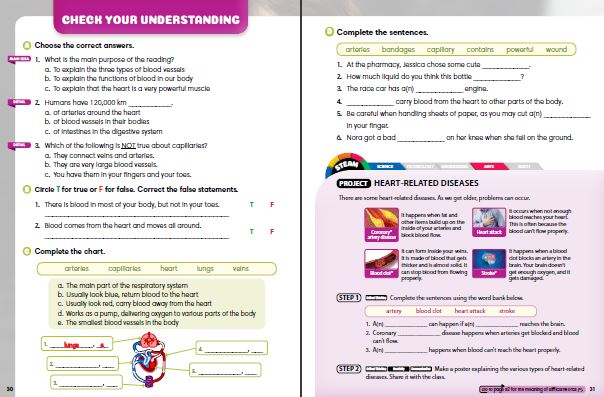
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. b 2. b 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; The intestines turn the food we eat into nutrients.
* 2. F; A healthy heart moves faster than an unhealthy heart.
* C. Complete the chart.
* 1. stomach 2. extract 3. nutrients 4. vessels
* D. Complete the sentences.
* 1. stomach 2. Oxygen 3. circulatory 4. extracted 5. beats 6. pump

**[STEAM PROJECT]**

* Have students do the experiment following the instruction on step 1.
* Have them complete the paragraph and share the answers with their partner of group.
* Refer to PROJECT REFERENCE at the end of the book for further explanation.
* Explain how the heart and valves work and give answers based on PROJECT REFERENCE.
* Answer: 1. flow 2. pumping 3. valves 4. closing

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| **Unit 6**. Blood Moves All Around | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about different types of blood vessels |
| Vocabulary | bandage, wound, treat, contain, powerful, artery, vein, capillary |
| STEAM Project | Heart-Related Diseases |
| 21st Century Skills:  Critical Thinking, Creativity, Communication |

**[WARM-UP]**

* Discuss the warm-up question to see how much background information students possess about the topic.
* Sample Answer: Yes, I have. I stopped the bleeding by putting pressure on the cut.

**[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, 7, 8, 4, 6, 1, 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. a 2. c

**[CHECK YOUR UNDERSTANDING]**

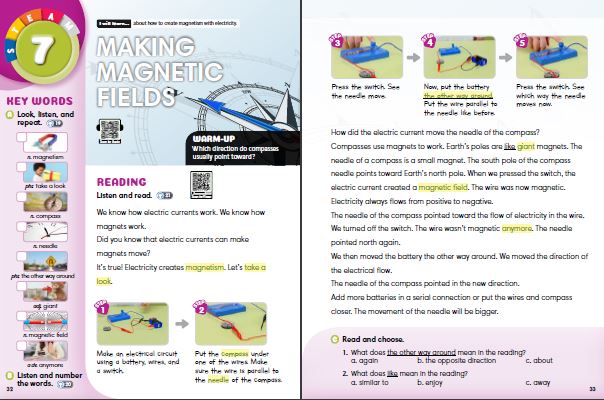
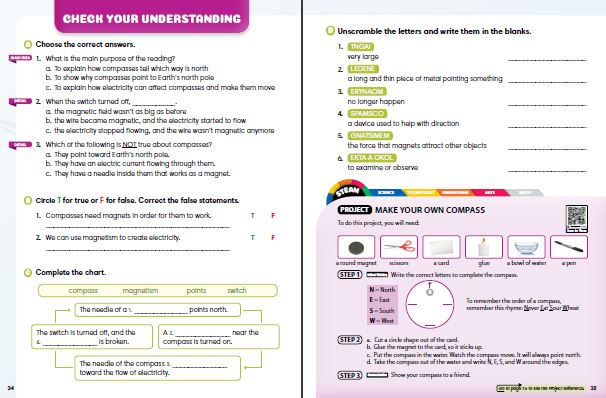
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. b 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; There is blood everywhere in your body. 2. T
* C. Complete the chart.
* 1. lungs, a 2. veins, b 3. capillaries, e 4. arteries, c 5. heart, d
* D. Complete the sentences.
* 1. bandages 2. contains 3. powerful 4. Arteries 5. capillary 6. wound

**[STEAM PROJECT]**

* Have students read the explanations about some heart-related diseases.
* Have them complete the sentences and share the answers of step 2 with their partner or group.
* Have them make a poster explaining different kinds of heart-related diseases and represent it to the class.
* Answer: 1. stroke, blood clot 2. artery 3. heart attack

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| **Unit 7**. Making Magnetic Fields | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about how to create magnetism with electricity |
| Vocabulary | magnetism, take a look, compass, needle, the other way around, giant, magnetic field, anymore |
| STEAM Project | Make Your Own Compass |
| 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: Compasses usually point north.

**[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, 1, 3, 5, 2, 6, 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]**

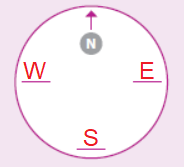
* Have them individually answer question C. Check the answer as a class and give a simple explanation if necessary.
* Answer: 1. b 2. a

**[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. c 2. c 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. T 2. F; We can use electricity to create magnetism.
* C. Complete the chart.
* 1. compass 2. switch 3. points 4. magnetism
* D Unscramble the letters and write them in the blanks.
* 1. giant 2. needle 3. anymore 4. compass 5. magnetism 6. take a look

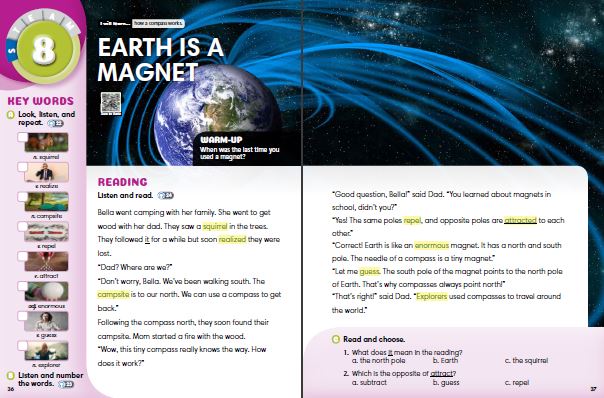
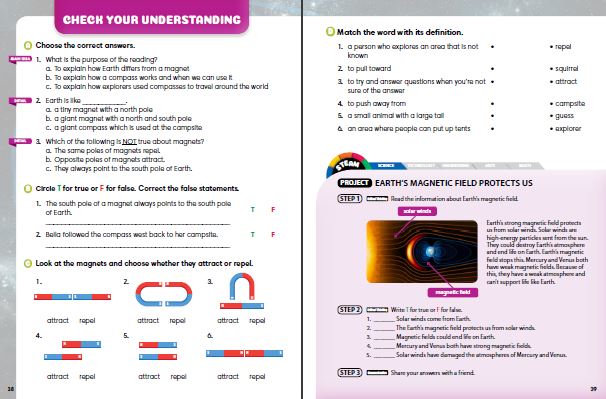
**[STEAM PROJECT]**

* Have students fill in the blanks and make their own compass following the instruction on step 2.
* Have them show their compasses to 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:



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| **Unit 8**. Earth Is a Magnet | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn how a compass works |
| Vocabulary | squirrel, realize, campsite, repel, attract, enormous, guess, explorer |
| STEAM Project | Earth’s Magnetic Field Protects Us |
| 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 used a magnet on my pencil case today.

**[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, 2, 8, 5, 4, 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. c 2. c

**[CHECK YOUR UNDERSTANDING]**

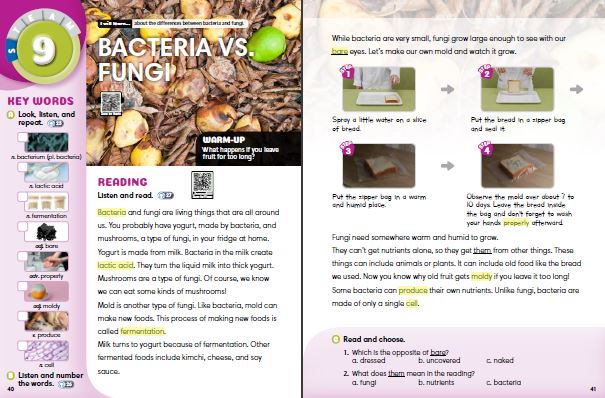
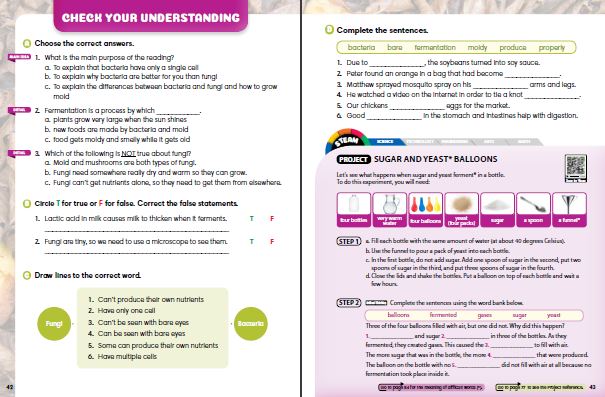
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. b 3. c
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; The south pole of a magnet always points to the north pole of Earth.
* 2. F; Bella followed the compass north back to her campsite.
* C. Look at the magnets and choose whether they attract or repel.
* 1. repel 2. repel 3. attract 4. repel 5. attract 6. repel
* D. Match the word with its definition.
* 1. explorer 2. attract 3. guess 4. repel 5. squirrel 6. campsite

**[STEAM PROJECT]**

* Have students read the information about Earth’s magnetic field.
* Have them fill in the blanks and share the reasons about why the sentence is true of false.
* Give answers after reading the explanation once more.
* Answer: 1. F 2. T 3. F 4. F 5. T

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| **Unit 9**. Bacteria vs. Fungi | **S** | **T** | **E** | **A** | **M** |

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| Academic Objective | Learn about the differences between bacteria and fungi |
| Vocabulary | bacterium (bacteria), lactic acid, fermentation, bare, properly, moldy, produce, cell |
| STEAM Project | Sugar and Yeast Balloons |
| 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 fruit begins to rot and turn brown.

**[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, 4, 6, 1, 5, 3, 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. 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. c 2. b 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. T 2. F; Bacteria are tiny, so we need to use a microscope to see them. / Fungi grow large enough to see with our bare eyes.
* C. Draw lines to the correct word.
* 1. Fungi 2. Bacteria 3. Bacteria 4. Fungi 5. Bacteria 6. Fungi
* D. Complete the sentences.

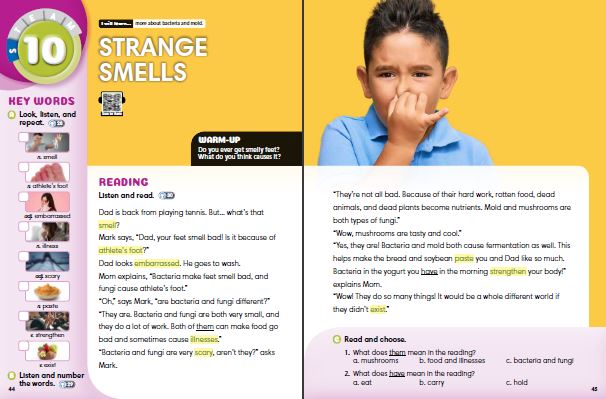
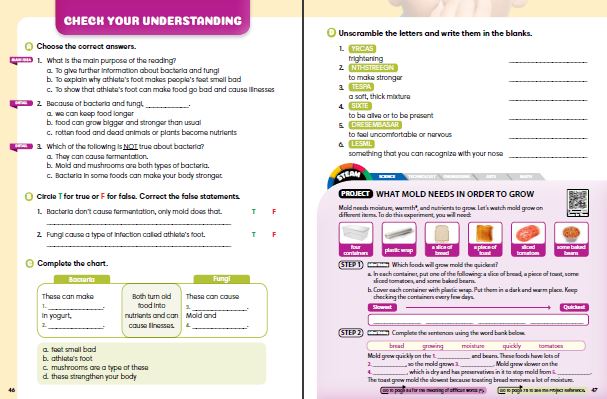
1. fermentation 2. mold 3. bar 4. properly 5. produce 6. bacteria

**[STEAM PROJECT]**

* Have students do the experiment following the instruction on step 1.
* Have them share the results of step 1 with their partner or group. Ask different pairs of groups to represent their results to the class.
* Have them complete the sentences with given words.
* Refer to PROJECT REFERENCE at the end of the book for further explanation.
* Give the answer with reasons based on PROJECT REFERENCE.
* Answer:
* 1. Yeast 2. fermented 3. balloons 4. gases 5. sugar

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| **Unit 10**. Strange Smells | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn more about bacteria and mold |
| Vocabulary | smell, athlete’s foot, embarrassed, illness, scary, paste, strengthen, exist |
| STEAM Project | What Mold Needs in Order to Grow |
| 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. My feet get sweaty which helps bacteria grow between my toes and makes them stink.

**[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, 3, 8, 4, 7, 1, 5, 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. a

**[CHECK YOUR UNDERSTANDING]**

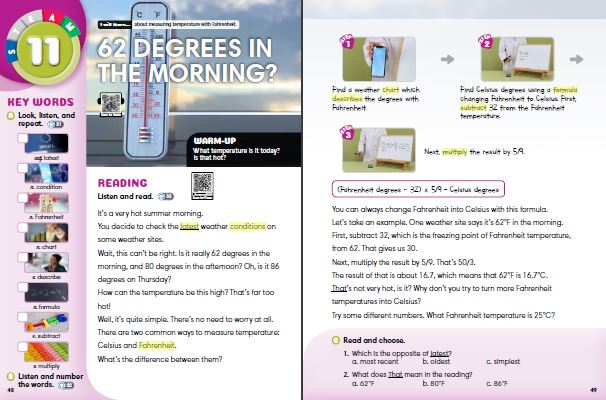
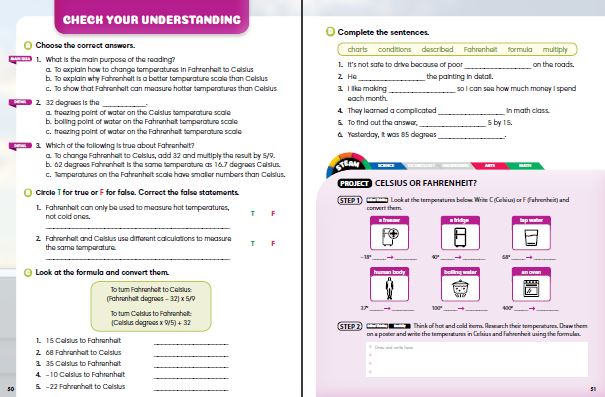
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Bacteria and mold both cause fermentation. 2. T
* C. Complete the chart.
* 1. a 2. d 3. b 4. c
* D. Unscramble the letters and write them in the blanks.
* 1. scary 2. strengthen 3. paste 4. exist 5. embarrassed 6. smell

**[STEAM PROJECT]**

* Have students do the experiment about how mold grow.
* Have them share the results of the experiment with their partner or group. Ask different pairs of groups to represent their results to the class.
* Have them fill in the blanks and share the answers with their friends.
* 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
* Slowest🡪Quickest
* toast🡪bread🡪baked beans🡪tomato
* Step 2
* 1. tomatoes 2. moisture 3. quickly 4. bread 5. growing

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| **Unit 11**. 62 Degrees in the Morning? | **S** | **T** | **E** | **A** | **M** |

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| Academic Objective | Learn about measuring temperature with Fahrenheit |
| Vocabulary | latest, condition, Fahrenheit, chart, describe, formula, subtract, multiply |
| STEAM Project | Celsius or Fahrenheit? |
| 21st Century Skills:  Critical Thinking, Creativity |

**[WARM-UP]**

* Discuss the warm-up question to see how much background information students possess about the topic.
* Sample Answer: It is 24 degrees Celsius today. It is warm, but not hot.

**[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, 8, 6, 2, 4, 5, 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]**

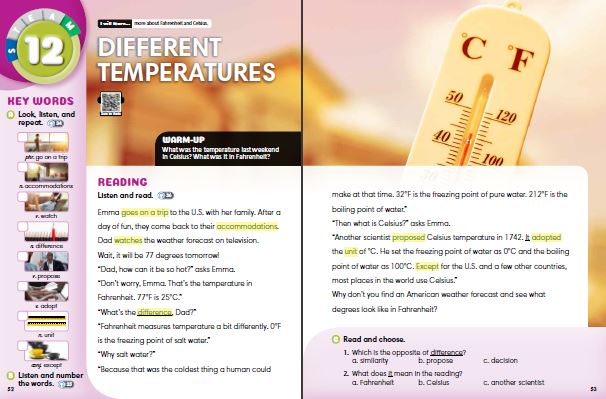
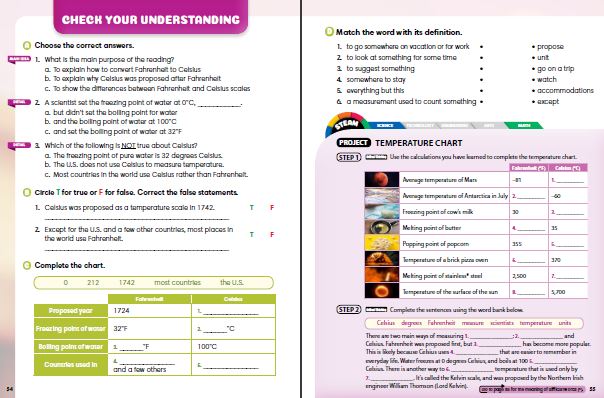
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. a 2. c 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Fahrenheit can be used to measure hot and cold temperatures. 2. T
* C. Look at the formula and convert them.
* 1. 59°F 2. 20°C 3. 95°F 4. 14°F 5. -30°C
* D. Complete the sentences.
* 1. conditions 2. described 3. charts 4. formula 5. multiply 6. Fahrenheit

**[STEAM PROJECT]**

* Have students describe the temperature as Celsius or Fahrenheit.
* Have them convert Celsius into Fahrenheit or Fahrenheit into Celsius.
* Have them share the results of step 1 with their partner or group. Ask different pairs of groups to represent their results to the class.
* Have them research the temperatures of different items and draw a poster about them.
* Ask them to convert the temperature on the poster into other units.
* Answer:
* a freezer: -18°C 🡪 0.4°F
* a fridge: 40°F 🡪 4.4°C
* tap water: 68°F 🡪 20°C
* human body: 37°C 🡪 98.6°F
* boiling water: 100°C 🡪 212°F
* an oven: 400°F 🡪 204.4°C

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| **Unit 12**. Different Temperatures | **S** | **T** | **E** | **A** | **M** |

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| Academic Objective | Learn more about Fahrenheit and Celsius |
| Vocabulary | go on a trip, accommodations, watch, difference, propose, adopt, unit, except |
| STEAM Project | Temperature Chart |
| 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: Last weekend, the temperature was 18°C, and it was 65°F.

**[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, 8, 2, 6, 1

**[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. b

**[CHECK YOUR UNDERSTANDING]**

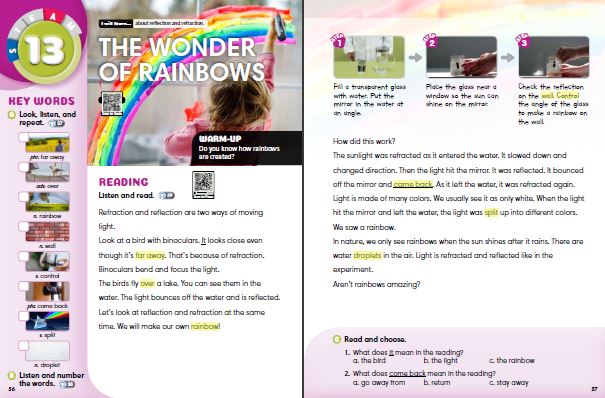
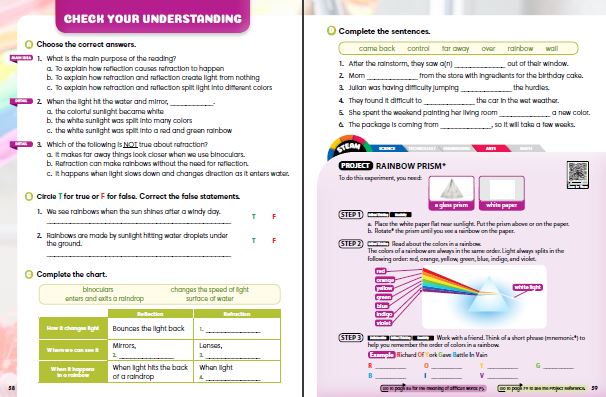
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. c 2. b 3. a
* B. Circle T for true or F for false. Correct the false statements.
* 1. T 2. F; Except for the U.S. and a few other countries, most places in the world use Celsius.
* C. Complete the chart.
* 1. 1742 2. 0 3. 212 4. the U.S. 5. most countries
* D. Match the word with its definition.
* 1. go on a trip 2. watch 3. propose 4. accommodations 5. except 6. unit

**[STEAM PROJECT]**

* Have students calculate and complete the chart. Make sure they use the exact formula.
* Have them complete the sentences using given words.
* Have them share the answers of steps 1 and 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
* Answer:
* Step 1
* 1. -63°C 2. -76°F 3. -1.1°C 4. 95°F 5. 179.4°C 6. 698°F 7. 1,371.1°C 8. 10,292°F
* Step 2
* 1. temperature 2. Fahrenheit 3. Celsius 4. units 5. degrees 6. measure 7. scientists

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| **Unit 13**. The Wonder of Rainbows | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about reflection and refraction |
| Vocabulary | far away, over, rainbow, wall, control, come back, split, droplet |
| STEAM Project | Rainbow Prism |
| 21st Century Skills:  Critical Thinking, Creativity, Collaboration |

**[WARM-UP]**

* Discuss the warm-up question to see how much background information students possess about the topic.
* Sample Answer: Rainbows are created when sunlight shines on water droplets in the air.

**[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, 4, 5, 1, 7, 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.)
* 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. b

**[CHECK YOUR UNDERSTANDING]**

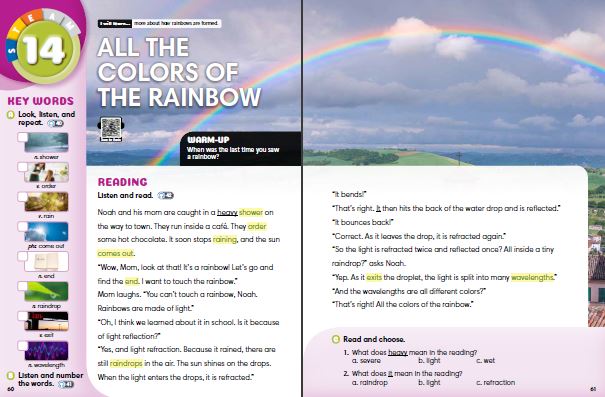
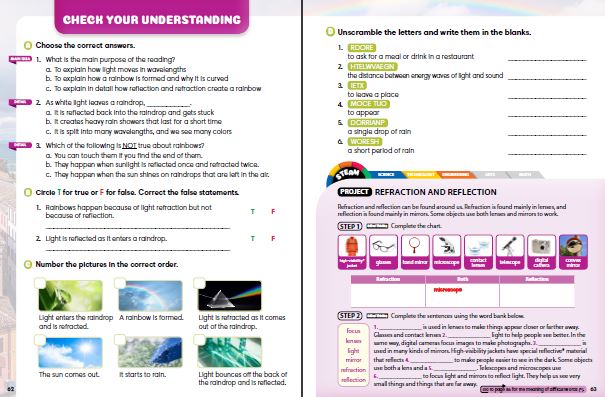
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. c 2. b 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; In nature, we see rainbows when the sun shines after rain.
* 2. F; Rainbows are made by sunlight hitting water droplets in the air.
* C. Complete the chart.
* 1. Changes the speed of light 2. surface of water 3. binoculars 4. enters and exits a raindrop
* D. Complete the sentences.
* 1. rainbow 2. came back 3. over 4. control 5. wall 6. far away

**[STEAM PROJECT]**

* Have them do the experiment and see the rainbow from the prism.
* Have students read about the colors in a rainbow and fill in the blanks of a short phrase.
* Have them share the answers of step 3 with their partner or group. Ask different pairs of groups to represent their results to the class.
* Refer to PROJECT REFERENCE at the end of the book for further explanation.
* Answer: Remember Our Yogurt Getting Brown In Vinegar

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| **Unit 14**. All the Colors of the Rainbow | **S** | **T** | **E** | **A** | **M** |

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| Academic Objective | Learn more about how rainbows are formed |
| Vocabulary | shower, order, rain, come out, end, raindrop, exit, wavelength |
| STEAM Project | Refraction and Reflection |
| 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: I saw a rainbow yesterday after a rainstorm passed my house.

**[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: 1, 7, 3, 8, 5, 2, 4, 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. a 2. b

**[CHECK YOUR UNDERSTANDING]**

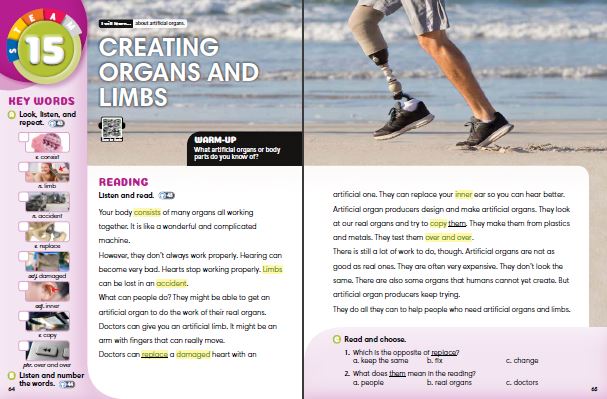
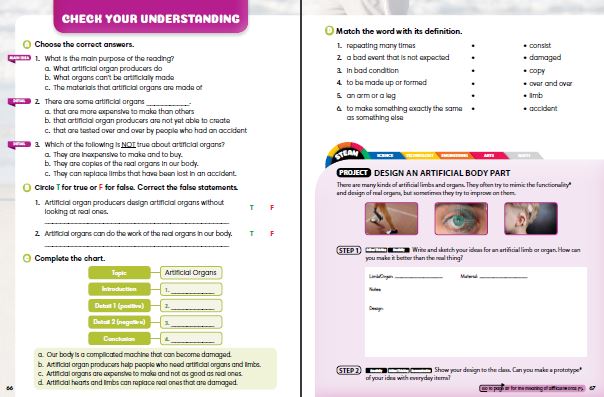
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. c 2. c 3. a
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Rainbows happen because of light refraction and reflection.
* 2. F; Light is reflected as it hits the back of a raindrop. / Light is refracted as it enters a raindrop.
* C. Number the pictures in the correct order. 3, 6, 5, 2, 1, 4
* D. Unscramble the letters and write them in the blanks.
* 1. order 2. wavelength 3. exit 4. come out 5. raindrop 6. shower

**[STEAM PROJECT]**

* Have students distinguish refraction and reflection and complete the chart.
* Have them complete the sentences using the given words.
* Have them share the answers of steps 1 and 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
* Answer:
* Step 1
* Refraction: glasses, contact lenses
* Both: microscope, telescope, digital camera, convex mirror
* Reflection: high-visibility jacket, hand mirror
* Step 2
* 1. Refraction 2. focus 3. Reflection 4. light 5. mirror 6. lenses

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| **Unit 15**. Creating Organs and Limbs | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about artificial organs |
| Vocabulary | consist, limb, accident, replace, damaged, inner, copy, over and over |
| STEAM Project | Design an Artificial Body Part |
| 21st Century Skills:  Critical Thinking, Creativity, Communication |

**[WARM-UP]**

* Discuss the warm-up question to see how much background information students possess about the topic.
* Sample Answer: I know of artificial hearts, arms, and legs.

**[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, 4, 1, 7, 3, 5, 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. a 2. b

**[CHECK YOUR UNDERSTANDING]**

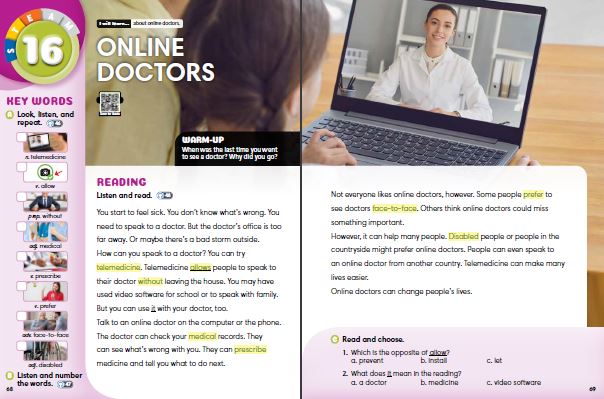
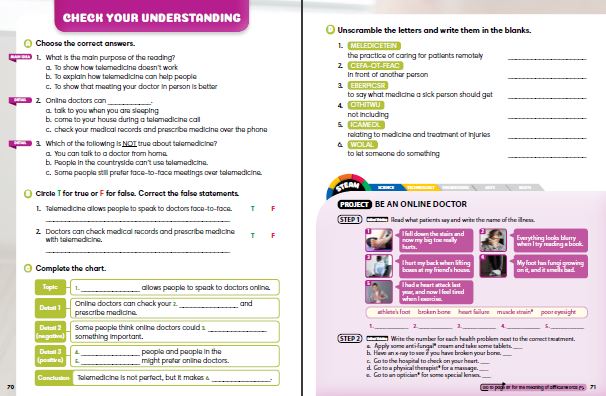
* Give students 5-10 minutes to write their answers. Remind them to not refer to the reading or previous pages to check their understanding.
* Elicit answers from students. If there are any disagreements between students on the answers, have them cite the lines in the text that support their choices. 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. b 3. a
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Artificial organ producers design artificial organs by looking at real ones. 2. T
* C. Complete the chart. 1. a 2. d 3. c 4. b
* D. Match the word with its definition.
* 1. over and over 2. accident 3. damaged 4. consist 5. limb 6. copy

**[STEAM PROJECT]**

* Explain about different kinds of artificial body parts to students.
* Have them design their own artificial limb of organ.
* Have them share their designs with their partner or group and represent them to the class.

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| **Unit 16**. Online Doctors | **S** | **T** | **E** | **A** | **M** |

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| --- | --- |
| Academic Objective | Learn about online doctors |
| Vocabulary | telemedicine, allow, without, medical, prescribe, prefer, face-to-face, disabled |
| STEAM Project | Be an Online Doctor |
| 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: I went to see the doctor two weeks ago. My friend threw a stick, and it hit me in the eye.

**[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: 4, 7, 1, 5, 3, 2, 8, 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. 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. b 2. c 3. b
* B. Circle T for true or F for false. Correct the false statements.
* 1. F; Telemedicine allows people to speak to doctors online. 2. T
* C. Complete the chart.
* 1. Telemedicine 2. medical records 3. miss 4. Disabled 5. countryside 6. (many) lives easier
* D. Unscramble the letters and write them in the blanks.
* 1. telemedicine 2. face-to-face 3. prescribe 4. without 5. medical 6. allow

**[STEAM PROJECT]**

* Have students read about the illness and fill in the blanks.
* Have them write the correct numbers based on the correct treatment.
* Have them share the answers of steps 1 and 2 with their partner or group.
* Have them share the advantages and disadvantages of the telemedicine.
* Answer:
* Step 1
* 1. broken bone 2. poor eyesight 3. muscle strain 4. athlete’s foot 5. heart failure
* Step 2
* a. 4 b. 1 c. 5 d. 3 e. 2