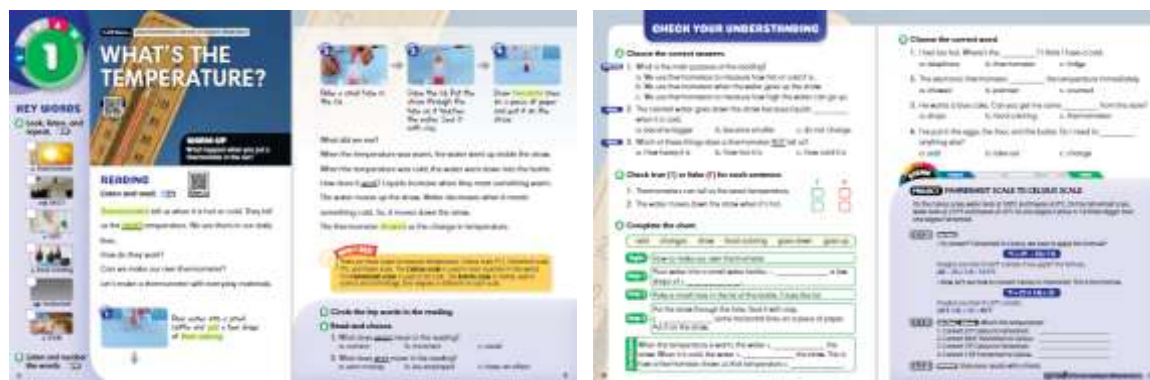


# Unit 1. What's the Temperature?



Academic Objective	Learn about thermometers and how to measure temperature
Vocabulary	thermometer, exact, add, food coloring, horizontal, show
STEAM Project	Fahrenheit Scale to Celsius Scale
	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: The (red) line on the thermometer moves to show the temperature. On a hot day, the line will go up.

## [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, 5, 1, 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.)
- 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. a 2. c

### [WOW! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know three scales to measure temperature. Help them understand what the difference of three scales is.
- Refer to Background Knowledge for more information about Fahrenheit, Celsius, and Kelvin scale. Discuss features of each scale based on explanation.

### [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. Check true (T) or false (F) for each sentence. 1. T 2. F
- C. Complete the chart.
- 1. Add 2. food coloring 3. Draw 4. goes up 5. goes down 6. changes
- D. Choose the correct word. 1. b 2. a 3. b 4. a

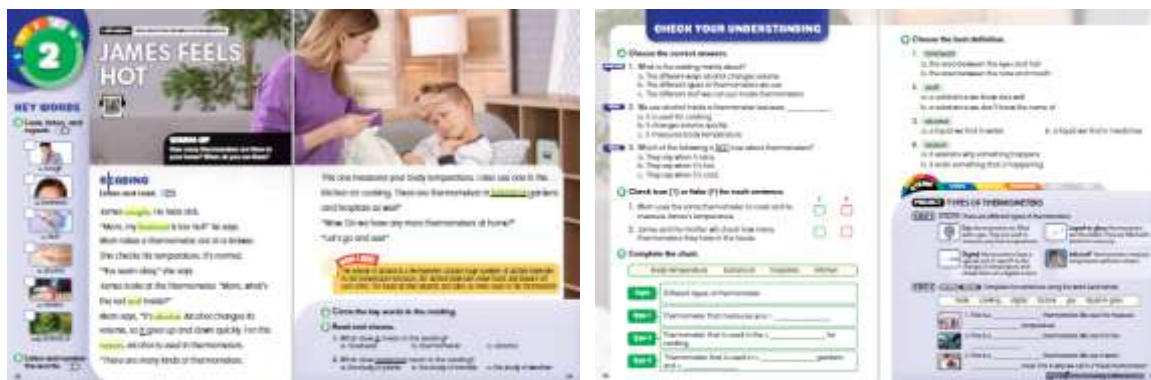
### [STEAM PROJECT]

- Have students read the formula and answer the questions.
- Have them share the answers of step 2 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:  
25° Celsius = 77° Fahrenheit  
98.6° Fahrenheit = 37° Celsius  
10° Celsius = 50° Fahrenheit  
120° Fahrenheit = 48.9° Celsius

## Unit 2. James Feels Hot



Academic Objective	Learn more about thermometers and temperature
Vocabulary	cough, forehead, stuff, alcohol, reason, botanical
STEAM Project	Types of Thermometers
	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: There are two thermometers in my home. I use them to take my temperature when I don't feel well.

### [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, 4, 1, 2, 3, 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. c 2. a

### [WOW! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know how thermometer works. Help them understand why we use alcohol in a thermometer.
- Refer to Background Knowledge for more information about thermometer and scales. 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. b 3. a
- B. Check true (T) or false (F) for each sentence. 1. F 2. T
- C. Complete the chart. 1. body temperature 2. kitchen 3. botanical 4. hospitals
- D. Choose the best definition. 1. a 2. b 3. b 4. a

### [STEAM PROJECT]

- Have students read the description and complete the blanks.
- Have them share the answers of step 2 with their partner or group. Ask different pairs of groups to represent their design to the class.
- Answer: 1. liquid-in-glass, body 2. gas, factory 3. digital, cooking

## Unit 3. Melting Points

S

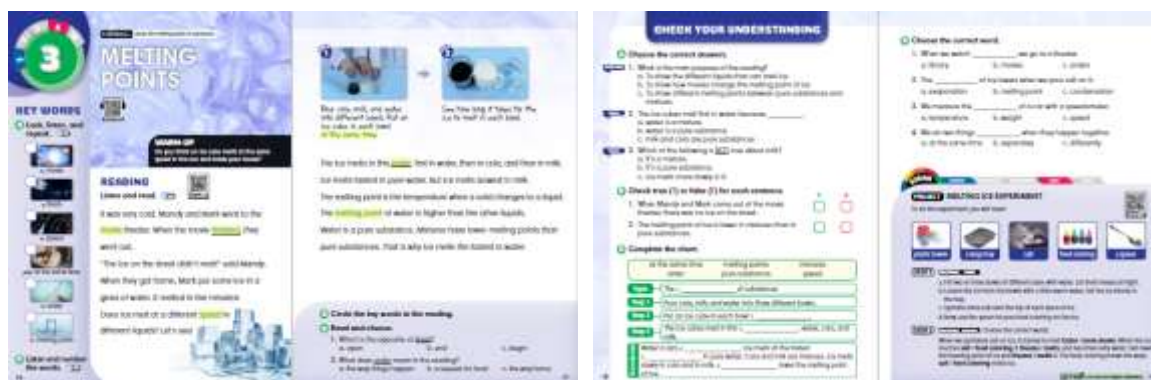
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Academic Objective	Learn about the melting points of substances
Vocabulary	movie, finish, speed, at the same speed, order, melting point
STEAM Project	Melting Ice Experiment 21st Century Skills: Critical Thinking, Creativity, Collaboration



### [WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: On a cold day, it is warmer inside my house than it is outside, so the ice cube would melt faster inside my house. On a sunny day, it is warmer outside than it is inside my house. The ice cube would melt faster outside.

### [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, 5, 1, 6, 3, 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 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. 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. c 2. b 3. b
- B. Check true (T) or false (F) for each sentence. 1. F 2. T
- C. Complete the chart.
- 1. melting points 2. at the same time 3. order 4. pure substance 5. speed 6. Mixtures
- D. Choose the correct word. 1. b 2. b 3. c 4. a

### [STEAM PROJECT]

- Have students do the experiment and circle the correct words.
- Have them share the results of the experiment and answers in 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 we sprinkled salt on ice, it started to melt faster. When the ice touches salt, it melts, and becomes salty water. Salt lowers the freezing point of ice and melts it. The food coloring shows the ways salt melts ice.



## Unit 4. The Case of the Disappearing Snowman

S

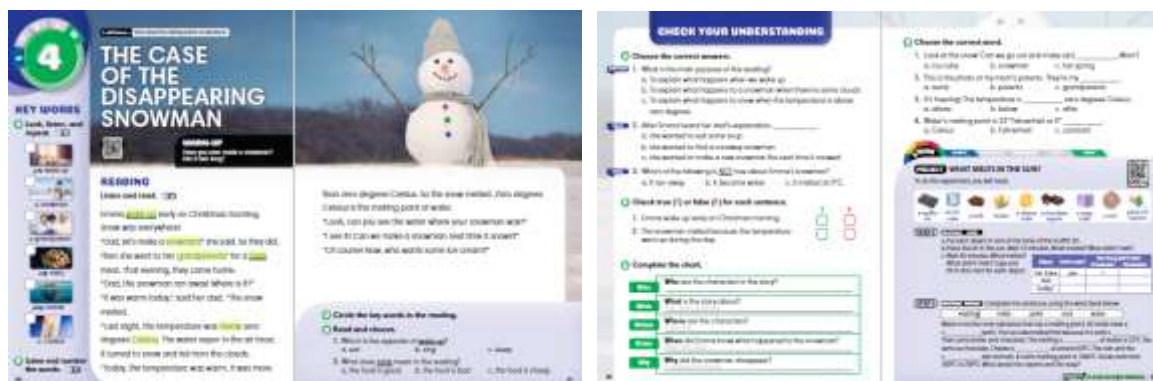
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Academic Objective	Learn more about the melting points of substances
Vocabulary	wake up, snowman, grandparent, tasty, below, Celsius
STEAM Project	What Melts in the Sun? 21st Century Skills: Critical Thinking, Creativity, Collaboration



### [WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Yes, I have made a snowman. One of my snowmen lasted about a month because the weather stayed cold. Another one lasted just a few days because the sun melted 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: 4, 1, 2, 6, 3, 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. 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. c 2. c 3. a
  - B. Check true (T) or false (F) for each sentence. 1. T 2. T
  - C. Complete the chart.
    - Who: Emma, Emma's dad
    - What: This story is about what caused Emma's snowman to disappear.
    - Where: They are at home.
    - When: After her dad explained the melting point of water and she saw the puddle where her snowman was.
    - Why: It melted because the temperature went above zero degrees Celsius.
  - D. Choose the correct word. 1. b 2. c 3. b 4. a

### [STEAM PROJECT]

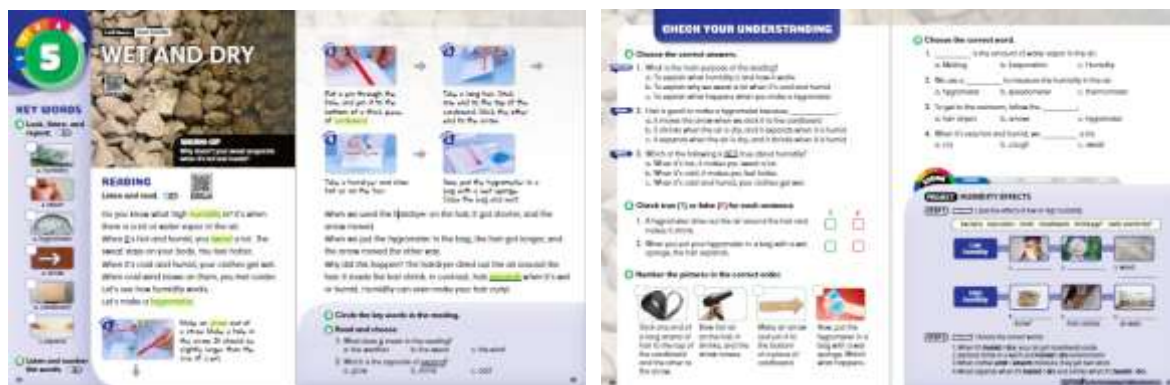
- Have students do the experiment and complete the passage.
- Have them share the results of the experiment with their partner or group. Ask different pairs of groups to represent their results to the class.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer: 1. melting 2. water 3. point 4. melts 5. rock



## Unit 5. Wet and Dry

S T E A M

Academic Objective	Learn about humidity
Vocabulary	humidity, sweat, hygrometer, arrow, cardboard, expand
STEAM Project	Humidity Effects 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: It doesn't evaporate because there is already a lot of water vapor in the air on a humid day.

### [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, 3, 1, 6, 2, 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. 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. c
- B. Check true (T) or false (F) for each sentence. 1. F 2. T
- C. Number the pictures in the correct order. 2, 3, 1, 4
- D. Choose the correct word. 1. c 2. a 3. b 4. c

### [STEAM PROJECT]

- Have students answer the questions about the effects of humidity.
- 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. nosebleeds 2. static electricity 3. shrinkage 4. bacteria 5. bad odors 6. mold
- Step 2: 1. dry 2. humid 3. absorb 4. humid, dry

## Unit 6. Hot and Humid

S

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M

Academic Objective	Learn more about humidity
Vocabulary	sticky, go bad, harmful, not at all, skin, breathe
STEAM Project	Crossword Puzzle 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 don't like high humidity because the air feels so thick, and I sweat a lot. Also, when it is too humid, bacteria and mold can grow in the house, and that is not good for our health.

### [KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 3, 6, 1, 5, 2, 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. 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. a 3. a
- B. Check true (T) or false (F) for each sentence. 1. T 2. F
- C. Complete the chart.
- 1. hotter 2. sweat 3. goes bad 4. dry 5. skin 6. breathe
- D. Choose the best definition. 1. b 2. a 3. a 4. b

### [STEAM PROJECT]

- Have students do the crossword puzzle.
- Have them fill each number according to the description next to it.
- Have them share the answers of the crossword puzzle with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer:
- Across: 1. sticky 3. snow 5. not at all 7. humidity 8. go bad 9. breathe 11. draw 12. snowman
- Down: 1. skin 2. sweat 4. harmful 6. expand 7. hygrometer 10. arrow

# Unit 7. Heat Transfer

S

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Academic Objective	Learn about the way heat transfers
Vocabulary	handle, conduction, involve, copper, attach, observe
STEAM Project	Good and Bad Conductors
	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 drink is heating the ice cube, which causes it to melt.

## [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: 5, 1, 6, 4, 3, 2

## [READING]

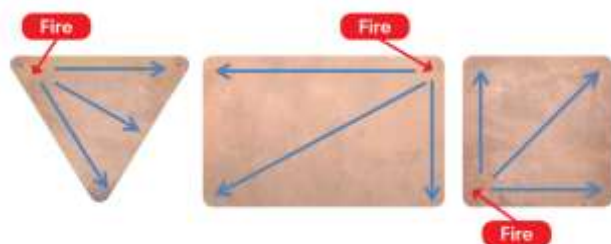
- Play the audio once. After playing the audio, do choral reading and ask the students to repeat after you. Ask the students to point at each word as they read it.
- If necessary, have them read the text one more time by doing popcorn reading. (Have students take turns reading one line from the story. 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 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. 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. c 3. b
- B. Check true (T) or false (F) for each sentence. 1. T 2. T
- C. Draw the direction in which the heat transfers in the experiment.



- 
- D. Choose the correct word. 1. b 2. a 3. b 4. a
- 

### [STEAM PROJECT]

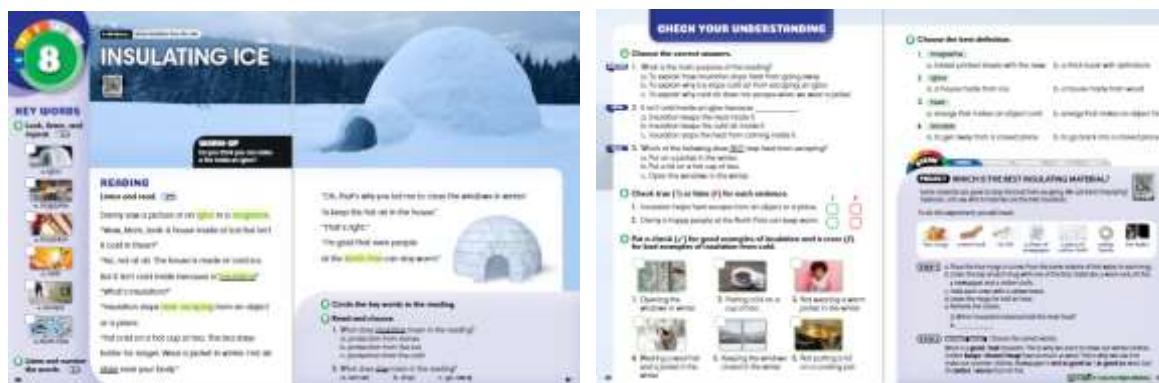
- Have students do the experiment and answer the questions.
- Have them share the results of the experiment with their partner or group. Ask different pairs of groups to represent their results to the class.
- Refer to PROJECT REFERENCE at the end of the book for further explanation.
- Give the answer and with reasons based on PROJECT REFERENCE.
- Answer:
- Step 2: Different materials transfer heat at different rates. So they melt the butter at different speeds. Some substances are better at conducting heat than others.
- 1. copper 2. aluminum 3. aluminum (transfers heat faster) / copper (transfers more heat)



## Unit 8. Insulating Ice

S T E A M

Academic Objective	Learn about insulation from the cold
Vocabulary	igloo, magazine, insulation, heat, escape, North Pole
STEAM Project	Which Is the Best Insulating Material? 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: Yes, I think you can make a fire inside an igloo as long as there is a vent at the top for the smoke to escape.

### [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: 5, 1, 6, 2, 4, 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. 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. a 3. c
- B. Check true (T) or false (F) for each sentence. 1. F 2. T
- C. Put a check (✓) for good examples of insulation and a cross (✗) for bad examples of insulation from cold. 1. ✗ 2. ✓ 3. ✗ 4. ✓ 5. ✓ 6. ✗
- D. Choose the best definition. 1. a 2. a 3. b 4. a

### [STEAM PROJECT]

- Have students do the experiment and answer the questions.
- Have them share the results of the experiment 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:
- Step 1: tin foil
- Step 2: Wool is a very good insulator. This is why we use it to make our winter clothes. Cotton doesn't keep heat well. This is why we use it to make our summer clothes. Newspaper is as good as wool, but it's worse than tin foil.

## Unit 9. Dissolving Substances

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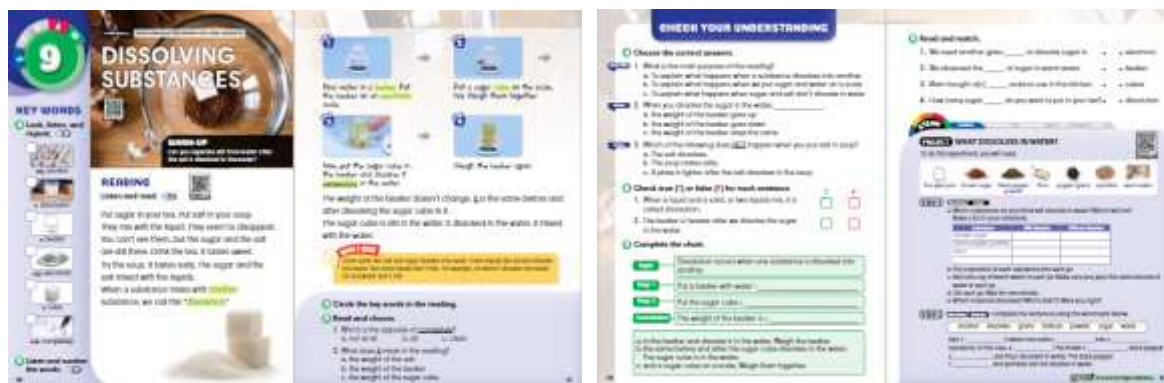
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Academic Objective	Learn about substances that dissolve into other substances
Vocabulary	another, dissolution, beaker, electronic, cube, completely
STEAM Project	What Dissolves in Water? 21st Century Skills: Critical Thinking, Creativity, Collaboration



### [WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Yes, you can. You can separate the salt from the water by boiling the water until the water evaporates. The salt will be left behind.

### [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, 5, 2, 6, 4, 3

### [READING]

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

### [SHORT ACTIVITIES]

- Have 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. a 2. b

### [WOW! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know what dissolution is. Help them understand what dissolves and what doesn't in water.
- Refer to Background Knowledge for more about dissolution. Explain them the further information, what saturation is.

### [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. Check true (T) or false (F) for each sentence. 1. T 2. F
- C. Complete the chart. 1. c 2. a 3. b
- D. Read and match. 1. beaker 2. dissolution 3. electronic 4. cubes

### [STEAM PROJECT]

- Have students do the experiment and make a list based on the results.
- 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: 1. mixture 2. dissolves 3. another 4. water 5. sugar 6. powder 7. grains

## Unit 10. Solvents and Solutes

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Academic Objective	Learn more about solvents and solutes
Vocabulary	coffee, bitter, online, dissolve, solute, solvent
STEAM Project	Problems with Solvents and Solutes
	21st Century Skills: Critical Thinking, Creativity

The image shows four pages from a unit on solvents and solutes. The first page is a 'KEY WORDS' section with a 'READING' section and a 'CHECK YOUR UNDERSTANDING' section. The second page is a 'CHECK YOUR UNDERSTANDING' section with multiple-choice questions. The third page is a 'CHECK YOUR UNDERSTANDING' section with multiple-choice questions. The fourth page is a 'CHECK YOUR UNDERSTANDING' section with multiple-choice questions.

### [WARM-UP]

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

### [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, 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. 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. a 3. b
  - B. Check true (T) or false (F) for each sentence. 1. T 2. F
  - C. Complete the chart.
    - Solute: sugar
    - Solvent: coffee
    - A substance that dissolves in other substances is called a "solute."
    - The substance it dissolves in is called a "solvent."
  - D. Choose the best definition. 1. a 2. a 3. b 4. b

### [STEAM PROJECT]

- Have students complete the solvents and solutes chart.
- Have them share the answers of steps 1 and 2 with their partner or group. Ask different pairs of groups to represent their answers to the class.
- Answer:
- Step 1:

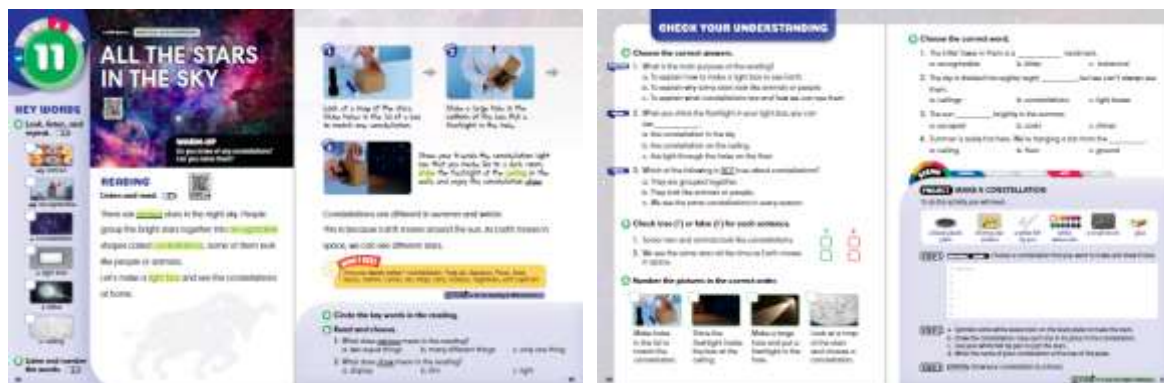
SOLVENT		SOLUTE		SOLUTION
water		salt		 sea water
milk		chocolate		 hot chocolate
lemon juice	+	sugar	=	 lemonade
iced tea		sugar		 sweet iced tea
water		soap		 soapy water

- Step 2: 1. milk 2. solvents 3. dissolve 4. salt 5. solutes

# Unit 11. All the Stars in the Sky

S T E A M

Academic Objective	Learn about stars and constellations
Vocabulary	various, recognizable, constellation, light box, shine, ceiling
STEAM Project	Make a Constellation
	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 do. I know of Orion (Orion, the Hunter).

## [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, 4, 3

## [READING]

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

## [SHORT ACTIVITIES]

- Have 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. b 2. a

### **[WOW! I SEE!]**

- Direct students' attention for further detail.
- Have them read the context to know more about constellations. Help them understand what zodiac constellations are.
- Refer to Background Knowledge for the zodiac constellations and how they look. 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. c 2. b 3. c
- B. Check true (T) or false (F) for each sentence. 1. F 2. F
- C. Number the pictures in the correct order. 2, 4, 3, 1
- D. Choose the correct word. 1. a 2. b 3. c 4. a

### **[STEAM PROJECT]**

- Have students do the activity following the steps.
- Have them share the results of the activity 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 examples of constellation.



## Unit 12. Orion and the Big Dipper

S

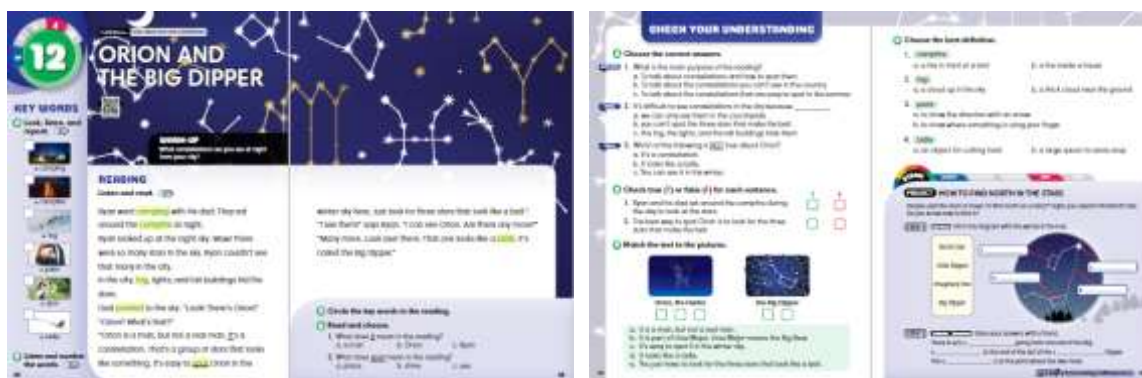
T

E

A

M

Academic Objective	Learn more about stars and constellations
Vocabulary	camping, campfire, fog, point, spot, ladle
STEAM Project	How to Find North in the Stars
	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: I can see The Big Dipper and The Little Dipper.

### [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, 5, 3, 4, 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 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. 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. a 2. c 3. b
- B. Check true (T) or false (F) for each sentence. 1. F 2. T
- C. Match the text to the pictures.  
Orion, the Hunter: a, c, e  
the Big Dipper: b, d
- D. Choose the best definition. 1. a 2. b 3. b 4. b

### [STEAM PROJECT]

- Have students fill the diagram and blanks.
- 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. Little Dipper 2. North Star 3. Big Dipper 4. imaginary line
- Step 2: 1. imaginary line 2. Dipper 3. Little 4. North

## Unit 13. Water in the Air

S

T

E

A

M

Academic Objective	Learn about dew and fog
Vocabulary	dew, form, branch, wipe, incense stick, take out
STEAM Project	Is Fog Always the Same? 21st Century Skills: Critical Thinking, Creativity, Communication, Collaboration

The image shows four pages from a student workbook. The first page is titled '13 WATER IN THE AIR' and includes a 'KEY WORDS' section with a 'Water in the Air' title. The second page is titled 'READING' and contains a text about dew and fog. The third page is titled 'CHECK YOUR UNDERSTANDING' and contains multiple-choice questions. The fourth page is titled 'DID YOU KNOW?' and contains a diagram of the water cycle.

### [WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Dew is the drops of water on the grass and leaves in the morning. Fog is thick clouds that are close to the ground.

### [KEY WORDS]

- Have students look at the picture and play the audio. Have them repeat each word while looking at the picture to match the photograph and sound. Give simple explanations and examples when necessary.
- After practicing each word, play the audio again.
- Give students time to complete the exercise. Then have them check their answers in pairs or as a class.
- Answer: 5, 2, 3, 4, 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.)
- 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. 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. a 3. b
  - B. Check true (T) or false (F) for each sentence. 1. T 2. F
  - C. Complete the chart.
    - Fog: b, c
    - Dew: a, d
  - D. Read and match. 1. wipe 2. branches 3. incense sticks 4. dew

### [STEAM PROJECT]

- Have them fill out each box.
- Have them share the answers of step 1 with their partner or group. Ask different pairs of groups to represent their results to the class.
- Answer: 1. a 2. g 3. c 4. f 5. d 6. e 7. b

## Unit 14. Steaming Hot Soup

S

T

E

A

M

Academic Objective	Learn more about fog and water vapor in the air
Vocabulary	foggy, come out from, cool down, steam up, have a shower, get home
STEAM Project	What Is Happening with Water Vapor? 21st Century Skills: Critical Thinking, Collaboration, Communication, Creativity

**14 STEAMING HOT SOUP**

**KEY WORDS**  
Look, listen, and repeat.

**READING**  
Listen and read.  
Read and choose.  
Read and choose.

**CHECK YOUR UNDERSTANDING**  
Choose the correct answer.  
Check true (T) or false (F) for each sentence.  
Complete the chart.

**WHAT IS HAPPENING WITH WATER VAPOR?**  
What is the water doing?  
What is the water doing?  
What is the water doing?  
What is the water doing?

### [WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: I can see my breath when I am outside in winter because the warm air of my breath condenses into water drops when it meets the cold air outside.

### [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, 3, 2, 5, 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 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. b 2. a

### [WOW! I SEE!]

- Direct students' attention for further detail.
- Have them read the context to know what clouds are. Help them understand the difference between steam and clouds.
- Refer to Background Knowledge for more information about dew, fog, and steam. Explain when and how they are made.

### [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. Check true (T) or false (F) for each sentence. 1. F 2. T
- C. Complete the chart.
- Who: Kevin and his dad
- What: This story is about what happens when hot water vapor cools down.
- Where: They are at home.
- When: He laughed when he saw his dad's glasses fogged up.
- Why: The steam from the soup cooled down and turned to liquid when it hit his cold glasses.
- D. Choose the correct word. 1. a 2. b 3. a 4. c

### [STEAM PROJECT]

- Have students complete the chart.
- 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. hanging clothes to dry; evaporation
  - 2. dew; evaporation
  - 3. hot shower; condensation
  - 4. rain; evaporation
- Step 2:
  - There is dew on the grass. The sun comes out. The dew evaporates.
  - We have a hot shower. Steam hits the mirror. The steam condenses.
  - It rains. The sun comes out. The rain evaporates.



## Unit 15. Aerospace Engineers

S T E A M

Academic Objective	Learn about planes, rockets, and aerospace engineers
Vocabulary	invent, aerospace, drone, satellite, rocket, universe
STEAM Project	Making a Flying Saucer 21st Century Skills: Creativity, Critical Thinking, Collaboration, Communication

The image displays three screenshots from a digital learning resource for Unit 15: Aerospace Engineers. The first screenshot shows a 'KEY WORDS' section with a list of terms and a 'READING' section with a text passage about aerospace engineers. The second screenshot shows a 'CHECK YOUR UNDERSTANDING' section with multiple-choice questions. The third screenshot shows a 'MAKE A FLYING SAUCER' section with a diagram and instructions.

### [WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Airplanes, helicopters, and rockets are all flying machines.

### [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, 1, 2, 6, 4

### [READING]

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

### [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. 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. b 3. c
- B. Check true (T) or false (F) for each sentence. 1. T 2. T
- C. Complete the chart. 1. a 2. c 3. b
- D. Choose the best definition. 1. b 2. a 3. a 4. a

### [STEAM PROJECT]

- Have students do the activity making a flying saucer.
- Have them design their own saucer and make it following the steps.

## Unit 16. 3D Printing

S T E A M

Academic Objective	Learn about 3D printing
Vocabulary	install, software, deliver, expensive, artificial, heart
STEAM Project	Make a Spaceship
	21st Century Skills: Creativity, Communication



### [WARM-UP]

- Discuss the warm-up question to see how much background information students possess about the topic.
- Sample Answer: Yes. I think it is useful because you can print an object that you need, such as a part for a machine.

### [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, 4, 3, 6, 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.)

### [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. 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. Check true (T) or false (F) for each sentence. 1. F 2. T
- C. Number the pictures in the correct order. 2, 1, 4, 3
- D. Choose the correct word. 1. b 2. a 3. b 4. c

### [STEAM PROJECT]

- Have students make a 3D model of a spaceship.
- Have them share the ideas of step 2 with their partner or group. Ask different pairs of groups to represent their ideas to the class.