EXPEDITIONARY LEARNING

Grade 4: Module 3A: Unit 2: Lesson 7

Making Connections to Vocabulary and Mid-Unit Assessment: Interactive Word Wall and Reading and Answering Questions about Screws

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GRADE 4: MODULE 3A: UNIT 2: LESSON 7

Making Connections to Vocabulary and Mid-Unit Assessment:

Interactive Word Wall and Reading and Answering Questions about Screws

Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)
I can explain the main points in a scientific text, using specific details in the text. (RI.4.3) I can determine the meaning of academic words or phrases in an informational text. (RI.4.4) I can determine the meaning of content words or phrases in an informational text. (RI.4.4) I can choose evidence from informational texts to support analysis, reflection, and research. (W.4.9)

Supporting Learning Targets	Ongoing Assessment
• I can make connections between the meanings of vocabulary words related to simple machines. • I can document what I learn about a simple machine in my own words. • I can find the meaning of scientific and academic words related to a simple machine. • I can determine important information about a simple machine and how it helps people do work.	• Mid-Unit 2 Assessment: Reading and Answering Questions about Screws • Tracking My Progress, Mid-Unit 2 recording form

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Agenda	Teaching Notes
1. Opening A. Reviewing Learning Targets (5 minutes) 2. Work Time A. Connecting Key Vocabulary: Interactive Word Wall (15 minutes) B. Mid-Unit Assessment: Answering Questions about Screws (30 minutes) 3. Closing and Assessment A. Tracking My Progress (10 minutes) 4. Homework A. Continue reading in your independent reading book for this unit at home.	• In advance: Students will be in groups of four to participate in the Interactive Word Wall portion of this lesson. Be sure to make enough complete sets of the Vocabulary word cards (from Lesson 6) so each group can have a complete set. • To prepare for the Interactive Word Wall activity, write the directions listed in the supporting materials of this lesson on a piece of chart paper or on the white board. • Review: Interactive Word Wall protocol (see Appendix). • Post: Learning targets.

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Lesson Vocabulary	Materials
scientific, academic, screw, determine, effort, force, inclined plane, lever, work (all review from Lessons 1–6)	• Vocabulary word cards (from Lesson 6, one set per group of four) • Chart paper • Document camera • Interactive Word Wall Symbols (one set per group of four; see supporting materials) • Equity sticks • Mid-Unit 2 Assessment: Reading and Answering Questions about Screws (one per student) • *Simple Machines: Forces in Action* pages 18–19 (book; one per student) • Tracking My Progress, Mid-Unit 2 recording form (one per student) • Mid-Unit 2 Assessment: Reading and Answering Questions about Screws (answers, for teacher reference) • 2-Point Rubric: Writing from Sources/Short Response (for teacher reference)

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Opening	Meeting Students' Needs
A. Reviewing Learning Targets (5 minutes) • Post the following learning target: "I can make connections between the meanings of vocabulary words related to simple machines." Read the target aloud to students, and ask them to turn to a partner to discuss what this target means. Have a few pairs share out. • Remind students they have been working on making connections to vocabulary words in their Simple Machines Science journals in the last column in the Vocabulary section. Tell them that today they will practice making similar connections using all of the multiple vocabulary words in an activity called Interactive Word Wall. This will help them develop a deeper understanding of the scientific concepts related to simple machines and help prepare them for their mid-unit assessment. • Post the remaining learning targets: "I can document what I learn about a simple machine in my own words," "I can find the meaning of scientific and academic words related to a simple machine," and "I can determine important information about a simple machine and how it helps people do work." • Tell students these targets should look familiar because they have used similar targets when reading about the inclined plane and lever. Tell them that in their assessment they will read about another simple machine and answer questions using evidence from the text. Have students give a quick thumbs-up, thumbs-sideways, or thumbs-down to show if they understand each target. Clarify as necessary.	• To review concepts and how they are interconnected, refer to the fourth column of Vocabulary section of students' Science journal.

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Work Time	Meeting Students' Needs
A. Connecting Key Vocabulary: Interactive Word Wall (15 minutes) • Tell students they will use the **Vocabulary word cards** they used in the previous lesson for Quiz-Quiz-Trade (Lesson 6) to participate in an activity called Interactive Word Wall. Explain that the purpose of this activity is to help them make connections between the meanings of vocabulary words related to simple machines. 1. Place students in groups of four. Post the following directions for Interactive Word Wall on **chart paper** or the board: 2. Place Vocabulary word cards and arrows face up in the middle of your group space. 3. Take turns selecting one word to connect with another. 4. Explain your connection to the group each time you take a turn. 5. It is fine to move words or connect more than one word with another. 6. Continue taking turns until you have connected every word to some other word. • Briefly model for students how to make and explain a connection. Use the **document camera** (or magnets on the board) to model something like the following: "I am going to connect the word *inclined plane* to the word *work* because it makes the work of moving something heavy like a box up into a truck easier." Emphasize each step of the directions, and be sure that students understand that words can be connected in multiple ways. • Distribute a set of Vocabulary word cards with **Interactive Word Wall symbols** to each group. Give groups 10 minutes to make connections. If they finish early, encourage them to start again and try to make new connections with their words. • Ask each group to share one connection they made between words and why. Ask: "Why is it important for readers to make connections between words? How does it help us become better readers?" Have groups discuss briefly. Then use **equity sticks** to cold call a few students to share out. • Collect Vocabulary word cards and have students prepare their desk for the assessment.	• For ELLs and other students needing additional support, consider predetermining the words and giving students time to discuss with a partner what they will say during a protocol-based conversation.

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Work Time (continued)	Meeting Students' Needs
B. Mid-Unit 2 Assessment: Answering Questions about Screws (30 minutes) • Distribute the **Mid-Unit 2 Assessment: Reading and Answering Questions about Screws** and the text ***Simple Machines: Forces in Action* pages 18–19**. Remind students of the importance of reading the text several times. Point out the directions at the top of the assessment: 1. Read pages 18–19 in the text *Simple Machines: Forces in Action* for the gist. 2. Reread the text, and take notes using the graphic organizer below. 3. Reread the text, and answer the questions below the graphic organizer. • Clarify directions as needed. • Give students 25 minutes to work. Circulate to observe test-taking strategies, and record observations for future instruction. For example, are students going back to the text to look for answers? Do they appear to be reading the text completely before beginning the assessment? Are they annotating the text for their assessment? This information can be helpful in preparing students for future assessments and standardized tests. • If students finish this assessment early, have them continue reading in their independent reading books for this unit.	• Allow ELLs additional time to complete their assessment. They will receive extra time on the New York State assessment.

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Making Connections to Vocabulary and Mid-Unit Assessment:
Interactive Word Wall and Reading and Answering Questions about Screws

Closing and Assessment	Meeting Students' Needs

A. Tracking My Progress (10 minutes)
• Ask students to reflect on the following learning targets and then record their progress using the **Tracking My Progress, Mid-Unit 2 recording form**.
  * "I can document what I learn about a simple machine in my own words."
  * "I can find the meaning of scientific and academic words related to a simple machine."
  * "I can determine important information about a simple machine and how it helps people do work."
• Collect the Tracking My Progress recording form, and review before tomorrow's lesson. This will help you determine which students need further support as the class moves into the second half of the unit. Consider conferring with students in the coming days to check for understanding or elicit their opinions on how to best support them in their comprehension of scientific texts.	

Homework	**Meeting Students' Needs**
• Continue reading in your independent reading book for this unit at home.	

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Grade 4: Module 3A: Unit 2: Lesson 7
Supporting Materials

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Interactive Word Wall

Teacher Directions: *Write these directions on a piece of chart paper or on the board before beginning this lesson with students.*

Interactive Word Wall directions:

1. Place Vocabulary word cards and arrows face up in the middle of your group space.
2. Take turns selecting one word to connect with another.
3. Explain your connection to the group each time you take a turn.
4. It is fine to move words or connect more than one word with another.
5. Continue taking turns until you have connected every word to some other word.

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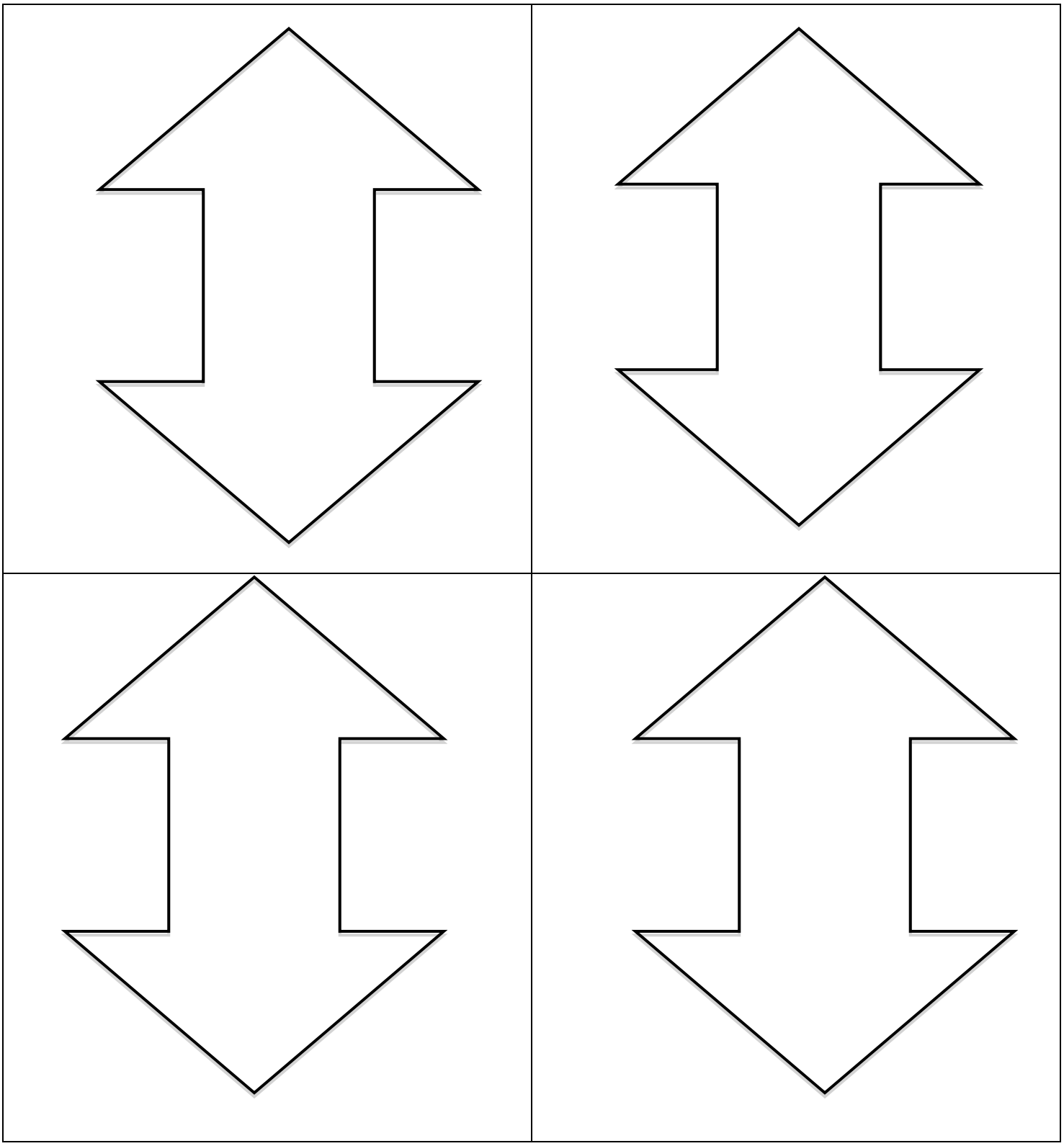
Interactive Word Wall Symbols



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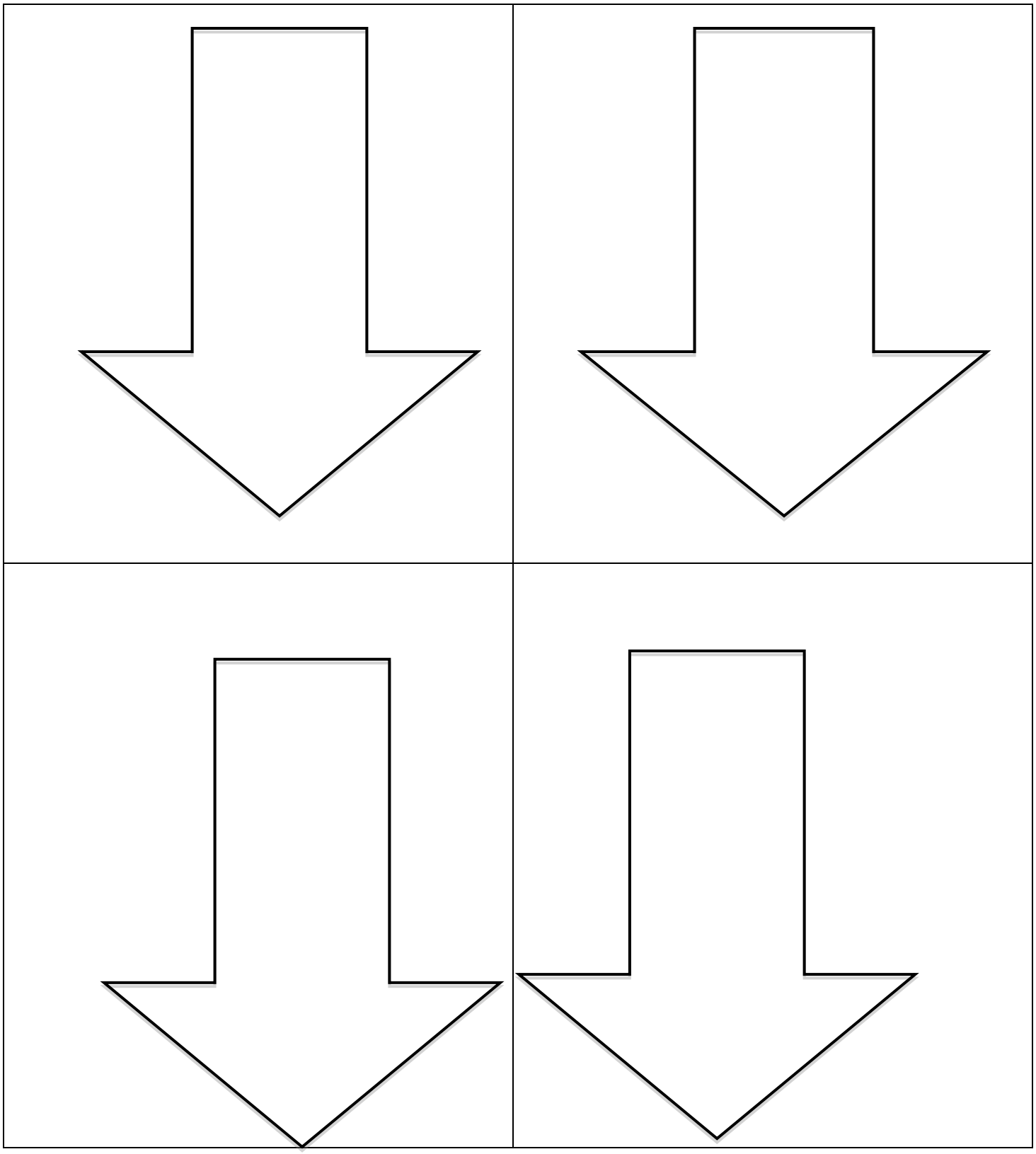
Interactive Word Wall Symbols



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Mid-Unit 2 Assessment:
Reading and Answering Questions about Screws

Name:

Date:

Directions:

1. Read pages 18–19 in the text *Simple Machines: Forces in Action* for the gist.
2. Reread the text and take notes using the graphic organizer below.
3. Reread the text and answer the questions below the graphic organizer.

Read and Record:

What a screw looks like:	Type of work it helps a person do:	Examples of a screw:

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Mid-Unit 2 Assessment:
Reading and Answering Questions about Screws

Read and Answer:

1. According to the text, a screw is:
   A. a type of lever.
   B. made of an inclined plane wrapped around a cylinder.
   C. a complex machine.
   D. the most common simple machine in everyday life.

2. How does the diagram on **page 18** help the reader understand the screw?
   A. It gives the reader information on the different types of screws.
   B. It demonstrates how it affects force and effort.
   C. It shows the uses of a screw.
   D. It shows the parts of a screw.

3. What is the meaning of the word *threads* as it is used in this text on page 18?
   A. thin strands of cotton
   B. clothes
   C. long thin screws
   D. continuous ridges that spirals around a screw

4. Where in the text can you find the answer to Question 3?
   A. the glossary
   B. in a diagram
   C. in the paragraph on page 14
   D. it is not defined in this text

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5. Which of the following words has a similar meaning to the word *increased* in this sentence on page 19: "Less effort is needed to cut into the wood because of the *increased* distance that the threads travel."

   A. longer

   B. upward

   C. downward

   D. shorter

6. Which of the following lines from **page 19** of the text best supports the answer to question 5?

   A. "Less effort is needed to cut into the wood ..."

   B. "You can demonstrate how turning a screw a long distance lessens the effort ..."

   C. "... the lid travels a short distance up or down"

   D. "... the threads of the screw cut down into a plank of wood"

Read the following paragraph from **page 19** the text and answer the questions below:

> "An inclined plane lessens the **effort** needed to lift or lower something by increasing the distance over which the **work** is done. A screw allows work to be done in the same way—with less effort. The threads of a screw turn around and around as they cut into wood or other materials. Less effort is needed to cut into the wood because of the increased distance that the threads travel." —p.19 *Simple Machines: Forces in Action* by Buffy Silverman

7. According to this paragraph above, a screw works in a similar way to which simple machine?

   A. lever

   B. pulley

   C. inclined plane

   D. wheel and axle

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Mid-Unit 2 Assessment:
Reading and Answering Questions about Screws

8. How does a screw affect work? Use details from the text to support your explanation.

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Tracking My Progress, Mid-Unit 2

Name:

Date:

Learning target: I can document what I learn about a simple machine in my own words.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this	I understand some of this	I am on my way!
		

3. The evidence to support my self-assessment is:

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Tracking My Progress, Mid-Unit 2

Name:

Date:

Learning target: I can find the meaning of scientific and academic words related to a simple machine.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this

I understand some of this

I am on my way!

3. The evidence to support my self-assessment is:

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Tracking My Progress, Mid-Unit 2

Name:

Date:

Learning target: I can determine important information about a simple machine and how it helps people do work.

1. The target in my own words is:

2. How am I doing? Circle one.

I need more help to learn this	I understand some of this	I am on my way!
		

3. The evidence to support my self-assessment is:

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Mid-Unit 2 Assessment:
Reading and Answering Questions about Screws
(Answers, for Teacher Reference)

Standards Assessed:
Graphic Organizer (W.4.8); Questions 1, 3, 4, 5, and 6 (RI.4.4); Questions 2, 7, and 8 (RI.4.3); Question 8 (W.4.9)

Directions:
1. Read pages 18–19 in the text *Simple Machines: Forces in Action* for the gist.
2. Reread the text and take notes using the graphic organizer below.
3. Reread the text and answer the questions below the graphic organizer.

Read and Record: [possible responses]

What the screw looks like:	Type of work it helps a person do:	Examples of a screw:
• **An inclined plane wrapped around a cylinder** • **An inclined plane wrapped around a central shaft** • **An inclined plane wrapped like a spiral**	• **Holds things together by cutting into them** • **Drills holes** • **Pulls air in and pushes it out**	• **screw** • **lid of a jar** • **auger or drill** • **fan blades**

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Mid-Unit 2 Assessment:
Reading and Answering Questions about Screws
(Answers, for Teacher Reference)

Read and Answer:

1. According to the text, a screw is:
   A. a type of lever.
   B. **made of an inclined plane wrapped around a cylinder.**
   C. a complex machine.
   D. the most common simple machine in everyday life.

2. How does the diagram on page 18 help the reader understand the screw?
   A. It gives the reader information on the different types of screws.
   B. It demonstrates how it impacts force and effort.
   C. It shows the uses of a screw.
   D. **It shows the parts of a screw.**

3. What is the meaning of the word *threads* as it is used in this text on page 18?
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Mid-Unit 2 Assessment:
Reading and Answering Questions about Screws
(Answers, for Teacher Reference)

5. Which of the following words has a similar meaning to the word *increased* in this sentence on page 19: "Less effort is needed to cut into the wood because of the *increased* distance that the threads travel."

   A. **longer**

   B. upward

   C. downward

   D. shorter

6. Which of the following lines from **page 19** of the text best supports the answer to Question 5?

   A. "Less effort is needed to cut into the wood ..."

   B. **"You can demonstrate how turning a screw a long distance lessens the effort ..."**

   C. "... the lid travels a short distance up or down"

   D. "... the threads of the screw cut down into a plank of wood"

Read the following paragraph from **page 19** the text and answer the questions below:

> "An inclined plane lessens the **effort** needed to lift or lower something by increasing the distance over which the **work** is done. A screw allows work to be done in the same way—with less effort. The threads of a screw turn around and around as they cut into wood or other materials. Less effort is needed to cut into the wood because of the increased distance that the threads travel." —p.19 *Simple Machines: Forces in Action* by Buffy Silverman

7. According to this paragraph above, a screw works in a similar way to which simple machine?

   A. lever

   B. pulley

   C. **inclined plane**

   D. wheel and axle

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Mid-Unit 2 Assessment:
Reading and Answering Questions about Screws
(Answers, for Teacher Reference)

8. How does a screw affect work? Use details from the text to support your explanation.

[Possible Answer] A screw makes work easier because it takes less effort to move something. If you need to take the lid off a jar of peanut butter, the screw on the lid makes it easier to get it off. You have to move the lid a longer distance as you turn it around, but it is a lot easier than trying to pull it straight off.
[Use the following rubric to score this question.]

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2-Point Rubric: Writing from Sources/Short Response[1]

(For Teacher Reference)

Use the below rubric for determining scores on short answers in this assessment.

2-point Response	The features of a 2-point response are:
	• Valid inferences and/or claims from the text where required by the prompt • Evidence of analysis of the text where required by the prompt • Relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt • Sufficient number of facts, definitions, concrete details, and/or other information from the text as required by the prompt • Complete sentences where errors do not impact readability

1-point Response	The features of a 1-point response are:
	• A mostly literal recounting of events or details from the text as required by the prompt • Some relevant facts, definitions, concrete details, and/or other information from the text to develop response according to the requirements of the prompt • Incomplete sentences or bullets

0-point Response	The features of a 0-point response are:
	• A response that does not address any of the requirements of the prompt or is totally inaccurate • No response (blank answer) • A response that is not written in English • A response that is unintelligible or indecipherable

[1]From New York State Department of Education, October 6, 2012.

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