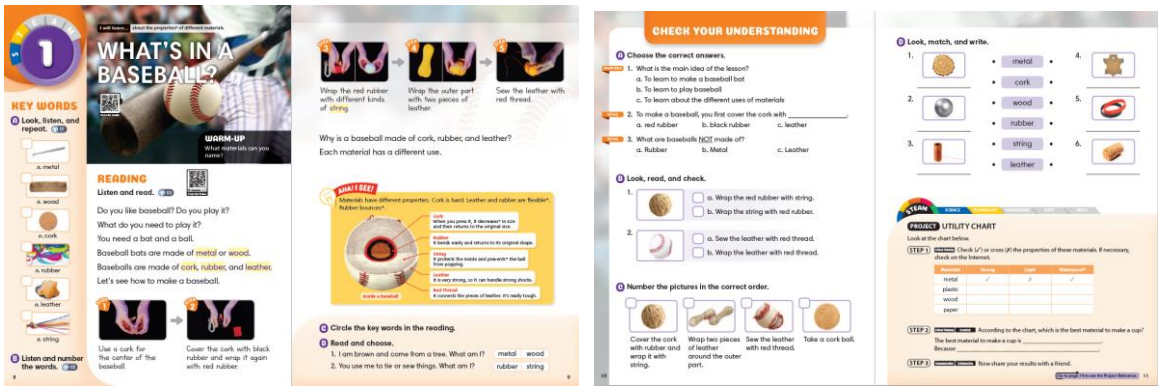
Unit 1. What's in a baseball?

S	T	E	A	M

Academic Objective	Learn about properties of different materials
Vocabulary	metal, wood, cork, rubber, leather, string
STEAM Project	Utility Chart
	21st Century Skills: Critical Thinking, Creativity, Communication, Collaboration



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: The materials I know are; metal, cement, concrete, fabric, leather, and wood.

[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, 5, 1, 6, 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.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. wood 2. string

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know the composition of the baseball. Help them understand different materials and its properties.
- Refer to Background Knowledge for more materials, their characteristics and common use. Pick some materials that students have answered in Warm-Up, and briefly discuss it as time allows.

[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. Look, read, and check. 1. a 2. a
- C. Number the pictures in the correct order. 2, 3, 4, 1
- D. Look, match, and write. 1. wood 2. metal 3. string 4. leather 5. rubber 6. cork

[STEAM PROJECT]

- Have students answer the chart. If needed, have them use the internet to find the properties of materials.
- Have them share the results of steps 1 and 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:

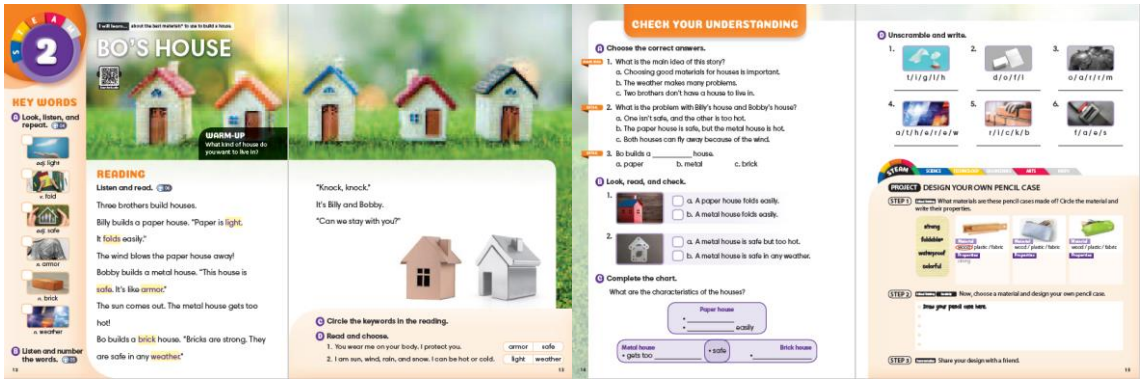
Materials	Strong	Light	Waterproof*
metal	✓	✗	✓
plastic	✗	✓	✓
wood	✓	✗	✗
paper	✗	✓	✗

- The best material to make a cup is plastic.
- Because it is light and waterproof.

Unit 2. Bo's House

S T E A M

Academic Objective	Learn about the best materials to use to build a house
Vocabulary	light, fold, safe, armor, brick, weather
STEAM Project	Design Your Own Pencil Case
	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 want to live in a big farmhouse with a big kitchen.

[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, 4, 5, 6, 2, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. armor 2. weather

[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. c
- B. Look, read, and check. 1. a 2. a
- C. Complete the chart.
  Paper house: light
  folds easily
  Metal house: gets too hot
  Brick house: strong
- D. Unscramble and write. 1. light 2. fold 3. armor 4. weather 5. brick 6. safe

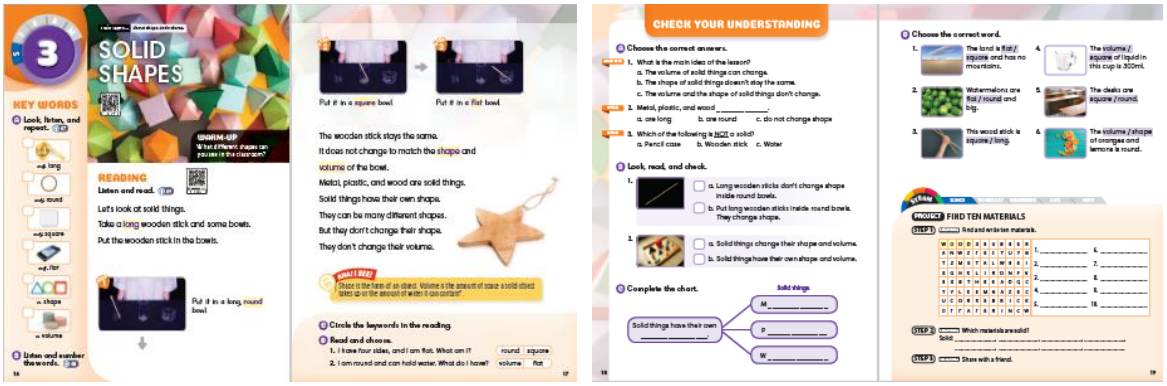
[STEAM PROJECT]

- Have students design their own pencil case.
- Have them share the answers of steps 1 and 2 with their partner or group. Ask different pairs of groups to represent their design to the class.
- Answer: 1st pencil case: wood / strong
  2nd pencil case: fabric / foldable
  3rd pencil case: plastic / foldable, waterproof, colorful.

Unit 3. Solid Shapes

S	T	E	A	M

Academic Objective	Learn about shape and volume
Vocabulary	long, round, square, flat, shape, volume (the amount of space)
STEAM Project	Find Ten Materials
	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 see circles, squares, and rectangles.

[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, 5, 6, 4, 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.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. square 2. volume

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know shapes and volumes of different materials. Help them understand shape and volume of an object.
- Refer to Background Knowledge for more shapes of materials. Pick some materials that students have answered in Warm-Up, and briefly discuss it as time allows.

[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. c
- B. Look, read, and check. 1. a 2. b
- C. Fill in the blanks.
  Solid things have their own shape and volume.
  Solid things: Metal, Plastic, Wood
- D. Choose the correct word.
  1. flat 2. round 3. long 4. volume 5. square 6. shape
-

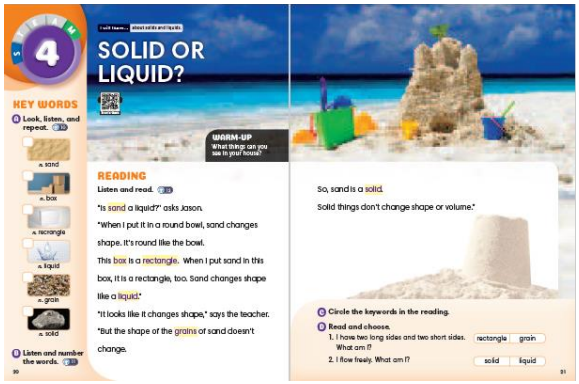
[STEAM PROJECT]

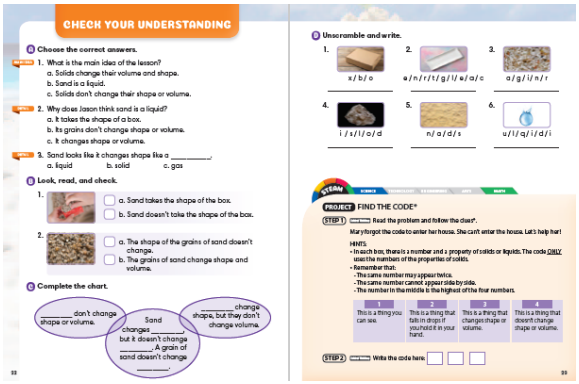
- Have students write ten materials and classify.
- Have them share the results of steps 1 and 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- Step 1
- 1. wood 2. metal 3. thread 4. brick 5. paper 6. cork 7. rubber 8. water 9. iron 10. air
- Step 2
- Solid: wood, metal, thread, brick, paper, cork, rubber, iron

Unit 4. Solid or Liquid?

S	T	E	A	M

Academic Objective	Learn about solids and liquids
Vocabulary	sand, box, rectangle, liquid, grain, solid
STEAM Project	Find the Code
	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 can see a desk, a chair, a table, and a pencil.

[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, 1, 6, 3, 5, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. rectangle 2. liquid

[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. Look, read, and check. 1. a 2. a
- C. Complete the chart.
- Solids don't change shape or volume.
- Sand changes shape, but it doesn't change volume. A grain of sand doesn't change shape.
- Liquids change shape, but they don't change volume.
- D. Unscramble and write. 1. box 2. rectangle 3. grain 4. solid 5. sand 6. liquid

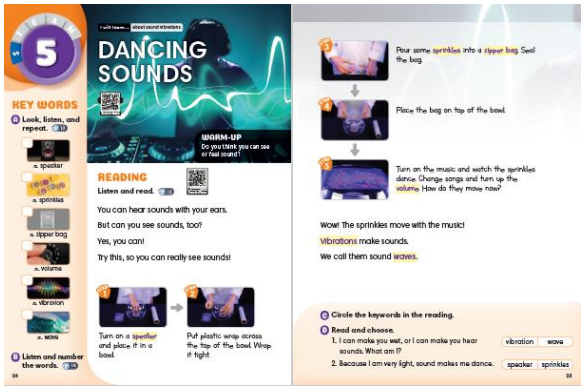
[STEAM PROJECT]

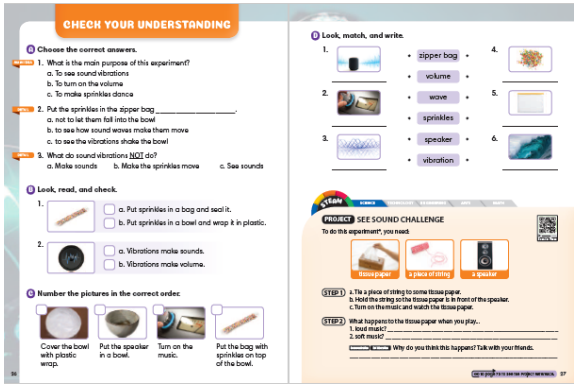
- Have students follow the clues and figure out the code.
- Have them share the results of step 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer: Step 2: 141

Unit 5. Dancing Sounds

S	T	E	A	M

Academic Objective	Learn about sound vibrations
Vocabulary	speaker, sprinkles, zipper bag, volume (the level of sound), vibration, wave
STEAM Project	See Sound Challenge
	21st Century Skills: Communication, Collaboration





[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: I think we can feel sound, but I don't think we can see it.

[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, 6, 1, 3, 4, 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.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. wave 2. sprinkles

[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. Look, read, and check. 1. a 2. a
- C. Number the pictures in the correct order. 2, 1, 4, 3
- D. Look, match, and write.
  1. speaker 2. volume 3. vibration 4. sprinkles 5. zipper bag 6. wave

[STEAM PROJECT]

- Have students do the experiment.
- 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.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer:

  Step 2

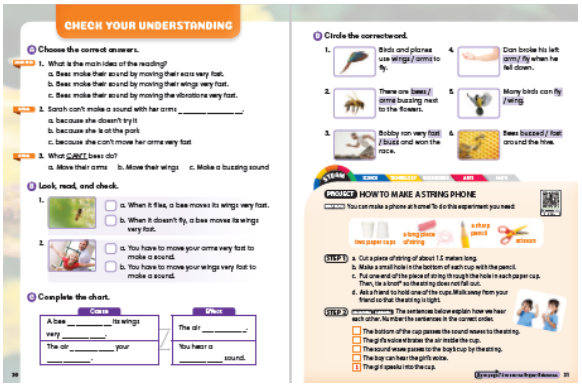
  1. loud music: The tissue paper moves a lot.
  2. soft music: The tissue paper moves a little.

  I think this happens because of the sound vibrations created by the music. Loud music has stronger vibrations.

Unit 6. Buzzing Bees

S T E A M

Academic Objective	Learn about movement and sound
Vocabulary	bee, fly, buzz, wing, fast, arm
STEAM Project	How to Make a String Phone
	21st Century Skills: Critical Thinking, Communication, Collaboration



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: I think bees buzz by flapping their wings really fast.

[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, 6, 5, 3, 1, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. bee 2. buzz

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know how bees make buzzing sound. Help them understand movement and sound.
- Refer to Background Knowledge for more information about sound waves. Briefly discuss the students' answer in Warm-Up as time allows.
-

[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. a
- B. Look, read, and check. 1. a 2. a
- C. Complete the chart.
  Cause: A bee moves its wings very fast.
  Effect: The air vibrates.
  Cause: The air shakes your eardrum.
  Effect: You hear a buzzing sound.
- D. Circle the correct word. 1. wings 2. bees 3. fast 4. arm 5. fly 6. buzzed

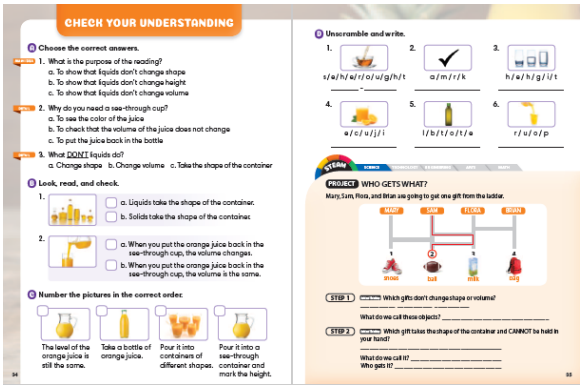
[STEAM PROJECT]

- Have students do the experiment.
- 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.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer: 3, 2, 4, 5, 1
- 1. The girl speaks into the cup.
- 2. The girl's voice vibrates the air inside the cup.
- 3. The bottom of the cup passes the sound waves to the string.
- 4. The sound wave passes to the boy's cup by the string.
- 5. The boy can hear the girl's voice.

Unit 7. Juicy Cups

S	T	E	A	M

Academic Objective	Learn about characteristics of liquids
Vocabulary	bottle, juice, pour, see-through, mark, height
STEAM Project	Who Gets What?
	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: Juice, oil, water, gasoline, milk, soda

[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, 1, 6, 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.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. juice 2. bottle

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know the changing shape of the juice. Help them understand the characteristics of liquids.
- Refer to Background Knowledge for more characteristics of liquids. Pick some liquids that students have answered in Warm-Up, and briefly discuss it as time allows.

[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. Look, read, and check. 1. a 2. b
- C. Number the pictures in the correct order. 4, 1, 3, 2
- D. Unscramble and write. 1. see-through 2. mark 3. height 4. juice 5. bottle 6. pour
-

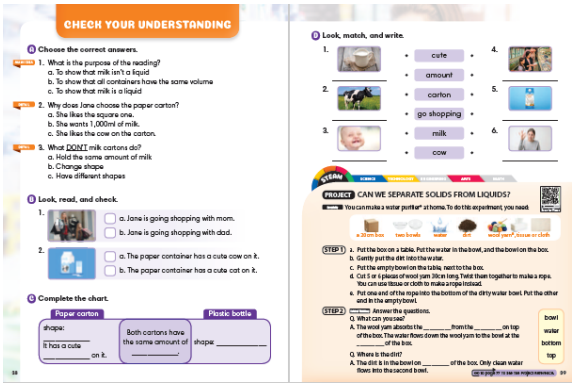
[STEAM PROJECT]

- Have students answer the questions.
- Have them share the results of steps 1 to 2-1 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- Step 1: shoes, ball, bag
- Step 1-1: solids
- Step 2: milk
- Step 2-1: liquid, Mary

Unit 8. Shopping for Milk

S T E A M

Academic Objective	Learn more about characteristics of liquids
Vocabulary	go shopping, milk, carton, amount, cute, cow
STEAM Project	Make a Water Purifier
	21st Century Skills: Creativity, Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: I like to drink water, juice, and milk.

[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, 5, 3, 1, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. milk 2. cow

[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. Look, read, and check. 1. a 2. a
- C. Complete the chart.
  Paper carton - shape: square It has a cute cow on it.
  Both milk have the same amount of milk.
  Plastic bottle - shape: round
- D. Look, match, and write.
  1. milk 2. cow 3. cute 4. go shopping 5. carton 6. amount

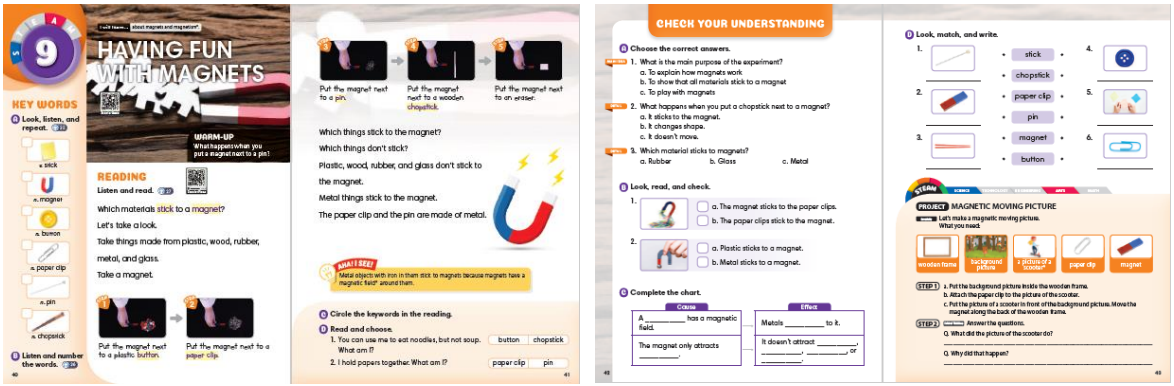
[STEAM PROJECT]

- Have students do the experiment and complete the blanks.
- 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.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer:
- The rope absorbs the water from the bowl on top of the box. The water flows down the rope to the bowl at the bottom of the box.
- The dirt is in the bowl on top of the box.

Unit 9. Having Fun with Magnets

S T E A M

Academic Objective	Learn about magnets and magnetism
Vocabulary	stick, magnet, button, paper clip, pin, chopstick
STEAM Project	Magnet Moving Frame
	21st Century Skills: Creativity, Critical Thinking



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: The magnet pulls the pin to it.

[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, 2, 3, 1, 4, 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.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. chopstick 2. paper clip

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know the materials that stick to a magnet. Help them understand about magnets and magnetism.
- Refer to Background Knowledge for more examples of metal objects. Pick some materials in home, and briefly discuss it as time allows.

[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. Look, read, and check. 1. b 2. b
- C. Complete the chart.
  Cause: A magnet has a magnetic field.
  Effect: Metals stick to it.
  Cause: The magnet only attracts metal.
  Effect: It doesn't attract plastic, wood, rubber, or glass.
- D. Look, match, and write.
  1. pin 2. magnet 3. chopstick 4. button 5. stick 6. paper clip

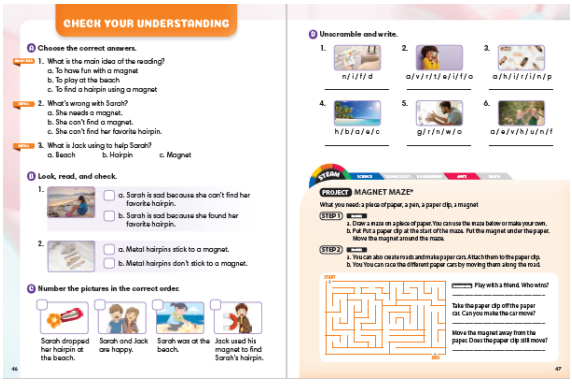
[STEAM PROJECT]

- Have students make the magnetic picture frame.
- 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.
- Answer:
- Q1. The picture of the scooter moved wherever the magnet moved.
- Q2. The paper clip stuck to the magnet, which caused the magnet to pull the picture of the scooter across the background picture.

Unit 10. My Favorite Hairpin

S T E A M

Academic Objective	Learn more about magnets and magnetism
Vocabulary	beach, have fun, wrong, favorite, hairpin, find
STEAM Project	Magnet Maze
	21st Century Skills: Creativity, Collaboration, Communication



[WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: You can use a magnet to find a metal object at the beach.

[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, 2, 3, 1, 4, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. hairpin 2. find

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know the magnetism of the magnet. Help them understand magnetic field around magnets.
- Refer to Background Knowledge for more metal objects, their characteristics and common use. Share what students answered in Warm-Up, and briefly discuss it as time allows.

[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. c
- B. Look, read, and check. 1. a 2. a
- C. Number the pictures in the correct order. 2, 4, 1, 3
- D. Unscramble and write. 1. find 2. favorite 3. hairpin 4. beach 5. wrong 6. have fun

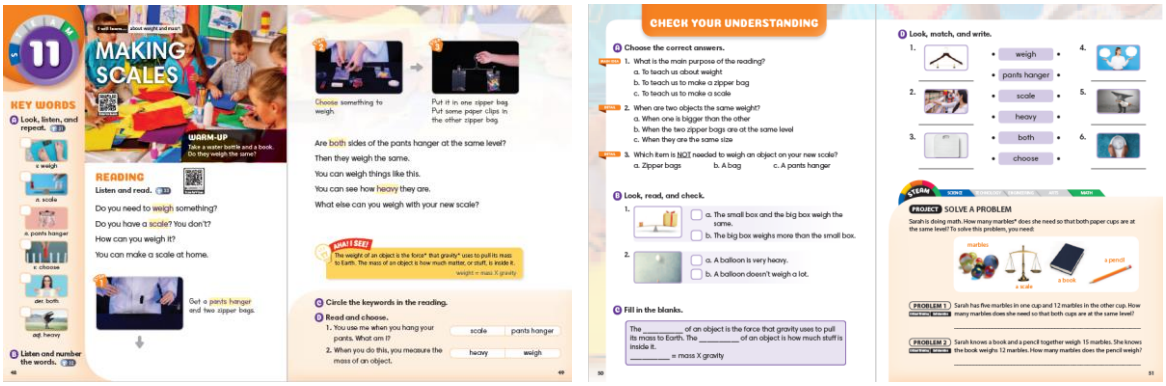
[STEAM PROJECT]

- Have students draw the maze and play with friends.
- Have them share the results of the questions with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- Q2. I can't make the car move because the paper car does not contain metal.
- Q3. If the magnet is fairly close to the paper, the paper clip still moves because the magnetic field of magnet attracts the paper clip.

Unit 11. Making Scales

S T E A M

Academic Objective	Learn about weight and mass
Vocabulary	weigh, scale, pants hanger, choose, both, heavy
STEAM Project	Solve a Problem
	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 book and the water bottle I chose do not weigh the same. The water bottle is heavier.

[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, 2, 3, 4, 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.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. pants hanger 2. weigh

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know the weight of an object. Help them understand about weight and mass of different objects.
- Refer to Background Knowledge for more kinds of scales and how to use. Pick a material at home and briefly discuss how to weigh it as time allows.

[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. Look, read, and check. 1. a 2. b
- C. Fill in the blanks.
- The weight of an object is the force that gravity uses to pull its mass to Earth. The mass of an object is how much stuff is inside it.
- weight = mass X gravity
- D. Look, match, and write.
  1. pants hanger 2. choose 3. scale 4. both 5. heavy 6. weigh

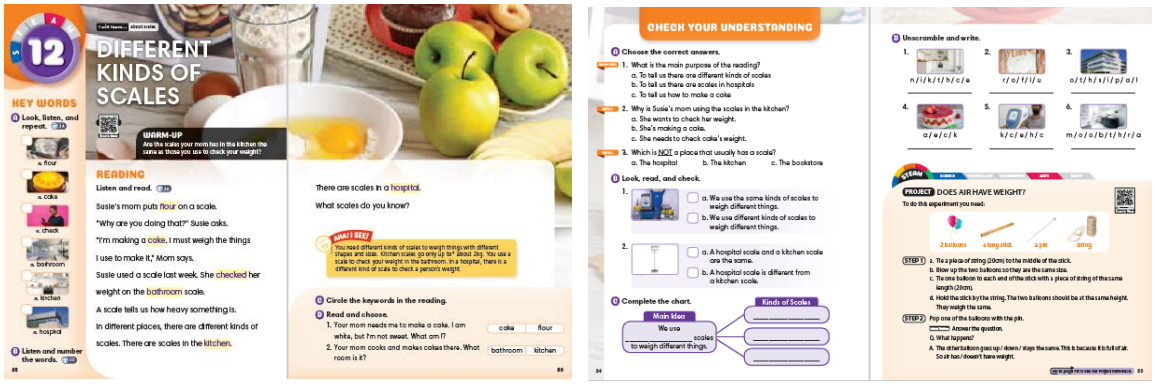
[STEAM PROJECT]

- Have students solve the problems.
- Have them share the results of problems 1 and 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- Problem 1: If all of the marbles are the same size and weight, she will need to put seven more marbles in the cup with only five marbles.
- Problem 2: The pencil weighs three marbles.

Unit 12. Different Kinds of Scales

S T E A M

Academic Objective	Learn about scales
Vocabulary	flour, cake, check, bathroom, kitchen, hospital
STEAM Project	Does Air Have Weight?
	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, they are not the same. The scales in the kitchen are smaller. They cannot weigh things that are really heavy like the bathroom scale can.

[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, 1, 3, 6, 4, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. flour 2. kitchen

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know the different uses of scales. Help them understand about different kinds of scales.
- Refer to Background Knowledge for more scales, their characteristics and common use. Pick different kinds of scales with different purposes, and briefly discuss it as time allows.

[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. Look, read, and check. 1. b 2. b
- C. Complete the chart.
  We use <u>different</u> scales to weigh different things.
  Kinds of Scales: kitchen scale, bathroom scale, hospital scale
- D. Unscramble and write. 1. kitchen 2. flour 3. hospital 4. cake 5. check 6. bathroom

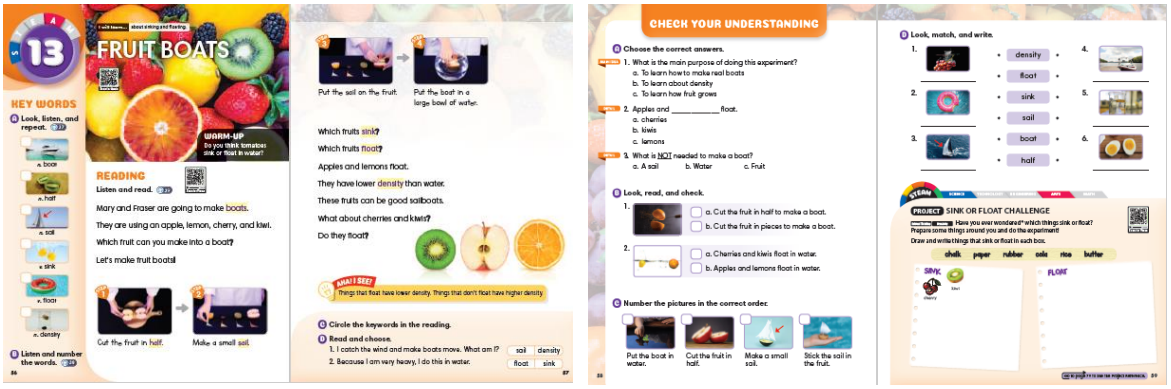
[STEAM PROJECT]

- Have students do the experiment.
- Have them share the results of step 2 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.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer:
- Step 2
- The other balloon goes <u>down</u>. This is because it is full of air. So air <u>has</u> weight.

Unit 13. Fruit Boats

S T E A M

Academic Objective	Learn about sinking and floating
Vocabulary	boat, half, sail, sink, float, density
STEAM Project	Sink or Float Challenge
	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: I think tomatoes sink in water.

[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, 2, 3, 4, 1, 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.)
- Scan the QR code to view the experiment.

[SHORT ACTIVITIES]

- Have students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. sail 2. sink

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know which materials sink or float. Help them understand lower and high density of the materials.
- Refer to Background Knowledge for more materials and their characteristics. Pick some materials in home, and briefly discuss it as time allows.

[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. Look, read, and check. 1. a 2. b
- C. Number the pictures in the correct order. 4, 1, 2, 3
- D. Look, match, and write. 1. sink 2. float 3. sail 4. boat 5. density 6. half
-

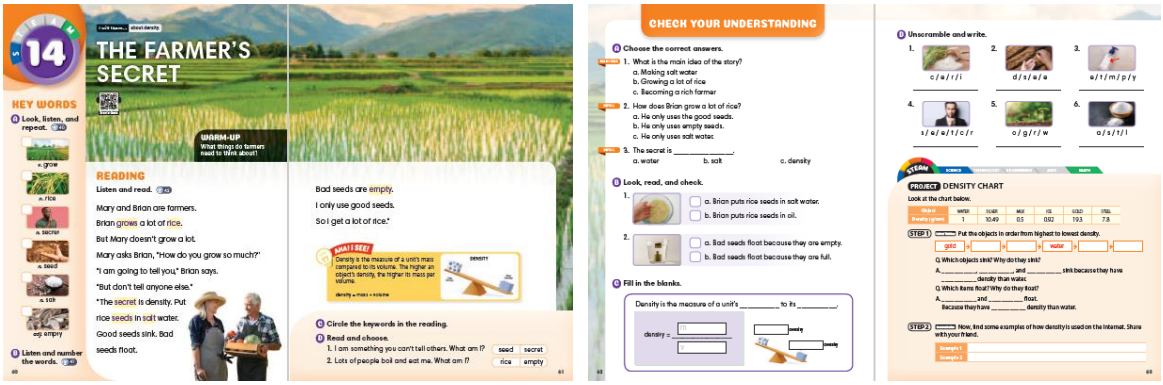
[STEAM PROJECT]

- Have them do the experiment.
- Have students fill out each box.
- Have them share the results of steps 1 and 2 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.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer:
- Sink: cherry, kiwi, chalk, rubber, cola
- Float: paper, rice, butter

Unit 14. The Farmer's Secret

S	T	E	A	M

Academic Objective	Learn about density
Vocabulary	grow, rice, secret, seed, salt, empty
STEAM Project	Density Chart
	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: Farmers need to think about the weather, water, food for animals, crops, their animals' health, equipment, etc.
-

[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, 1, 4, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. secret 2. rice

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know what density is. Help them understand density with mass and volume.
- Refer to Background Knowledge for density of more materials. Pick some materials in home, and briefly discuss it as time allows.

[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. Look, read, and check. 1. a 2. a
- C. Fill in the blanks.
  Density is the measure of a unit's mass to its volume.
  density = mass / volume
  low density (box that is high)
  high density (box that is low)
- D. Unscramble and write. 1. rice 2. seed 3. empty 4. secret 5. grow 6. salt

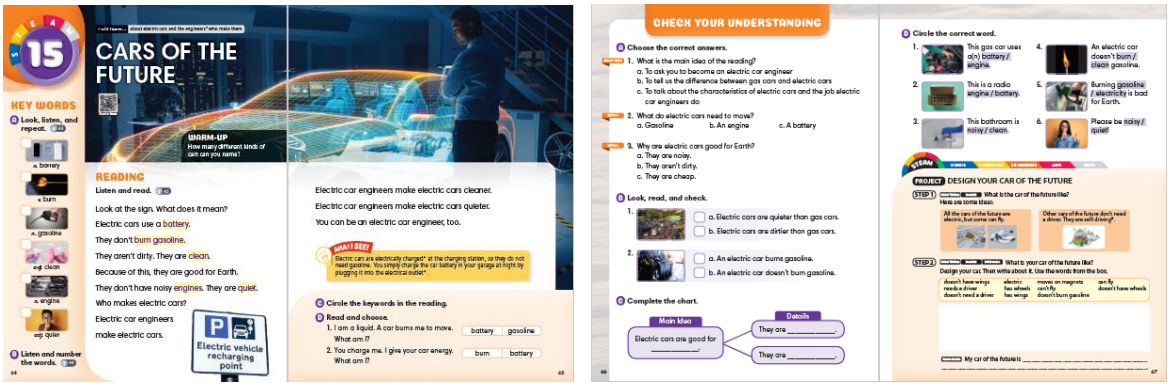
[STEAM PROJECT]

- Have students answer the questions.
- Have them share the results of steps 1 to 3 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- Step 1: gold, silver, steel, water, ice, milk
- Step 2: Gold, silver, and steel sink because they have higher density than water.
- Step 2-1: milk and ice float. Because they have lower density than water.

Unit 15. Cars of the Future

S T E A M

Academic Objective	Learn about electric cars and the engineers who make them
Vocabulary	battery, burn, gasoline, clean, engine, quiet
STEAM Project	Design Your Car of the Future
	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: convertible, sedan, pickup, truck, hatchback, bug, SUV, minivan

[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, 1, 3, 6, 4, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. gasoline 2. battery

[AHA! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know the electric cars and the engineers. Help them understand advantages of the electric cars.
- Refer to Background Knowledge for more information about electric car engineer. Pick some vehicles that students have answered in Warm-Up, and briefly discuss how they might change in the future.

[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. Look, read, and check. 1. a 2. b
- C. Complete the chart.
  Electric cars are good for Earth.
  They are clean. They are quiet.
- D. Circle the correct word. 1. engine 2. battery 3. clean 4. burn 5. gasoline 6. quiet

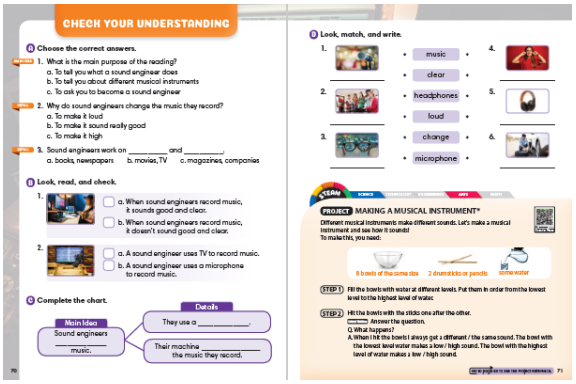
[STEAM PROJECT]

- Have students design their own car of the future.
- Have them share the results of step 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- My car of the future is a flying car. It doesn't have wheels. It can fly, but it doesn't have wings.

Unit 16. Recording Sounds

S T E A M

Academic Objective	Learn about recording sounds and sound engineers
Vocabulary	headphones, music, loud, clear, microphone, change
STEAM Project	Making a Musical Instrument
	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: I think music sounds clearer when I put my headphones on.
-

[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, 5, 3, 6, 1, 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 students circle the key words to help them understand their meaning.
- Have them individually answer question D. Check the answer as a class and give a simple explanation if necessary.
- Answer: 1. music 2. change

[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. Look, read, and check. 1. a 2. b
- C. Complete the chart.
  Sound engineers record music.
  They use a microphone.
  Their machine changes the music they record.
- D. Look, match, and write.
  1. microphone 2. music 3. clear 4. loud 5. headphones 6. change

[STEAM PROJECT]

- Have students do the experiment.
- Have them share the results of step 2 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.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer:
- When I hit the bowls one after the other, I always get a different sound. The bowl with the lowest level water makes a low sound. The bowl with the highest level of water makes a high sound.