

ILLUMINATOR

Teacher Manual

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Goals/Objectives

English Language Arts Standard(s)

Vocabulary Acquisition and Use: students will acquire and use accurately a range of general academic and domain-specific words for reading, writing, speaking, and listening

Language/ Reading Skills

Students will be able to...

- recognize and apply knowledge of words and word parts such as morphemes and phonemes (word structure and knowledge)
- use the language needed for success in school, including general academic words (which appear frequently in print, but rarely in social conversations), discipline-specific terms, and multiple meaning words (academic language)

Cognitive Skills

Students will be able to...

- hold a word in working memory while retrieving word associations from long-term memory (memory)
- focus on specific information, to sustain that focus, and to ignore distractions, while carrying out a task (attention)
- rapidly interpret and integrate auditory information at the level of phonemes and access linguistic/semantic knowledge at the level of words (processing)

Social-Emotional/ Executive Function Skills

Students will be able to...

- selectively focus and sustain attention on a lesson or an activity
- inhibit impulsive responses
- build confidence in listening skills and knowledge of academic vocabulary
- manage ability to process rapid, complex information

Icon Key



Audio



Download



English Learner



Quick Check



Settings



Video

Exercise Screen



1 Replay

Repeats the target word.

2 Autoplay

Turns Autoplay on or off; when “on” each click of the Go button presents a series of three or more questions.

3 Help

Provides access to Help options:

- **How to** replays initial instructions.
- **Help** highlights and names each alternative.

4 Home

Returns the student to their assignments screen.

5 Go

Presents a question.

6 Answer Buttons

Shows alternative answers to a question.

7 Time

Shows Time Worked / Time Scheduled for the exercise.

8 Points

Shows total points awarded across all of a day’s sessions.

- **Correct answers:** 2 points for each correct answer; 1 point in Level 2, when using Help.
- **Autoplay bonus:** double the usual points if all answers in a set are completed correctly.

9 Level Progress

Displays the current level and percent complete of the level.

10 Current Streak

Shows the number of consecutive correct answers in the session. Resets to zero after an incorrect answer.

11 Highest Streak

Shows the highest number of consecutive correct answers in the session.

Exercise Overview

Task

In Illuminator, students listen to a target word and view 4 pictures, then click the picture that best represents the target word.

Content

Students progress through 3 levels. In Levels 1 and 2, students are presented with math and science academic vocabulary terms organized in 6 domain specific groups. In Level 3, the words from all groups are intermixed.

Groups	Sample Words
Anatomy, Animals, Plants	rib, skeleton, backbone, joint
Astronomy, Ecology, Geology	core, crust, volcano, lava
Processes, Science Concepts, Scientists, Tools	astronaut, chemist, biologist, astronomer
Arithmetic Operations, Fractions	multiply, add, subtract, divide
Comparisons, Graphs, Numbers	percent, mixed number, integer, decimal
Geometry	cube, triangle, cone, square

Progression

Illuminator content is presented using natural speech. Students progress through 3 levels, with the most support provided in level 1 and the least in level 3. Illuminator adapts to the student's performance at each level, and will provide targeted interventions with just-in-time assistance if the student is struggling.

Level 1	Vocabulary Help is available	<ul style="list-style-type: none">• If a question is answered incorrectly, the student will get a second chance to correctly identify the word after ALL questions in the group level have been answered.• Help is available on the first attempt at a question, but not on the second chance.• Questions answered correctly with Help count towards progress.
Level 2	Vocabulary Help is available	<ul style="list-style-type: none">• If a question is answered incorrectly, the student will get a second chance to correctly identify the word after ALL questions in the group level have been answered.• Help is available on the first attempt at a question, but not on the second chance.• Questions answered correctly with Help DO NOT count towards progress.
Level 3	Vocabulary Help is NOT available	<ul style="list-style-type: none">• Students must rely on what they have learned in the earlier levels.

Did you know?

Fluent use of math and science vocabulary is integral to understanding concepts as well as developing and consolidating skills in these domains. If students don't understand domain specific vocabulary terms, they are unable to follow classroom instruction or comprehend written text material, which will negatively affect their academic achievement in those subject areas.

Motivational Levels

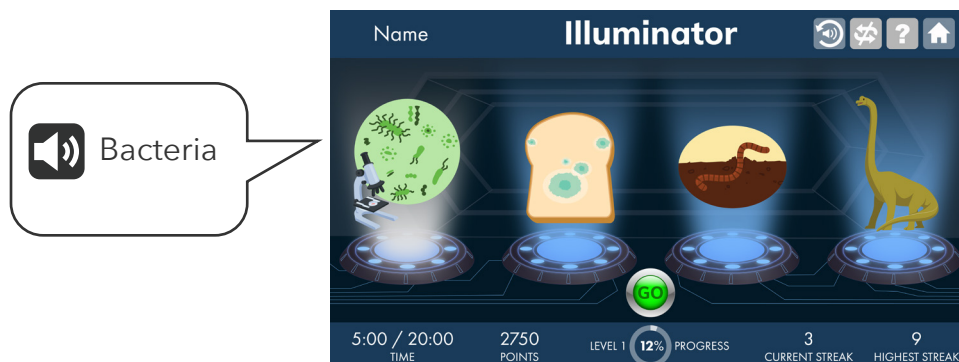
Each time a student progresses through 20% of an exercise, they “level up” and the screen changes slightly. These motivational levels are not connected to specific processing levels or content.



Targeted Practice

This exercise uses built-in, responsive technology to detect when a student is struggling and administer targeted, inline instruction—right when the student needs it—without any external resources or assistance required. This helps reduce frustration as it quickly gets the student back on track, so they can continue making progress.

The Vocabulary Teaching intervention is used when a question is answered incorrectly. After giving immediate feedback, the same question is repeated with vocabulary support. One at a time, each alternative response is highlighted and named, teaching the words and which pictures go with them. Next, the pictures disappear and reappear in different places. Finally, the student is allowed to answer the question. This answer does not count toward progress, but actively answering helps reinforce the students’ learning. At the end of the unit, the words that were missed are repeated, giving delayed practice.



Facilitate and Encourage

Introduce

Engage

To introduce the exercise to your students, you can start by saying, *Some words you will encounter are closely tied to a content area, such as science or math, and are important to understand concepts and information in those classes. What are some words from these subject areas?* Have students call out words related to these two domains as you list them on the board under the headings, Science Words and Math Words.

Say, *Research has shown that if you actively process or work with vocabulary words, you can remember them better than if you just copy the dictionary definitions and try to memorize them.* With a few examples from each list, ask students to:

- Provide a description, explanation, or example of the word in their own words.
- Create a picture, pictograph, or symbolic representation of the term.

Demo

1. Say: *Today we're going to practice finding the picture that best represents a word presented. Together, we'll work on an exercise called Illuminator. I'll get us started, and then I'd like for you to try.*
2. Project the "Introduction - English or Spanish demo" for Illuminator.
3. Follow along with the demo, which explains how the exercise works.
 - Correct answer: a "ding" sound effect plays, the answer is highlighted, and the word appears below the picture.
 - Incorrect answer: a "thunk" sound plays, the correct answer is highlighted with the correct word below, and the incorrect answers are dimmed.
4. Demo the keyboard shortcuts:
 - Go button = Space bar
 - Possible answers (left to right) = Number keys 1-4

Direct students to log in and work individually on the Illuminator Demo for approximately 10 minutes. This time period mimics the timing of the exercise once it's assigned. Debrief with students to ensure they understand the task and objective of the exercise. Ask, *What did you notice?* Have students share anything that they have questions about.



Illuminator includes instructional audio for the exercise introduction and instructions. By default, these are presented in English. You can, however, select Spanish instructions for all, some, or individual students on the Manage page in mySciLEARN.

Facilitate and Encourage

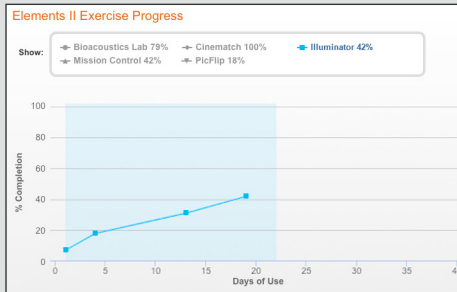
Monitor Student Progress

Review Illuminator reports regularly to monitor student progress. Use the data to determine which students are succeeding and which students might be struggling to make progress.

Where to look...

PROGRESS: Elements II Exercise Progress - Illuminator

The colored line shows student progress and their percent complete. Each dot indicates a day the student worked on the exercise.



What to look for... what it means

Is the line going up?

The student is completing content accurately and making progress.

Is the line flat across several dots?

The student may be struggling and you need to find out why.

Are there long lapses between dots?

The student may be skipping this exercise.

USAGE: Usage Details - Schedule

Usage Details		Schedule	Minutes/Questions	Start Time		
Days of Use	Date	Bioacoustics Lab	Cinematch	Illuminator	Mission Control	PicFlip
19	04/07/2020	○	○	○	○	
18	04/06/2020				○	
17	04/03/2020	○	○		○	
16	03/23/2020				○	
15	03/01/2020	●				
14	02/24/2020	●				

Schedule

See if the student has met their daily schedule, and check what's planned for the next few days:

- Time completed
- Time not completed
- Exercise Skipped
- Planned for day

Do you see half-filled gray circles?

The student is working on this exercise, but not meeting the scheduled time. Make sure that they have time to complete their daily schedule. If fatigue is an issue, taking breaks is okay.

Do you see red circles?

The student is skipping this exercise. Provide support to help them re-engage.

USAGE: Usage Details - Minutes/Questions

Usage Details		Schedule	Minutes/Questions	Start Time			
Days of Use	Date	Bioacoustics Lab	Cinematch	Illuminator	Mission Control	PicFlip	
		Min	Ques	Min	Ques	Min	Ques
18	04/06/2020	-	-	-	0	-	0
17	04/03/2020	6	57	0	-	-	0
16	03/23/2020	-	-	-	0	-	0
15	03/01/2020	12	101	-	-	-	0
14	02/24/2020	9	64	0	-	0	-
13	01/03/2020	-	-	-	0	-	-

Are many days highlighted in red?

The student is not meeting their daily schedule. Check the Schedule tab in this report to investigate further.

Is the student answering fewer questions than usual?

They may be distracted or losing focus. In comparison to their previous activity, a low number of trials to minutes may indicate the student is not applying themselves to the task.

Is the student answering more questions than usual?

They may be rushing. In comparison to their previous activity, a high number of trials to minutes may indicate the student is trying to amass points, or to progress more quickly, but rushing can result in mistakes. Ask them to turn Autoplay off. Remind them that making progress depends on accuracy, not speed.

Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Illuminator Progress

Illuminator Progress

- Complete, advancement criteria met
- In progress
- Not started
- Advancement criteria not met

*If the student doesn't achieve a high enough percentage of correct answers, they will repeat the group(s) that challenge them.

Word Group	Progress	Questions	Questions with Help
Level 1: Academic Vocabulary, Help Available			
Anatomy, Animals, Plants	Complete	18	0
Astronomy, Ecology, Geology	Complete	14	3
Processes, Science Concepts, Scientists, Tools	Complete	16	0
Arithmetic Operations, Fractions	Complete	10	0
Comparisons, Graphs, Numbers	Complete	12	0
Geometry	In progress	30	1
	Complete	20	4

Number of Questions

The typical number of questions varies by group and level.

Level 1 & 2

Number of questions:

- Anatomy, Animals, Plants: 18
- Astronomy, Ecology, Geology: 14
- General Concepts, Processes, Scientists, Tools: 16
- Arithmetic Operations, Fractions: 10
- Comparisons, Graphs, Numbers: 12
- Geometry: 18

Level 3

Number of questions:

- All Topics: 176

What to look for... what it means

Are there red bars under Progress?

When the student doesn't achieve a high enough percentage of correct answers they will repeat a word group.

- Level 1: students are encouraged to use Help to learn the vocabulary, and questions answered with the assistance of Help will count towards progress.
 - If a student is missing a lot of questions at this level, encourage them to use Help and learn the vocabulary.
- Level 2: Help is still available, but students should know the vocabulary at this point. Questions answered with Help will not count toward progress.
 - Encourage students to learn the vocabulary and avoid relying on Help.
- Level 3: Help is not available. This level cannot be failed, so no red bars will appear. Students who are struggling will have to repeat many questions.
 - Has the student answered too many questions without completing this level? A student who is still working after more than 300 questions may be struggling. Make sure the student remains attentive and motivated. Any increase in a student's chart shows that the student is making progress. Celebrate these improvements, however small they may seem.

If a student has to repeat a word group several times, or has not passed Level 3 after more than 300 questions, they may need more support.

- Students who struggle to maintain a high level of accuracy for a long session may do better by attacking the content in smaller chunks. Have the student turn off Auto Assign, take 10 trials with laser focus, and then take a brief brain break before doing the next set of 10.

PROGRESS: Errors - Illuminator

Content the student is struggling with is indicated in red.

Word Group	Errors	Errors / Questions
Arithmetic Operations, Fractions		
Add, Divide, Multiply, Subtract	25%	1 / 4
Denominator, Improper Fraction, Numerator, Proper Fraction	67%	4 / 6
Difference, Product, Quotient, Sum	29%	2 / 7
Dividend, Factor Tree, Reciprocal, Remainder	67%	2 / 3
Less, Minus, More, Plus	80%	4 / 5

Are specific word groups highlighted in red?

Consider providing the student with instruction on the specific vocabulary with which they are struggling.

The "Adjust Instruction/Intervene" section in this teacher manual provides suggestions for how to support students who might be struggling with Illuminator.



Elements II Progress Monitoring Chart in [Student & Teacher Resources](#)

Adjust Instruction/Intervene

Differentiation Activities

Differentiating instruction requires continually striving to know and to respond to each student's needs in order to maximize learning. Use the data in Illuminator reports to adjust instruction to meet each student's needs and respond to variance among learners. The activities below are suggestions to support students who might be struggling with their progress in Illuminator.



Does the student understand the exercise goal/task?

Observe the student as they work through the exercise demo to determine where their understanding may be breaking down.



Can the student repeat the target word out loud?

Ask the student to say the target word out loud. Having the student repeat the word can help the student commit it to memory, and it tells you what word the student hears.



Does the student know which picture represents each word?

Some of the words in the exercise may be unfamiliar to the student. If the student is not familiar with the vocabulary words or cannot match the pictures to the words, encourage them to use the Help feature.



Is the student struggling to remember the academic vocabulary words?

Have students use a graphic organizer, such as a Frayer model, so they can create multiple representations of a word to help solidify their understanding of new words. Ask students to provide the following:

- a definition in their own words
- a visual representation of the word
- examples of the word
- non examples of the word

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

You may decide to use any or all of these monitoring sheets with your students:



Elements II Streaks & Completion Chart in [Student & Teacher Resources](#)

Explain to students that accuracy is the key to moving through the content in Fast ForWord. Students can self-monitor their accuracy through streaks because they record correct answers in a row. After they complete their exercises for each day, have students record their highest streaks and percent complete in each exercise, then challenge them to exceed those numbers tomorrow. Students will need one copy every 5 days.



Elements II Completion Chart in [Student & Teacher Resources](#)

Students can self-monitor their progress in each Elements II exercise by filling in the bar each day with their actual completed percentage. This provides students with an overall view of how much content they've completed compared to how much they have left to do. Students will need one copy.