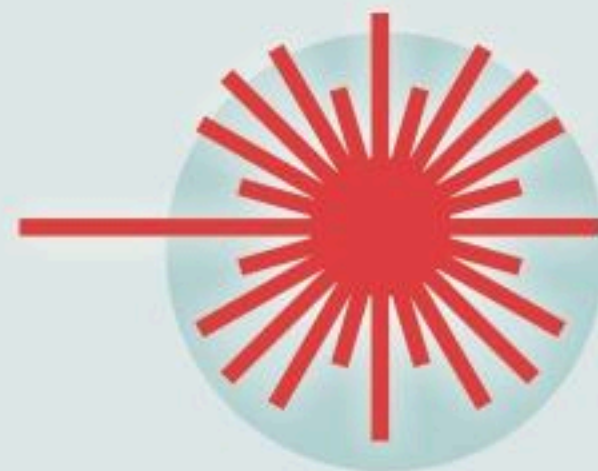


ELEMENTS II

Teacher Manual

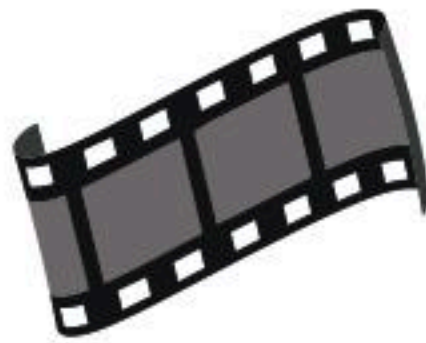


ELEMENTS II Teacher Manual

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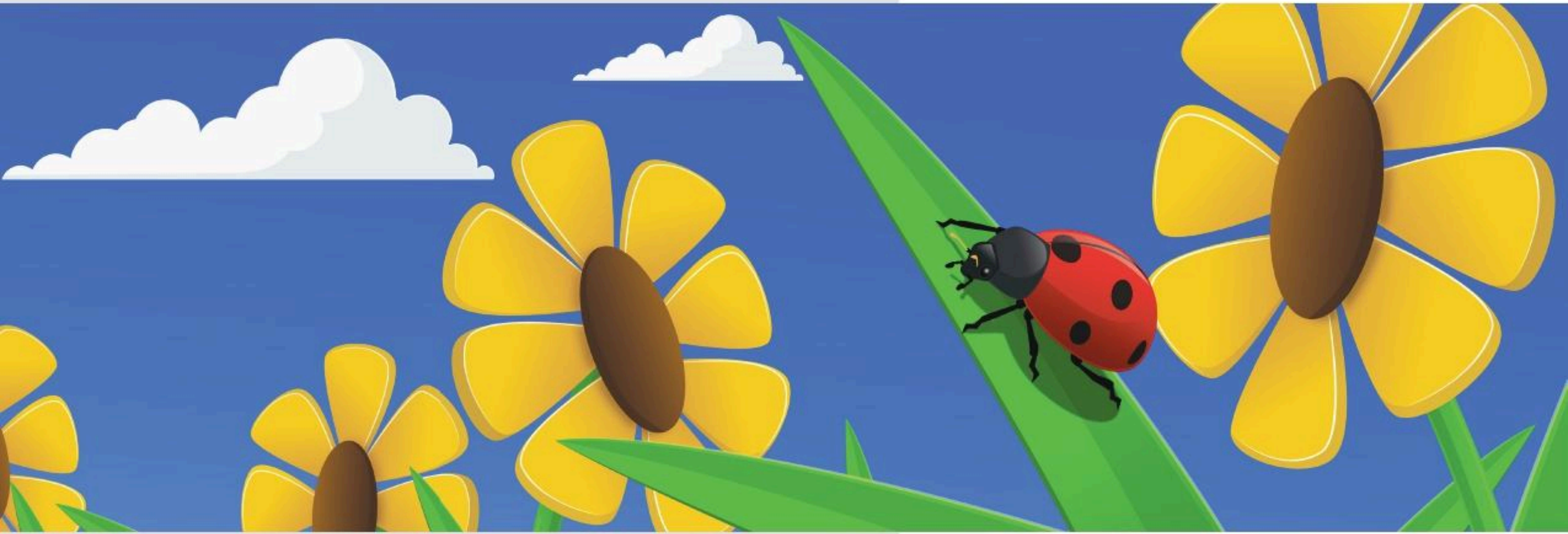
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BIOACOUSTICS LAB

Teacher Manual

Goals/Objectives

English Language Arts Standard(s)

Phonological Awareness: students will demonstrate understanding of spoken words, syllables, and sounds (phonemes)

Language/ Reading Skills

Students will be able to...

- recognize and manipulate units of sound in spoken language such as words, syllables, onset and rime, and phonemes (phonological/phonemic awareness)
- correctly identify sounds and sound sequences (listening accuracy)

Cognitive Skills

Students will be able to...

- hold a target phoneme in working memory while comparing it to two alternate phonemes to find the matching one (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 to identify phonemes (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 phonological working memory skills
- build confidence in listening and phonological awareness skills
- manage ability to process rapid, complex information

Icon Key



Audio



Download



English Learner



Quick Check



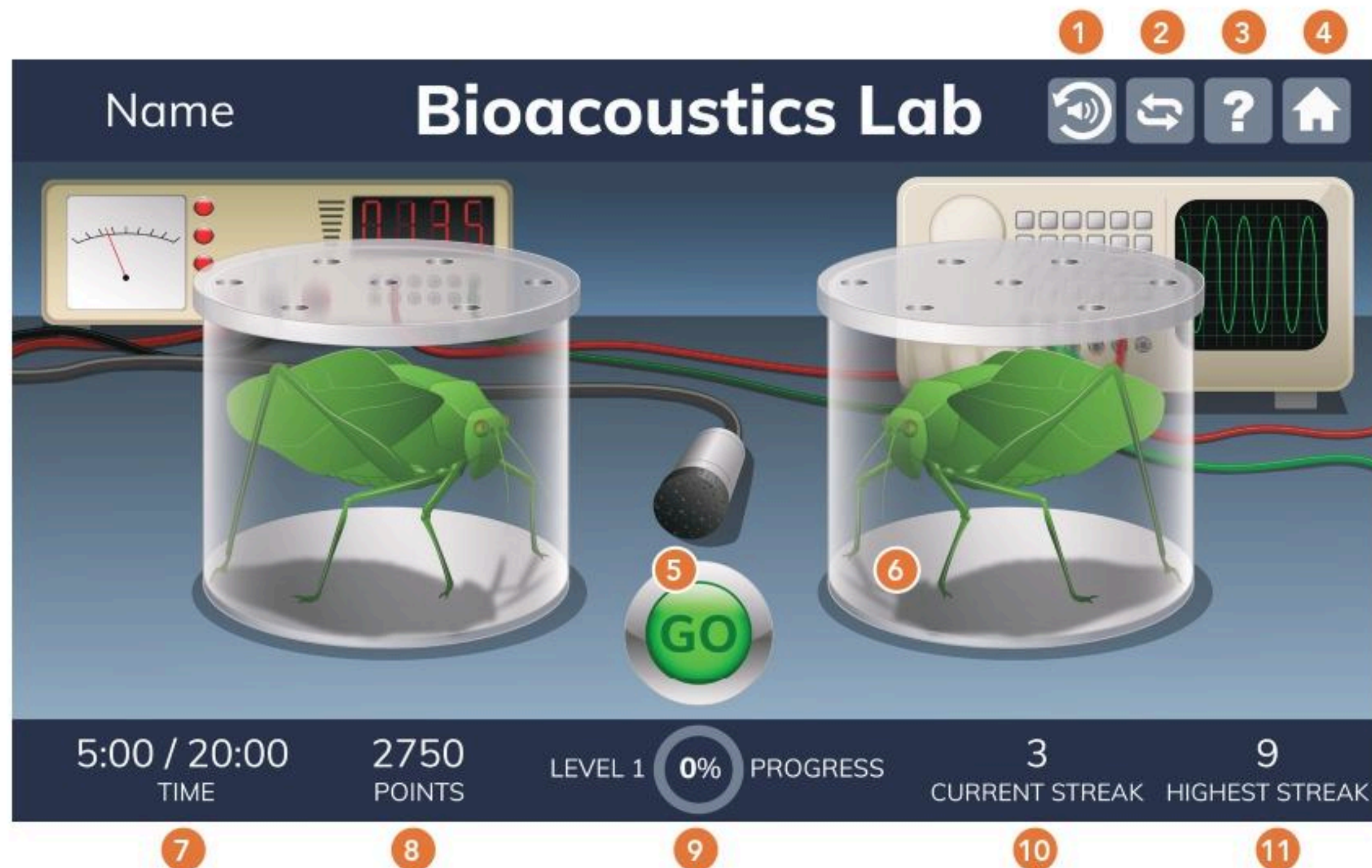
Settings



Video

Exercise Overview

Exercise Screen



1 Replay

Repeats the sound or sequence of sounds.

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 and provides a model exercise question.
- **Practice** allows students to listen closely to sample questions and take practice attempts without affecting their progress.

4 Home

Returns the student to their assignments screen.

5 Go

Presents a question or a series of Autoplay questions. When an Autoplay sequence is in progress, this counter shows how many questions remain in the sequence.

6 Answer Buttons

A pair of insects in observation containers. Each of the insects produces a different syllable. The student must click on the insect that produces the target syllable.

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; 4 points for each correct answer on a wacky question.
- 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

When the student clicks the Go button, Bioacoustics Lab first presents a target syllable, such as /ba/. Next, the insect on the left moves and produces a syllable. Finally, the insect on the right moves and produces a syllable. One of the insects produces the target syllable and the other produces the alternate syllable for the current phoneme pair. The student must click on the insect that produced the target syllable.

Content

In Bioacoustics Lab, students progress through 5 phoneme pairs. Each pair presents 2 syllables that differ by a single phoneme:

Phoneme Pair	Target Syllable	Alternate Syllable
/aba/ /ada/	/aba/	/ada/
/ba/ /da/	/ba/	/da/
/be/ /de/	/be/	/de/
/bi/ /di/	/bi/	/di/
/va/ /fa/	/va/	/fa/

This exercise provides students with practice differentiating each consonant sound when it is used in combination with a vowel sound.

Did you know?

In Bioacoustics Lab students are asked to choose between 2 syllables that sound very similar, such as /ba/ and /da/. These types of syllables are called “confusable” pairs. They contain sounds that can be difficult to tell apart when the language is unfamiliar, the speaker is unclear, or when listening in a noisy environment.

Bioacoustics Lab improves students’ ability to rapidly and accurately recognize confusable sounds. It trains the brain to act quickly so these sounds aren’t blurred together, which often results in a listener having to ask someone to repeat what they said. Our brains must be able to identify these sounds to understand what someone is saying. If a sound is perceived clearly in the first place, it’s easier to recall it clearly later. Bioacoustics Lab helps students to clearly perceive and represent these easily confusable consonant sounds.

Exercise Overview

Progression

Bioacoustics Lab uses synthesized speech with enhanced phonetic features. Initially, the consonant sound in each syllable is highly enhanced, making it easier to perceive the difference between the phonemes. As the student progresses through the exercise, the enhancements are reduced and eventually the syllables are presented in a more natural form. Additionally, the length of time between the target and alternative syllables decreases. This pushes the brain to make increasingly fine distinctions between sounds, and to speed up.

Within each phoneme pair, students progress through 26 stages. Bioacoustics Lab adapts to the student's performance and will provide targeted interventions if the student is continuously moving among the same few stages.

- To advance to the next stage, the student must answer 3 consecutive questions correctly. If the student answers a question incorrectly, the student moves back one stage. When progressing well, the student may be allowed to skip some stages. When struggling, the student may need to work on more of the stages.

To complete Bioacoustics Lab, the student must pass all phoneme pairs at the highest stage.

Wacky Questions

To keep the student engaged and attentive, Bioacoustics Lab occasionally presents "wacky" questions—easy-to-answer questions that provide a fun, unexpected break in the exercise. It includes the following wacky question pairs, with one syllable/word randomly chosen as the target syllable/word:

- cluck/quack (animal sounds)
- banana/waffle (spoken words)
- doorbell/horn (environmental sounds)
- meow/bark (animal sounds)
- baa/neigh (animal sounds)

Wacky questions do not count toward exercise progression, so the student will not be penalized for incorrect answers.

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.



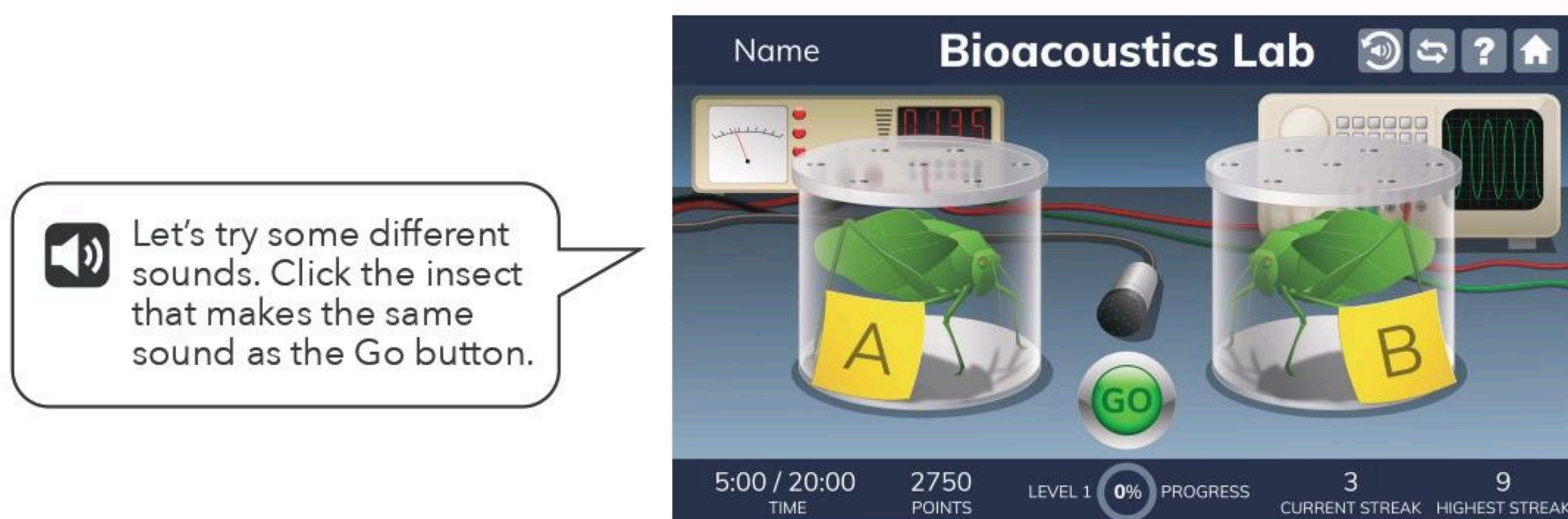
Exercise Overview

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.

Bioacoustics Lab provides a variety of in-line interventions, such as modeling, alternative instructions, and practice opportunities.

The Easy Alternatives intervention uses the same interaction used in the exercise, but with alternative instructions and extra feedback. The letters “A” and “B” are superimposed on the answer buttons. This allows students to learn the task with extra support provided by familiar words that are easy to tell apart (“A” and “B”) and by visual cues on the insect observation containers.



Students get immediate feedback on correct or incorrect answers.

Students temporarily stop progressing in the exercise while working through an intervention, then resume when they return to the regular exercise content.

Exercise Overview

Acoustically Modified Speech

Have you ever worked with a student who had modifications for additional think time, extra wait time, or for teachers to speak more slowly? All of these modifications provide the student with extra time to make sense of information, also known as processing time. For students who struggle with processing speed, and for those learning a new language, slowing down the rate of speech and emphasizing specific sounds can be very beneficial to develop accurate phonological representations, while increasing comprehension.

Fast ForWord's acoustically modified speech technology (sometimes referred to as "glasses for the ears") slows and emphasizes speech sounds so that students can hear all sounds in a word. This technology can even stretch out sounds that are physically impossible for human speakers to stretch on their own.

Some speech sounds, such as the /b/ sound in the word "bat," have very fast transitional elements. When we say them aloud, these elements are easy to miss, but slowing them and emphasizing them (by presenting them at a higher volume) helps the brain to hear and respond to them more quickly.

"Why does everything sound so strange?"

The modified words and syllables in the Fast ForWord exercises may sound strange or mechanical to those who process sounds quickly. But for students who need a little extra time, the modified sounds and words will be easier to hear than natural speech. As students progress, the stretching and emphasis are reduced, pushing the brain to process at faster and faster rates until it can process natural speech.

 Why Does Everything Sound So Strange? (Student) in [Student & Teacher Resources](#)

 Why Fast ForWord Sounds the Way it Does (Teacher) in [Student & Teacher Resources](#)

Facilitate and Encourage

Introduce

Engage

To introduce the exercise to your students, start by saying: Maybe you have noticed that there are some words in English that can be difficult or confusing because they sound so much alike, such as *bad* and *dad* or *bid* and *did*. What are some words that differ by a single consonant that might be hard for you to pronounce or understand if someone spoke them unclearly or if you were listening in a noisy environment? For example: *bad, dad, fad, had, lad, mad*, and so on.

Play a “Word Grab” game:

1. Write a few words that differ by a single consonant on slips of paper (one word per paper) and give a set to a student or group of students. For example: *bid, did, hid, kid, lid, mid, rid*.
2. Put your hand in front of your mouth and call out a word.
3. Have students grab the correct word. Keep calling until there are none left.

Explain to students that in this exercise they will be listening to pairs of sounds that differ by just one sound (a consonant). Say: The human auditory system can do amazing things when it is well-tuned. It has to be well-tuned to understand speech sounds because it has to process more than 700 sounds per minute in typical spoken language! This exercise helps tune your auditory system to quickly distinguish an important component of many speech sounds: words that differ by just one sound. The sounds presented are actually phoneme pairs that cover some highly confusable consonant sounds. The object is to listen carefully and determine which of the two sounds you hear matches the first sound presented to you.

Demo

1. Say: Today, we’re going to practice identifying the syllable that matches a target syllable. Together, we’ll work on an exercise called Bioacoustics Lab. I’ll get us started, then I’d like for you to try.
2. Project the “Introduction - English or Spanish demo” for Bioacoustics Lab.
3. Follow along with the demo, which explains how the exercise works.
 - One way to help students identify the different syllables is to have them close their eyes while they listen. Have them say, “First” or “Second” each time they hear first or second syllables.
 - Choose an answer
 - Correct answer: a “ding” sound effect plays and the bug hops up and down
 - Incorrect answer: a “thunk” sound plays
4. Demo the keyboard shortcuts:
 - Go button = Space bar
 - Left answer = Left arrow
 - Right answer = Right arrow

Direct students to log in and work individually on the Bioacoustics Lab 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.



Bioacoustics Lab 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 Bioacoustics Lab 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 - Bioacoustics Lab

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	
18	04/06/2020	-	-	-	0	0	-
17	04/03/2020	6	57	0	-	0	-
16	03/23/2020	-	-	0	0	0	-
15	03/01/2020	12	101	-	-	-	0
14	02/24/2020	9	64	0	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 - Bioacoustics Lab

Progress

Bioacoustics Lab Progress

Complete, advancement criteria met

In progress

Not started

Bioacoustics Lab

Progress

Questions

Phoneme Pair /aba/ /ada/	61
Phoneme Pair /ba/ /da/	56
Phoneme Pair /be/ /de/	51
Phoneme Pair /bi/ /di/	56
Phoneme Pair /va/ /fa/	54

Questions

Typical range for students making good progress:

- Phoneme Pair /aba/ /ada/: 50 - 100
- Phoneme Pair /ba/ /da/: 50 - 100
- Phoneme Pair /be/ /de/: 50 - 100
- Phoneme Pair /bi/ /di/: 50 - 100
- Phoneme Pair /va/ /fa/: 50 - 100

What to look for... what it means

Has the student answered too many questions without passing a level?

While the minimum number of questions required to complete a level is 48, most students should be able to complete a level in under 100. A student who is still working on a level after more than 125-150 questions may be struggling. If a student has answered more than 150 questions, it is important to make sure the student is applying themselves, and maintaining their motivation and attention. Any increase in a student's progress chart shows that the student is making progress and should be celebrated.

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

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

12 Bioacoustics Lab Teacher Manual

FAST FORWORD[®]
by Carnegie Learning

Facilitate and Encourage

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 Bioacoustics Lab 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 Bioacoustics Lab.



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. If necessary, demonstrate how the exercise works by using your hands to simulate the insects on the screen.

1. Hold up your closed hands with your palms facing the student.
2. Say /bah/ without opening either hand.
3. Next, say /dah/ while briefly opening then closing your right hand.
4. Finally, say /bah/ while briefly opening then closing your left hand.
5. Ask the student to point to the hand that opened when you repeated /bah/.
6. Try this a few times, changing which hand you open when you repeat the target syllable. Have the student explain back to you what they need to do to get a correct answer.



Can the student hear the syllables clearly?

Check the headset, volume controls, and background noise level.



Is the student staying focused on the task?

Discuss the importance of not making errors. Provide a challenge to pique interest, or strategies to support attention.

This task puts heavy demands on sustained attention, so students may benefit from taking periodic brain-breaks or turning off Autoplay.

Facilitate and Encourage



Does the student struggle to stay engaged?

Emphasize the importance of streaks—the highest number of correct responses in a row. Have the student use the Elements II Streaks and Completion Chart to track their highest streaks and review to see which days were higher or lower. Encourage the student to self-monitor and improve their accuracy. The sooner they complete the exercise the sooner they can move forward to something new.



Is the student aware that this exercise uses the 3-Forward/1-Back Rule to make forward progress?

Explain that accuracy is the key to moving through the content in this exercise. Students make progress based on the 3-Forward/1-Back Rule: they move forward when they get 3 answers in a row correct, but they move back when they get 1 answer incorrect.

Because streaks record the number of correct answers in a row, charting this can help the student self-monitor by providing visual feedback of their number of correct answers in a row. Use the Three-in-a-Row Worksheet.



Can the student hear the difference between the syllables?

Hold your hand over your mouth to slightly muffle the sound and have the student identify whether you are saying /ba/ or /da/, /be/ or /de/, /va/ or /fa/. If the student is having problems, continuing on with this exercise will help them. Their struggle now will pay off later!



Does the student hear something different than what is shown on the screen?

At early speech processing levels, what the student hears may seem different from what they see on the screen (the syllables written near the Go button). For example, they may see “ba da” but hear something that sounds like /ra/ /ya/. This is OK. Reassure the student that the exercise is working correctly. Have the student focus on listening to and remembering the first syllable they hear, and then identifying its match in the next two syllables they hear.

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

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



Three-in-a-Row Worksheet in [Student & Teacher Resources](#)

Explain to students that accuracy is the key to moving through the content in this exercise. Students make progress based on the 3-Forward/1-Back Rule: they move forward when they get 3 answers in a row correct, but, they move backward when they get 1 answer incorrect. Because streaks record the number of correct answers in a row, this sheet can help students self-monitor for correct answers by providing the visual feedback that some students need to register their number of correct answers in a row. This sheet is useful for daily monitoring. Students will likely need one copy per day.



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.



CINEMATCH

Teacher Manual

Goals/Objectives

English Language Arts Standard(s)

Key Ideas and Details: Students will answer questions about key details in a text; students will use illustrations and details in a story to demonstrate understanding of its characters, setting, or plot

Language/ Reading Skills

Students will be able to...

- listen to and comprehend spoken language and derive meaning from oral texts (listening comprehension)

Cognitive Skills

Students will be able to...

- dynamically coordinate working memory and long term memory to read with comprehension and answer questions (memory)
- focus on specific information, sustain that focus, and ignore distractions, while carrying out a task (attention)
- rapidly interpret and integrate auditory information to comprehend orally presented stories (processing)
- Use word order to comprehend simple and complex sentences (sequencing)

Social-Emotional/ Executive Function Skills

Students will be able to...

- selectively focus and sustain attention on a lesson or an activity
- inhibit impulsive responses
- retain extended complex oral information
- build confidence in listening and reading skills
- manage ability to process rapid, complex information

Icon Key



Audio



Download



English Learner



Quick Check



Settings



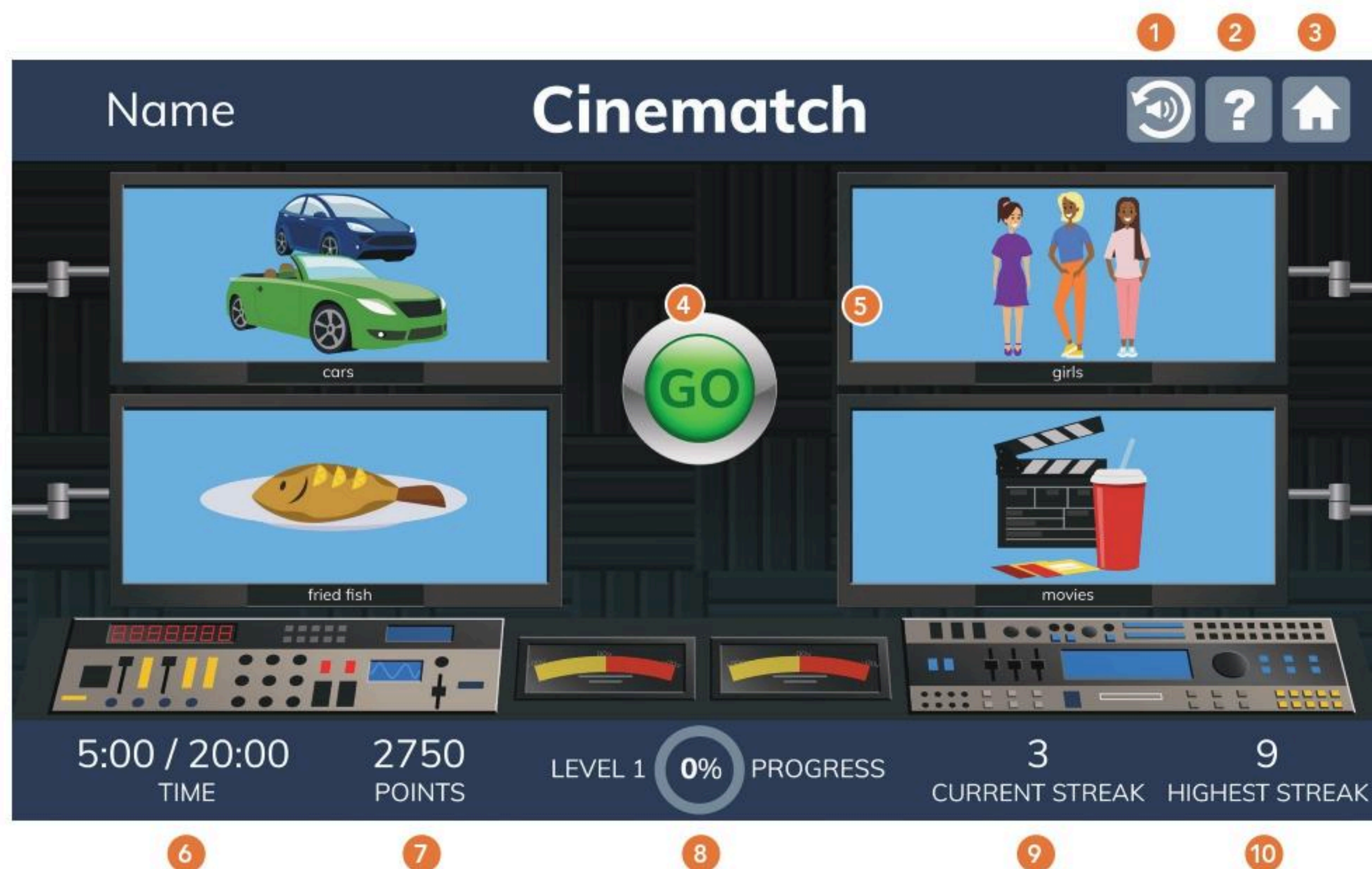
Video

Exercise Overview

Exercise Screens

Questions Screen

Each of the four small monitors displays possible answers to an aurally presented question.



1 Replay

Replays questions only, not story narration.

2 Help

Provides access to Help options:

- **How to** replays initial instructions.

3 Home

Returns the student to their assignments screen.

4 Go

Presents a question.

5 Answer Buttons

Show alternative answers to a question.

6 Time

Shows Time Worked / Time Scheduled for the exercise.

7 Points

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

- Correct answers: 5 points for each correct answer.

8 Level Progress

Displays the current level and percent complete of the level.

9 Current Streak

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

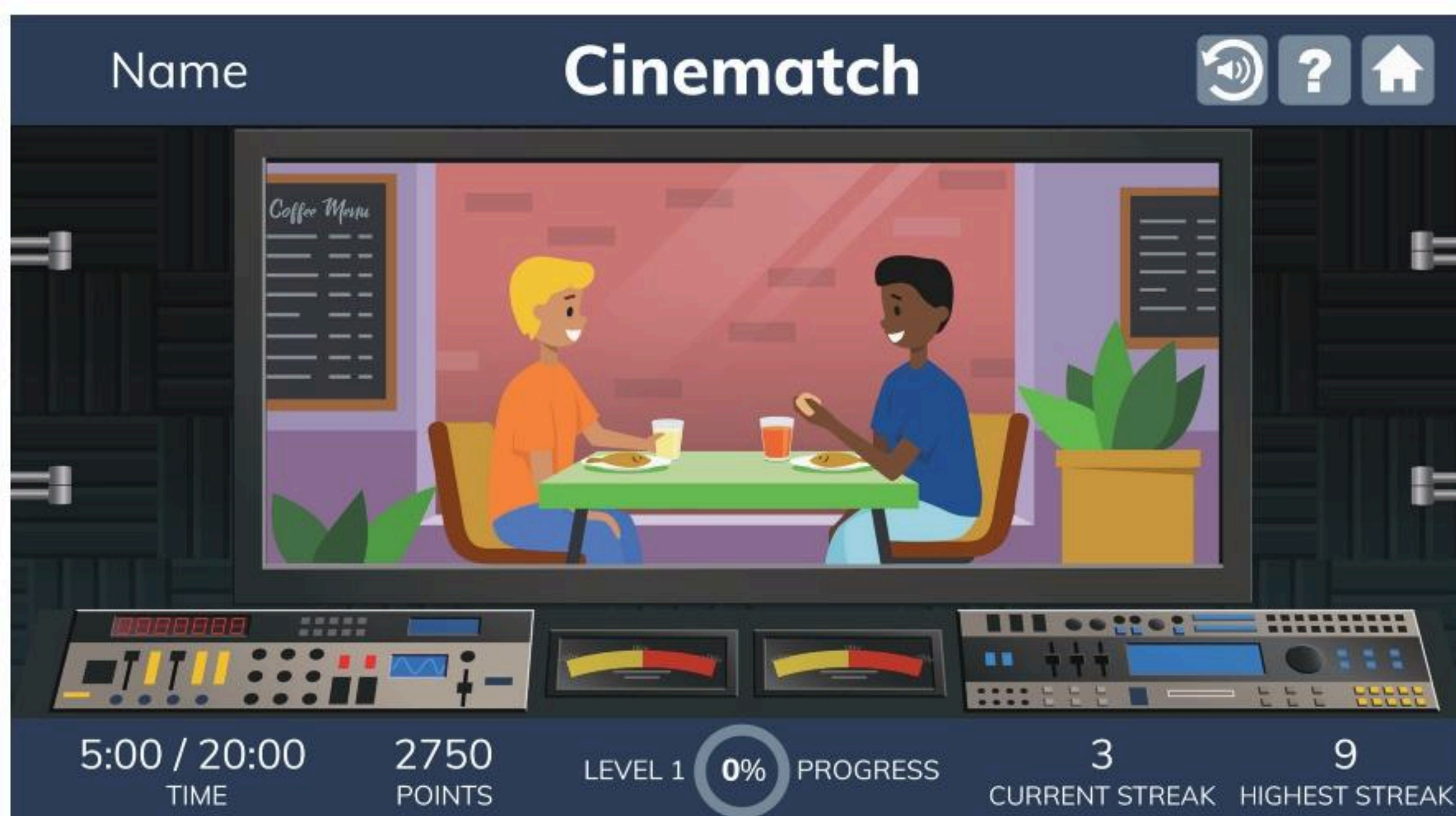
10 Highest Streak

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

Exercise Overview

Narration Screen

A large central “video monitor” shows either a title page or an illustration from the current chapter. The story narration is presented along with a slideshow of illustrations that are synchronized with the events in the story. Here is an example from *It Happened One Night*.



Did you know?

Listening comprehension of extended narrative and complex grammatical constructions is essential for following classroom instruction as well as reading comprehension. As texts become increasingly complicated, they place greater demands on memory and analytic skills. In listening situations an additional demand is placed on students because the rate of presentation is not under the control of the listener; whereas while reading students can reread complex sentences, skim, pause and consider what they are reading.

Some students, such as English language learners, or those with a history of oral English language difficulties may: exhibit poor listening skills during class, require rereading of longer or more complex written passages, or have reading comprehension problems. Building oral comprehension of complex grammatical constructions and retention of content in longer passages directly improves listening skills as well as reading fluency and comprehension.

Exercise Overview

Task

Cinematch narrates a chapter from a story and then the student answers comprehension questions about the text by clicking the video monitor that presents the best answer to the question.

Content

Processing Level	Story	Total # of Questions
1	It Happened One Night (Chapters 1-4)	16
2	The Tank of Doctor Wong (Chapters 1-4)	16
3	Something About Sally (Chapters 1-4)	16
4	The Tank of Doctor Wong (Chapters 1-4)	16
Natural Speech	Something About Sally (Chapters 1-4)	16

There are 3 unique stories and 48 unique questions. Two stories are repeated at the higher speech processing levels.

Exercise Overview

It Happened One Night

Chapter 1

On Saturday, Billy and Rueben had lunch together. They went to their favorite spot, The Fish Shack, for fried fish. They were discussing their favorite subject-cars. Maria, Billy's girlfriend, showed up. She walked over and dumped a giant soda in Billy's lap.

"Hey, what was that for?" Billy shouted.

"That's for taking my best friend Allison to the movies last night," Maria replied.

Uh oh, Billy thought. How did she find out? Billy tried to cover by claiming it wasn't a date. Maria wasn't interested in listening. Rueben didn't look too pleased either, since Allison was his girlfriend. Finally, Billy cave in and explained. He and Allison didn't really go to the movies. They were actually planning a surprise birthday party for Rueben. When Maria and Rueben heard the real story they both apologized.

"Let's go to the movies tonight," suggested Billy.

"Cool. Then we'll go to Moe's and plan my surprise party together," added Rueben.

Maria joked, "I'll buy the soda."

Chapter 2

Later that day, Billy went home and asked if he could borrow his dad's car. At first his dad said no since Billy always returned the car on empty.

"But, Dad," Billy pleaded. Eventually Billy promised to return the car with a full tank. His dad handed him the keys.

Billy watched TV before heading over to Maria's house. He was late, and Maria was waiting outside. After passing Wild Willie's Toy Store, the car sputtered and rolled to a stop right in front of the Fish Shack. Billy looked at the gas gauge and he couldn't believe his eyes. He was out of gas. Billy wasn't too happy. And neither was Maria. The evening was starting off on the wrong foot.

Billy suggested, "We can walk to the gas station. It's only a few blocks away. We can still make it to the movies if we hurry. Or we could have dinner at the Fish Shack instead."

At first Maria said she didn't want to walk. Her shoes were uncomfortable and her backpack was too heavy. But she realized that walking to the gas station was certainly better than sitting in the car alone. So off they went.

Just before they reached the gas station, a blue muscle car with jacked-up wheels raced past them. It smashed into a green convertible and skidded into the front of the gas station. The blue muscle car was pretty banged up. The front window was shattered and the doors were jammed shut. The driver crawled through the window and started to run. Still shaky from the crash, he accidentally ran into Billy and Maria, knocking them both down. When Maria fell, she dropped her backpack. The driver grabbed it and kept running.

Exercise Overview

Chapter 3

Just as Billy pulled himself up, the blue muscle car burst into flames. People were running all over the place. Alarms were going off and the sounds of sirens filled the air. Luckily, Maria wasn't hurt but she was upset that her backpack was gone.

"That has my life in it. My wallet, my license, my money and my pager!" she cried.

Now Billy was really upset. His knee hurt, his lip was busted and he didn't know what to do. But he had to get his girlfriend's backpack and fast. Just then, Billy's brother Michael drove up on his motorcycle.

"Dude, what happened?" Michael asked Billy. Billy jumped on the back of the bike. He told Michael that Maria's backpack had been stolen.

"We have to get it back!" he shouted.

"Did you get a good look at the guy?" Michael asked. Billy remembered that the guy was wearing a red T-shirt and a blue hat.

Michael and Billy were speeding down 7th Street when Billy yelled, "Hey, turn left! Turn left! He's running down that alley!" As they turned into the alley, they caught a glimpse of the thief getting into a black sedan. "That's him!" cried out Billy. "Follow that black car!" Michael went full throttle on his motorcycle and they roared after the car.

Chapter 4

The black sedan sped out of the alley, weaving in and out of traffic. But Michael and Billy were right behind it. They were determined to recover the backpack.

Suddenly, the sedan made a quick U-turn into oncoming traffic. It was heading straight for a bus filled with innocent people. It would take a miracle to avoid disaster. Michael pulled hard on the brakes. He and Billy covered their eyes. They couldn't bear to watch. But the bus driver swerved and somehow missed the black sedan. The car screeched and fishtailed into a fire hydrant. The hydrant blew and water went everywhere.

In the middle of all the confusion, Billy headed for the black car. He ran through broken glass, puddles of water and frightened pedestrians. When he got to the car he yanked the door open and grabbed Maria's backpack. The cops arrived moments later. They arrested the thief and then came over to make sure Michael and Billy were okay.

"Fine, now that I've got my girlfriend's backpack," replied Billy. "And if we hurry I think we can still make it to the late show!"

Exercise Overview

The Tank of Doctor Wong

Chapter 1

Going to the marine park was Diego's favorite thing to do since he was little. He had gone to the park often because his father worked there as a janitor. The summer that Diego turned 16, his father suggested that he apply for a job. Diego imagined that he would work with the animals. Instead he was hired to work the cash register in the gift shop.

On his first day, Diego stopped by the seal tank on his way to the gift shop. The seals were playing a basketball game with a giant red ball. One of the seals jumped up on a rock and started clapping her flippers.

"Thanks for the vote of confidence," Diego said. Diego arrived at work 2 minutes late. His boss yelled at him.

"You're late, and it's only your first day. This better not happen again."

The shop opened at 8:00. Diego needed to organize all the T-shirts before the visitors came through. T-shirts sold more than anything else in the gift shop. That night, Diego felt disappointed. He wasn't learning anything about marine life. Instead, he saw a lot of walrus key chains and killer whale pens. The only dolphins he saw were stuffed animals, and although he learned how to make change, it wasn't much fun. And his boss was grumpy. His father told him it was better than cleaning, but Diego wasn't so sure. Diego set two alarm clocks so he wouldn't be late again.

Chapter 2

Diego was allowed an hour lunch break. On his 2nd day, he went to sit in the bleachers to eat his sandwich. Maybe the dolphins would be rehearsing for the afternoon show, and he could get a sneak preview. Suddenly, Diego heard someone behind him.

"Hey."

Diego turned around. He saw a girl who looked like she worked there. "Are you new?" she asked.

"Yeah." He said.

"My name's Rani." She said. She sat down to eat beside him. When they finished eating their sandwiches, she told him that she knew all the secret passages in the marine park. "Do you want to go see the dolphin training tank?" she asked.

"Are you kidding? That's the reason I got a job here in the first place," Diego said.

He followed her up to a door marked "Restricted Access." The minute they went through the door, they were blasted with the smell of fish. At the dolphin training tank, it really smelled. They had to be careful not to fall because the floor was wet and slippery. At the edge of the tank was a big bucket of dead fish.

"Watch this," said Rani. She threw a fish up in the air, and one of the dolphins jumped up out of the water. It caught the fish and came down making a giant splash that sloshed all over the floor. Diego picked up a fish and stood at the edge of the tank. A dolphin put her head over the side. Diego nodded and held the fish out. The dolphin nodded back. Diego nodded again and threw the fish to the dolphin.

"That dolphin is named Frieda," said Rani.

Then, all of a sudden, they heard a voice ask, "What are you two kids doing?"

Exercise Overview

Chapter 3

Dr. Susan Wong was the park's marine biologist, and she turned out to be cool. When they told her that they were interested in learning about the ocean, she convinced them to visit the tide pool. It was a strange place full of animals that looked more like vegetables. Dr. Wong said that barnacles stand on their head and eat with their feet. The glue that barnacles use to stick to things is as strong as any glue you can buy in a store.

Diego picked up a green starfish and one of its arms fell off. Diego was scared he had hurt it, but Dr. Wong said that it happened all the time.

"Some starfish can grow up to nine or ten arms. Even if a starfish loses an arm, it can grow the arm back," said Dr. Wong.

Rani picked up a hermit crab. "Don't move, and the crab will come out of its shell," said Dr. Wong. The crab peeked out. Rani could hardly keep still, because the crab tickled as it explored her hand. Diego spotted a purple sea squirt. When Diego tried to take a closer look, it squirted water in his face.

Suddenly, Diego remembered the time.

"Oh no, what time is it?" he asked. Rani looked at her watch and told him that lunch was almost over. Dr. Wong asked if they wanted to come after work and help her take care of the dolphins. They both agreed, and Diego ran back to the gift shop. He didn't want to get fired on his second day for being late again.

Chapter 4

"How would you like to get in the tank with the dolphins?" asked Dr. Wong. Dr. Wong wanted them to scrub the sides of the dolphin tank.

Diego and Rani put on wetsuits. The wet suits were cold and uncomfortable. Diego felt funny walking around in his and wearing it was like having squishy wet noodles next to his skin. Diego and Dr. Wong grabbed some brushes and jumped into the tank first. As soon as they were in the water, the dolphins swam around them making strange noises.

"The dolphins like to get comfortable with the people who take care of them," said Dr. Wong. "If they like you, they might invite you to swim with them."

Diego touched a passing dolphin. It was Frieda. Diego thought that Frieda smiled at him, but remembered that dolphins always smile. Frieda swam up beside him. She seemed to nod at him. Carefully, Diego grabbed Frieda's dorsal fin and held his breath. Suddenly, he was moving fast through water. Diego remembered to breathe out through his nose. Big air bubbles trailed out behind him, and his legs flew back. The water became like the wind. Frieda swam along the surface of the water and blew air out of her blowhole near Diego's face. For the first time that day, Diego stopped caring about time. Then suddenly it was over, and Frieda swam back to Dr. Wong. Diego could see Rani anxiously waiting for her turn by the edge of the tank. Diego got out of the water shaking.

Rani said, "That looked pretty cool."

"Yeah," said Diego. "That's definitely the best part of the job."

Diego grabbed a fish from the bucket and nodded to Frieda. Frieda nodded back, and Diego threw the fish.

Exercise Overview

Something About Sally

Chapter 1

Sally got home from school late on Tuesday. She was having one of those days, you know the kind, when nothing seems to go right. She got a C minus on her history paper and a C on a math test. She forgot her lunch on the bus. And to make matters even worse, today was the day she had to stay late to catch up on schoolwork. Needless to say, Sally wasn't in the best of moods.

So when she got home from school and saw an envelope with her name on it she figured it was probably an overdue library book fine. But when she opened it up a giant blue and gold elephant-shaped card fell out along with a bunch of temporary wild animal tattoos.

"Wow, this is cool. It's an invitation to a costume party this Saturday," Sally exclaimed.

According to the invitation, only those people in costume would be allowed in. And, the theme was Wild and Exotic Animals. Plus there was going to be a costume contest, dancing, and music by the spotted Zebras—playing some very endangered sounds.

Sally was so excited she forgot how bad her day had been. She grabbed the phone from her little brother and immediately called her three best friends Thea, Rufus and Kris. Luckily, they all had been invited too. Since the party was only a few days away, Sally and her friends decided to meet after school the next day to work on their costumes.

Chapter 2

Rufus, Thea, Kris and Sally met at the Aardvark Café right after school. First they got some chili cheese fries to help them think. Then they decided to split up: Sally and Thea checked out the second-hand clothing stores, Rufus scavenged the streets for discarded items and Kris hit the zoo for inspiration.

When they finished they hooked up at Sally's house to show off their treasures. Kris had collected a bunch of pamphlets and brochures from the zoo. Rufus had found a stack of old wildlife magazines and a TV antenna. Sally and Thea came back with vintage clothes, wild hats, feathers and lots of funny looking props. They dumped everything on the bed and started sorting through it.

"Now comes the fun part—figuring out what to be," said Sally.

"I was thinking I might go as a stinkbug," said Rufus.

"You are so weird," said Kris.

Sally said she was considering going as a zebra. "I will even dye my hair black and white!" she laughed.

"Not bad," commented Rufus. "What about you, Thea?" he continued.

"I can't decide between a squid and a moose," Thea said, while modeling antlers made from coat hangers and scarves. They all looked at Kris.

"I think these feathers would make a great quail!" she said.

Exercise Overview

Chapter 3

On Saturday afternoon everyone met at Sally's house to put on their costumes. Sally had dyed her hair black and white so she could look like a zebra. Rufus had used the antenna from the TV to go as a stinkbug. Thea looked pretty good as a moose and Kris looked funny as a quail. They decided the fastest way to get to the party would be to take the bus. When they climbed aboard they were met by lots of really strange looks. It was pretty funny. Luckily, they were only on the bus for three stops.

The party was in the public garden behind Bernie's Exotic Pet Shop. The dance stage glowed with strings of lights and the picnic area was bright with tiki torches. The place was packed. Sally had never seen so many crazy costumes. She saw a guy dressed from head to toe like a leopard and a woman with a snake wrapped around her waist. There was also a fountain with colorful lights and fish in one corner of the garden. This was one of the coolest and strangest parties Sally had ever been to. The music was just starting up as they made their way through the crowd.

Chapter 4

"It's time for the Wild and Exotic Costume Contest," the street-level D.J. announced. "And the lucky winner gets an all-expense-paid trip for four to a wild animal park in San Diego."

The crowd went nuts. All Sally could think about was trying to get to the stage before the contest started. As she rushed past a leopard she tripped and flew into the fountain. Water splashed over the quail who was laughing. The leopard toppled backwards into a herd of moose. The moose collapsed into a grumbling heap. There were antlers everywhere. By the time Sally struggled to her feet it was too late. The contest was over. Rufus was on stage getting wild applause for his stinkbug outfit.

"Well, it looks like we have a winner," the D.J. said pointing to Rufus. "So, who are you taking with you to San Diego, Mr. Stinkbug?"

Rufus paused for a moment. "I don't know. I guess whoever bugs me the most."

Exercise Overview

Progression

In Cinematch, students progress through 5 levels. In the early levels, the exercise uses modified speech to present the stories. For example, the consonant sounds in each word have been lengthened and enhanced relative to the vowel sound. As students move through the levels, the degree of speech processing decreases and eventually the story is presented using natural speech.

Students must correctly answer all 4 questions about a chapter to pass and close a chapter. For any chapter that is failed both the story narration and all 4 questions are repeated.

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.



Acoustically Modified Speech

Have you ever worked with a student who had modifications for additional think time, extra wait time, or for teachers to speak more slowly? All of these modifications provide the student with extra time to make sense of information, also known as processing time. For students who struggle with processing speed, and for those learning a new language, slowing down the rate of speech and emphasizing specific sounds can be very beneficial to develop accurate phonological representations, while increasing comprehension.

Fast ForWord’s acoustically modified speech technology (sometimes referred to as “glasses for the ears”) slows and emphasizes speech sounds so that students can hear all sounds in

a word. This technology can even stretch out sounds that are physically impossible for human speakers to stretch on their own.

“Why does everything sound so strange?”

Some speech sounds, such as the /b/ sound in the word “bat,” have very fast transitional elements. When we say them aloud, these elements are easy to miss, but slowing them and emphasizing them (by presenting them at a higher volume) helps the brain to hear and respond to them more quickly.

The modified words and syllables in the Fast ForWord exercises may sound strange or mechanical to those who process sounds quickly. But for students who need a little extra time, the modified sounds and words will be easier to hear than natural speech. As students progress, the stretching and emphasis are reduced, pushing the brain to process at faster and faster rates until it can process natural speech.

▶ Why Does Everything Sound So Strange? (Student) in [Student & Teacher Resources](#)

▶ Why Fast ForWord Sounds the Way it Does (Teacher) in [Student & Teacher Resources](#)

Facilitate and Encourage

Introduce

Engage

To introduce the exercise to your students, you can start by saying, Do you find that what you hear sometimes seems to come in one ear and go out the other—you quickly forget it? Memory is a highly complex process involving multiple components working simultaneously. Research tells us that the more and varied ways we interact with new material, the more likely we are to remember it. To promote your learning and memory, this exercise combines narration with visuals to engage more than just your sense of hearing. As the Chinese proverb says, “I hear and I forget; I see and I remember.”

Demo

1. Say: Today we’re going to listen to a chapter of a story and then find the picture that best answers a question about the story. Together we’ll work on an exercise called Cinematch. I’ll get us started, and then I’d like for you to try.
2. Project the “Introduction - English or Spanish demo” for Cinematch.
3. Follow along with the demo, which explains how the exercise works.
 - Describe the details you see in the pictures.
 - Explain which one is the best match and how you ruled out other options.
 - Choose an answer.
 - Correct answer: a “ding” sound effect plays, and the correct answer is highlighted
 - Incorrect answer: a “thunk” sound effect plays
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 Cinematch 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.



Cinematch 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 Cinematch 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 - Cinematch

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

Schedule		Minutes/Questions		Start Time	
Days of Use	Date	Bioacoustics Lab	Cinematch	Illuminator	Mission Control
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

Schedule		Minutes/Questions		Start Time	
Days of Use	Date	Bioacoustics Lab	Cinematch	Illuminator	Mission Control
18	04/06/2020	-	-	-	0
17	04/03/2020	6	57	0	-
16	03/23/2020	-	-	0	0
15	03/01/2020	12	101	-	-
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.

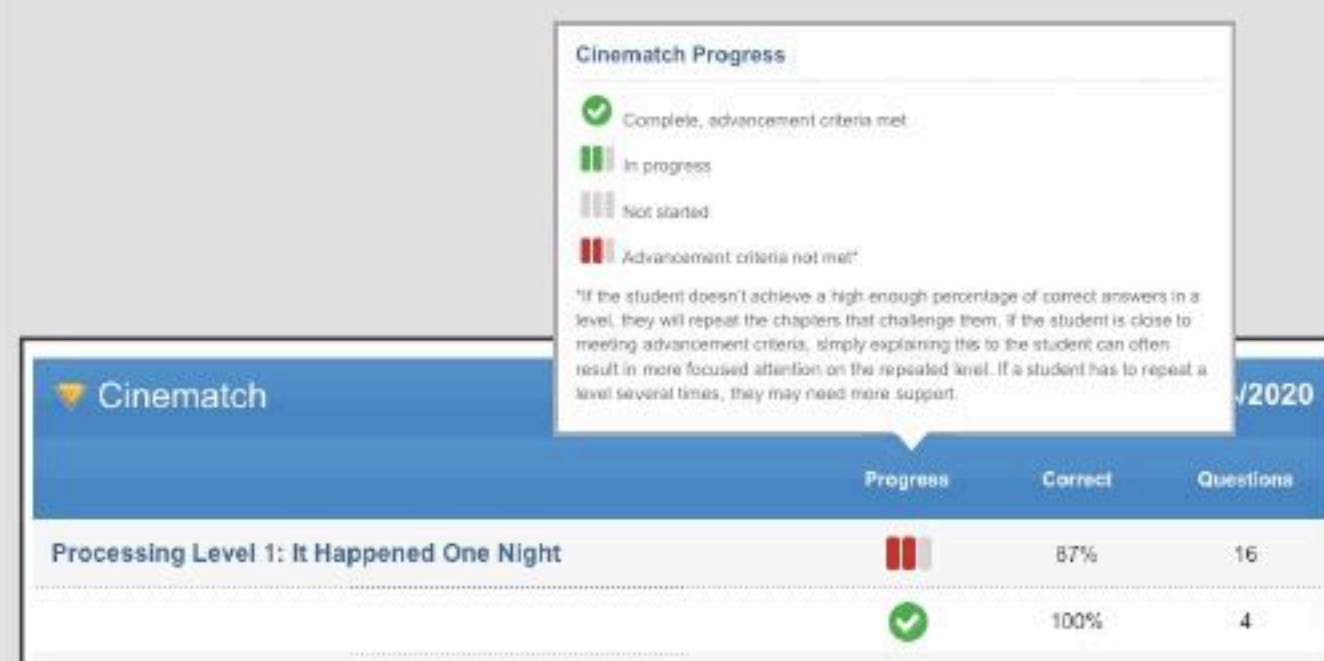
Is the student answering more questions than usual?

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 - Cinematch Progress



Number of Questions

Each level initially has 16 questions.

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 level (or, at least, repeat those chapters with which they are struggling). Often, simply explaining this to the student can result in more focused attention on the repeated level. If a student has to repeat a level several times, they may be struggling to comprehend the story or remember specific details and may need more support.

When a level is repeated, does the number of questions decrease?

The student has mastered some chapters at this level and is making progress.

When a level is repeated, does the number of questions stay the same?

The student has not mastered additional chapters. If their percent correct increases, they are learning from their mistakes and may just need more practice. Remind them to listen carefully to each chapter, especially when repeating the chapter.

See the "Adjust Instruction/Intervene" section in this teacher manual for suggestions on supporting struggling students.



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

Facilitate and Encourage

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 Cinematch 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 Cinematch.



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 hear the narration clearly?

Check the headset, volume controls, and background noise level.



Is the student staying focused on the task?

One way to get the most out of listening to a narration is to really focus on the task at hand. Remind students that focus is a superpower and they can use these tips to help them:

- Find a quiet, cool place to work.
- Work during a time when you have the most energy.
- Put your smartphone or any other distractions away.
- Re-focus your attention when you realize it's wandering.

Each chapter and its corresponding questions only takes a few minutes so encourage students to really "hyperfocus" when working on this exercise. It may help students if they take a quick "brain break" between chapters, but be sure students know to answer all four questions first or the entire chapter will need to be repeated.



Can the student retell the story?

One way to know if something is inside your head is to get it out of your head! You're more likely to remember what you've heard if you have to teach or explain it to someone in your own words. In order to retell, students must order and summarize information, as well as make inferences. When students are aware of the important aspects of a story, there is a purpose and sustained focus. You can use retelling as a way to assess how well students comprehend a story, and then use this information to help students develop a deeper understanding of the text.

Facilitate and Encourage



Does the student struggle to stay engaged?

Many students believe that just listening to something is enough. Often, that is not sufficient. Actively listening to a story and then making responses that demonstrate their understanding of what they heard is more deliberate than passively listening and just taking words in.

Tell students that we remember something best when it is organized and rehearsed. It can be helpful for students to use tips such as these to help them remember what they hear:

- Concentrate—listening is not a passive activity. In fact, it can be exhausting. It's an intentional act. If your attention starts to drift, it's up to you to be aware and refocus.
- Slow down—rushing or being impulsive impedes focus on the task at hand.
- Repeat—rehearse new information in your mind relating the new details to what you already know.
- Practice—the more you practice active listening, the better you will be able to recall information.



Does the student have some questions in mind as they listen to the story?

This listening comprehension exercise challenges students to answer questions that are specifically designed to build comprehension and memory for details, main ideas, and relationships within the story. Remind students that they should be listening so they can subsequently answer questions such as:

- Who is the main character?
- Where does this scene take place?
- When did _____ happen?
- What happened before _____?
- What happened after _____?
- Why did the main character _____?
- How did the main character _____?

At times it may be beneficial to share the text of the story with the student. Students who need extra support may read the story before listening to the exercise. Review the text with the student and have him or her answer some of the questions above.

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

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



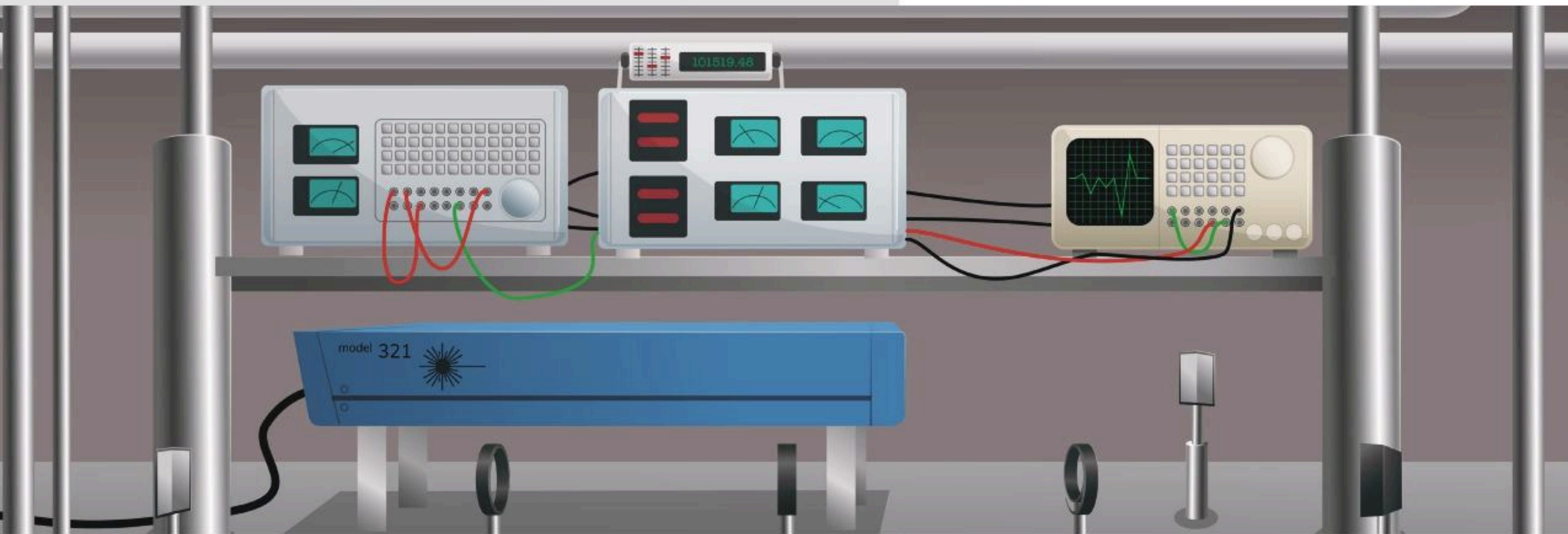
Elements II Streaks & Completion Chart in [Student & Teacher Resources](#)

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.



ILLUMINATOR

Teacher Manual

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 Overview

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.

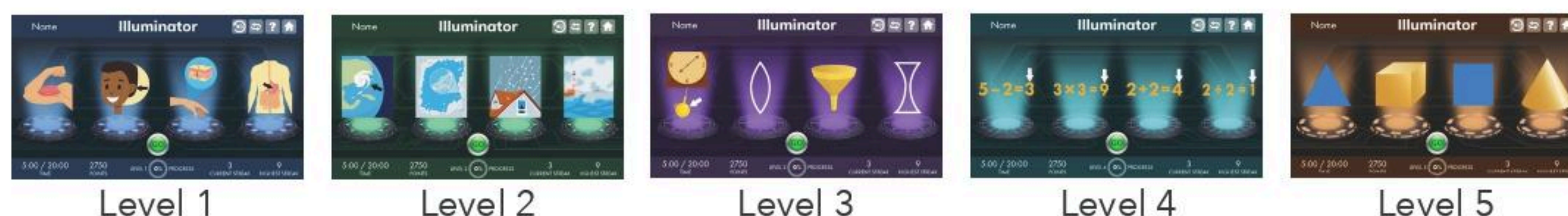
Exercise Overview

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.



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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

Schedule		Minutes/Questions		Start Time	
Days of Use	Date	Bioacoustics Lab	Cinematch	Illuminator	Mission Control
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

Schedule		Minutes/Questions		Start Time	
Days of Use	Date	Bioacoustics Lab	Cinematch	Illuminator	Mission Control
18	04/06/2020	-	-	-	-
17	04/03/2020	6	57	0	-
16	03/23/2020	-	-	0	-
15	03/01/2020	12	101	-	-
14	02/24/2020	9	64	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	Green bar	
In progress	Yellow bar	
Not started	Red bar	
*If the student doesn't achieve a high enough percentage of correct answers, they will repeat the group(s) that challenge them.		

Illuminator			
	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

PROGRESS: Errors - Illuminator

Content the student is struggling with is indicated in red.

Illuminator		
	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

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.

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](#)

Facilitate and Encourage

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.



MISSION CONTROL

Teacher Manual

Goals/Objectives

English Language Arts Standard(s)

Speaking & Listening: Ask and answer questions about key details in a text read aloud or information presented orally or through other media (comprehension)

Language/ Reading Skills

Students will be able to...

- attend to details and plan an appropriate sequence of steps in order to carry out verbal instructions (following directions)
- recognize and apply knowledge of words and word parts such as morphemes and phonemes (word structure and knowledge)
- listen to and comprehend spoken language and derive meaning from oral texts (listening comprehension)

Cognitive Skills

Students will be able to...

- hold verbal instructions in working memory while retrieving knowledge of colors and shapes from long-term memory (memory)
- focus on specific information, sustain that focus, and ignore distractions while carrying out a task (attention)
- rapidly interpret and integrate auditory information and access linguistic knowledge at the level of words and sentences (processing)
- use word order to comprehend simple and complex instructions and organize a response that follows the specified sequence of actions (sequencing)

Social-Emotional/ Executive Function Skills

Students will be able to...

- selectively focus and sustain attention to oral directions
- inhibit impulsive responses
- build verbal working memory for accurate and confident listening skills
- manage their ability to process rapid, complex information presented orally

Icon Key



Audio



Download



English Learner



Quick Check



Settings



Video

Exercise Overview

Exercise Screen



1 Replay

Repeats the directions to be followed.

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.

4 Home

Returns the student to their assignments screen.

5 Go

Presents the directions (questions) or a series of Autoplay questions. When an Autoplay sequence is in progress, this counter shows how many questions remain in the sequence.

6 Answer Buttons

The tokens which must be clicked or moved according to the directions presented.

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.
- Autoplay bonus: double the usual points if all answers in an Autoplay 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 Mission Control students listen to directions and then follow them by selecting or manipulating one or more tokens (objects) based on color, shape, and/or size.

Content

Students progress through five speech processing levels. Within each speech processing level, students work through directions from one or more of the following categories:

Categories	Sample Directions
1 Object, 2 Properties (color & shape)	Touch the green circle.
1 Object, 3 Properties (size, color, & shape)	Touch the little green circle.
2 Objects, 2 Properties (color & shape)	Touch the white circle and the blue square.
2 Objects, 3 Properties (size, color, & shape)	Touch the little green circle and the big yellow square.
Inclusion/Exclusion	Except for the blue one, touch the circles.
Sequencing	Before touching the white circle, touch the blue square.
Spatial Relations	Put the white square beside the red circle.

Did you know?

Verbal working memory—the ability to retain ongoing information for comprehending instructional details and sequences—develops and increases over many years beginning in childhood and continuing during adolescence. Information may be stored in working memory for minutes, hours, or even days before being consolidated into long-term knowledge. It is related to other listening skills like focused and sustained attention, and requires self-control and other executive functions; when practiced it builds a host of related skills.

As students mature and exercise working memory, they develop strategies to enhance their working memory and learning skills. For example, while reading, working memory strategies enable students to link current information to information from prior sections of a text or to relevant classroom discussions. Working memory strategies are also used to enhance retention of story sequences and chronology. Finally, working memory strategies employed during reading of texts from varied academic disciplines like mathematics, science, and history enable the student to further develop study skills as well as integrate content from several subject areas.

Exercise Overview

Progression

In Mission Control students progress through 5 levels. In the early levels, the exercise uses modified (processed) speech to present the directions. In the processed speech, the consonant sounds in each word have been lengthened and enhanced relative to the vowel sounds. As students move through the levels, the degree of speech processing decreases until, at level 5, the words are presented using natural speech.

The directions vary in complexity to make the task progressively more difficult within each processing level:

- Linguistically-simple/low-memory demand directions (for example, Touch the blue square.)
- Linguistically-simple/high-memory demand directions (for example, Touch the large blue square and the small red circle.)
- Linguistically-complex directions (for example, Before touching the white circle, touch the blue square.)

Mission Control adapts to the student's performance at each level, and provides targeted interventions if the student is struggling.

Acoustically Modified Speech

Have you ever worked with a student who had modifications for additional think time, extra wait time, or for teachers to speak more slowly? All of these modifications provide the student with extra time to make sense of information, also known as processing time. For students who struggle with processing speed, and for those learning a new language, slowing down the rate of speech and emphasizing specific sounds can be very beneficial to develop accurate phonological representations, while increasing comprehension.


Fast ForWord's acoustically modified speech technology (sometimes referred to as "glasses for the ears") slows and emphasizes speech sounds so that students can hear all sounds


in a word. This technology can even stretch out sounds that are physically impossible for human speakers to stretch on their own.

"Why does everything sound so strange?"

Some speech sounds, such as the /b/ sound in the word "bat," have very fast transitional elements. When we say them aloud, these elements are easy to miss, but slowing them and emphasizing them (by presenting them at a higher volume) helps the brain to hear and respond to them more quickly.

The modified words and syllables in the Fast ForWord exercises may sound strange or mechanical to those who process sounds quickly. But for students who need a little extra time, the modified sounds and words will be easier to hear than natural speech. As students progress, the stretching and emphasis are reduced, pushing the brain to process at faster and faster rates until it can process natural speech.

 Why Does Everything Sound So Strange? (Student) in [Student & Teacher Resources](#)

 Why Fast ForWord Sounds the Way it Does (Teacher) in [Student & Teacher Resources](#)

Exercise Overview

Motivational Levels

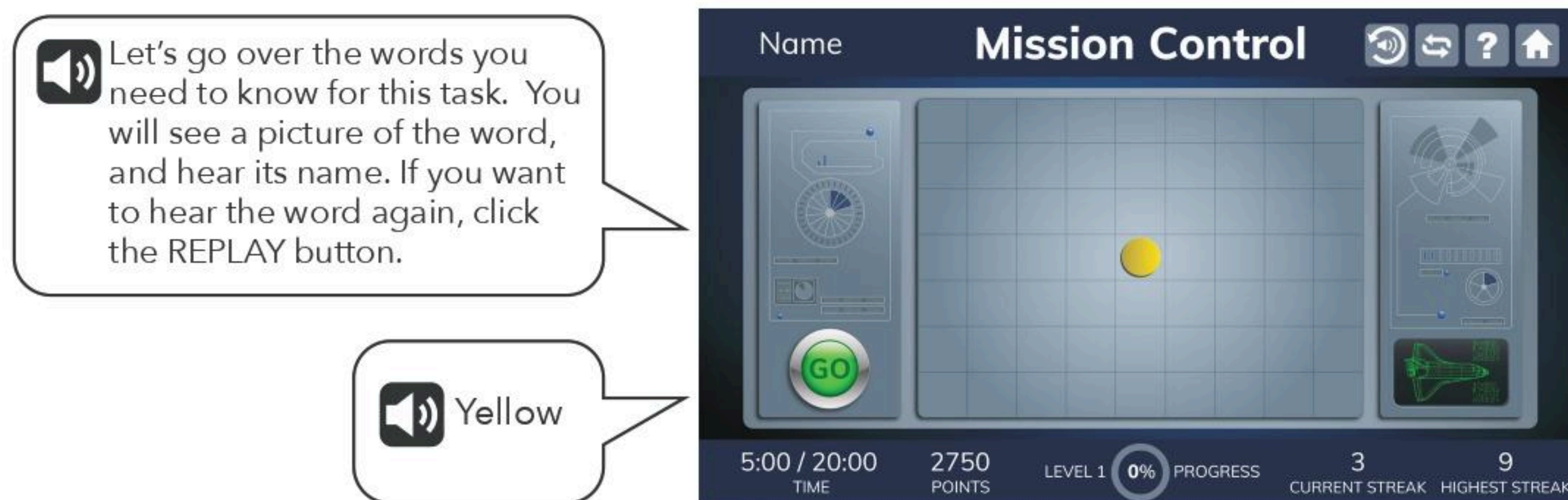
Each time a student progresses through 20% of an exercise, they “level up” and the screen changes slightly. These motivational levels are not connected to specific processing levels or content.



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.

One type of intervention, the Vocabulary Teaching intervention, teaches students the vocabulary that is needed to perform a task by showing them a picture or animation that illustrates a concept, and then naming the word for that concept.



Facilitate and Encourage

Introduce

Engage

To introduce the exercise to your students, say, Listening and following oral directions is an important skill. If you aren't actively listening, you may miss important information. We are going to do an activity which requires you to carefully listen to my directions. I will only say each direction once and it is your job to follow it. Are there any questions? (pause) Ok, let's begin.

Have the class draw an object as you give an oral description.

1. Use a simple object like a snowman, pencil, stick person, etc.
2. Do not identify the object by name; just describe the shapes they need to draw so that they can create the object step by step.
3. Have students share their drawings to see how close they are to the directions you gave.
4. Repeat the activity, but have students give oral directions to their peers instead of you.
5. Discuss other situations when it is important to listen carefully.

Demo

1. Say: Today, we're going to practice listening to direction and then following the instructions to carry out the actions. Together, we'll work on an exercise called Mission Control. I'll get us started, and then I'd like for you to try.
2. Project the "Introduction - English or Spanish demo" for Mission Control.
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 effect plays, the correct answer is highlighted with the word below, and the incorrect answers are dimmed.
4. Demo the keyboard shortcut:
 - Go button = Space bar

Direct students to log in and work individually on the Mission Control 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.



Mission Control 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 Mission Control 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 - Mission Control

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	Min	Ques	Min	Ques
19	04/07/2020	●	●	●	●				
18	04/06/2020				●				
17	04/03/2020	●	●	●	●				
16	03/23/2020			●	●				
15	03/01/2020	●			●				
14	02/24/2020	●	●		●				

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	Min	Ques	Min	Ques	Min	Ques	Min	Ques
18	04/06/2020	-	-	-	-	-	-	-	-	-	-	-	-
17	04/03/2020	6	57	0	-	-	-	-	-	-	-	-	-
16	03/23/2020	-	-	-	-	-	-	-	-	-	-	-	-
15	03/01/2020	12	101	-	-	-	-	-	-	-	-	-	-
14	02/24/2020	9	64	0	-	-	-	-	-	-	-	-	-
13	01/03/2020	-	-	-	-	-	-	-	-	-	-	-	-

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 - Mission Control Progress

Mission Control 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 in a level, they will repeat the language structures that challenge them. If the student is close to meeting advancement criteria, simply explaining this to the student can often result in more focused attention on the repeated level. If a student has to repeat a level several times, they may need more support.

	Progress	Correct	Questions
Processing Level 1		95%	20
Processing Level 2		88%	40
		70%	10
		90%	10
Processing Level 3		98%	40
Processing Level 4		80%	20
		70%	10

Correct

To make progress, students must achieve about 90% correct on each level.

Questions

The number varies depending on the level, and the student's performance on previous levels. If a level must be repeated, the student may only be required to repeat a subset of the questions.

Processing Level 1: 20

Processing Level 2: 40

Processing Level 3: 40 - 60

Processing Level 4: 20 - 60

Natural Speech: 60

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 level (or at least those groups of questions with which they were struggling). Check how close the student is to meeting the advancement criteria. Often, simply explaining this to the student can result in more focused attention on the repeated level. If a student has to repeat a level several times, they may need more support.

Is the percent correct above 80%?

The student is close to the criterion for progressing (90% correct). Encourage them to avoid mistakes by slowing down, thinking about each question, and using the Replay button.

Is the percent correct well below 80%?

The student may be struggling with one or more questions. Go to the Errors section of this report to determine where the student needs additional support.

For a repeated level, did the number of questions decrease?

The student has mastered some questions at this level and is making progress.

For a repeated level, did the number of questions stay the same?

The student has not mastered additional questions. If their percent correct increases, they are learning from their mistakes and may just need more practice. Remind them to listen to and observe the corrective feedback to better understand why their answer was wrong before moving on to the next question.

PROGRESS: Errors - Mission Control

Content that the student is struggling with the most is highlighted in red.

Mission Control

	Errors	Errors / Questions
Inclusion/Exclusion: Along with	27%	4 / 15
Example: Along with the red square, touch the blue square.		
Inclusion/Exclusion: Redirection	13%	2 / 15
Example: Touch the yellow circle - Not - the red square.		
Inclusion/Exclusion: Instead of	67%	10 / 15
Example: Instead of the blue circle, touch the red square.		

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 Mission Control.



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

Facilitate and Encourage

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 Mission Control 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 to make progress.



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.



Is the student able to repeat the directions back to you?

Building memory and attention skills is important for this exercise. Ask the student to repeat the sentence or question back to you. If they are having difficulty remembering, here are some games to help build memory and focused attention:

- Give your student a three letter word to spell out loud. Then ask them to spell it out loud but backwards. See if they can spell four or even five letter words backwards!
- If the student can't spell yet, play a following directions game like Simon Says.

Both of these games can help the student practice using their memory and attention skills while having fun, which can increase motivation and improve their progress in this exercise.



Does the student use any memory strategies?

Ask the student how they remember the directions. Do they repeat the directions to themselves? Do they look to see where the board pieces are located?

Memory strategies are useful ways to build working memory which is important for reading and learning. Teach your student a memory strategy like hovering their cursor or finger over the first shape/color they hear while they wait to hear the second direction.

Facilitate and Encourage



Does the student have difficulty correctly identifying colors?

If the student has color vision deficiencies, provide feedback based on the nature of their issue.

- If the student is completely color blind and unable to differentiate between red and green or blue and yellow, they will need to skip this exercise.
- If their color blindness is less severe, using a visual aid cheat sheet with the names of the colors written under each color may help them to more quickly identify the colors in the exercise.



Does the student understand sequence words like “before” and “after”?

Look at the Errors section in the student’s Progress Report to see if they are struggling with particular sequence words. Try these strategies as needed.

- Use a whiteboard to show the student how the words “before” and “after” work when giving directions.
- Play a following directions game like Simon Says using only sequence words in your directions.



Does the student have trouble maintaining focus for the duration of the directions?

Have the student take a short break between questions, which can help them maintain focus while listening. The student should:

1. Turn off Autoplay.
2. Answer a question.
3. Look up and count four ceiling tiles.
4. Continue to the next question.

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

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



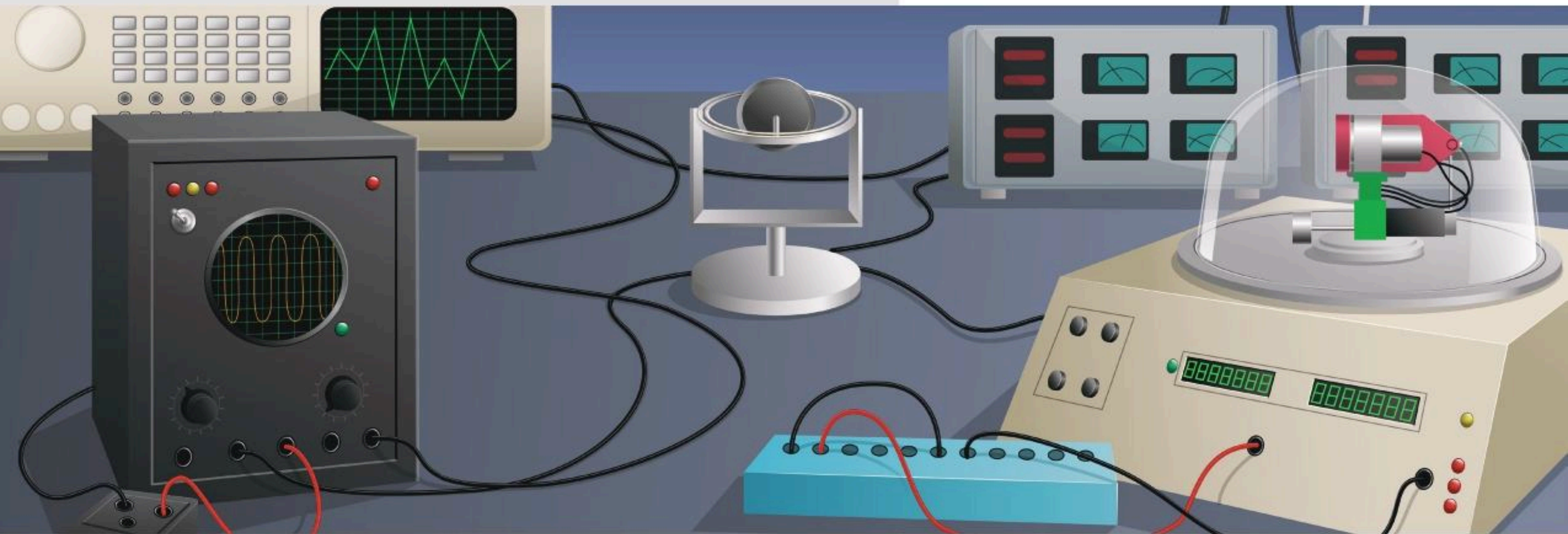
Elements II Streaks & Completion Chart in [Student & Teacher Resources](#)

Explain to students that accuracy is the key to moving through the content in Fast ForWord. Because streaks record the number of correct answers in a row, this chart can help students self-monitor for accuracy. 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.



PICFLIP

Teacher Manual

Goals/Objectives

English Language Arts Standard(s)	Phonological Awareness: students will demonstrate understanding of spoken words, syllables, and sounds (phonemes)
Language/ Reading Skills	<p>Students will be able to...</p> <ul style="list-style-type: none"> • discriminate between sounds and correctly identify sounds and sound sequences (listening accuracy) • identify spoken words and distinguish between similar-sounding words (auditory word recognition) • recognize and manipulate units of sound in spoken language such as words, syllables, onset and rime, and phonemes (phonological/phonemic awareness) • recognize and apply knowledge of words and word parts such as morphemes and phonemes (word structure and knowledge)
Cognitive Skills	<p>Students will be able to...</p> <ul style="list-style-type: none"> • 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	<p>Students will be able to...</p> <ul style="list-style-type: none"> • selectively focus and sustain attention on a lesson or an activity • inhibit impulsive responses • build confidence in vocabulary recognition • manage ability to process rapid, complex information

Icon Key



Audio



Download



English Learner



Quick Check



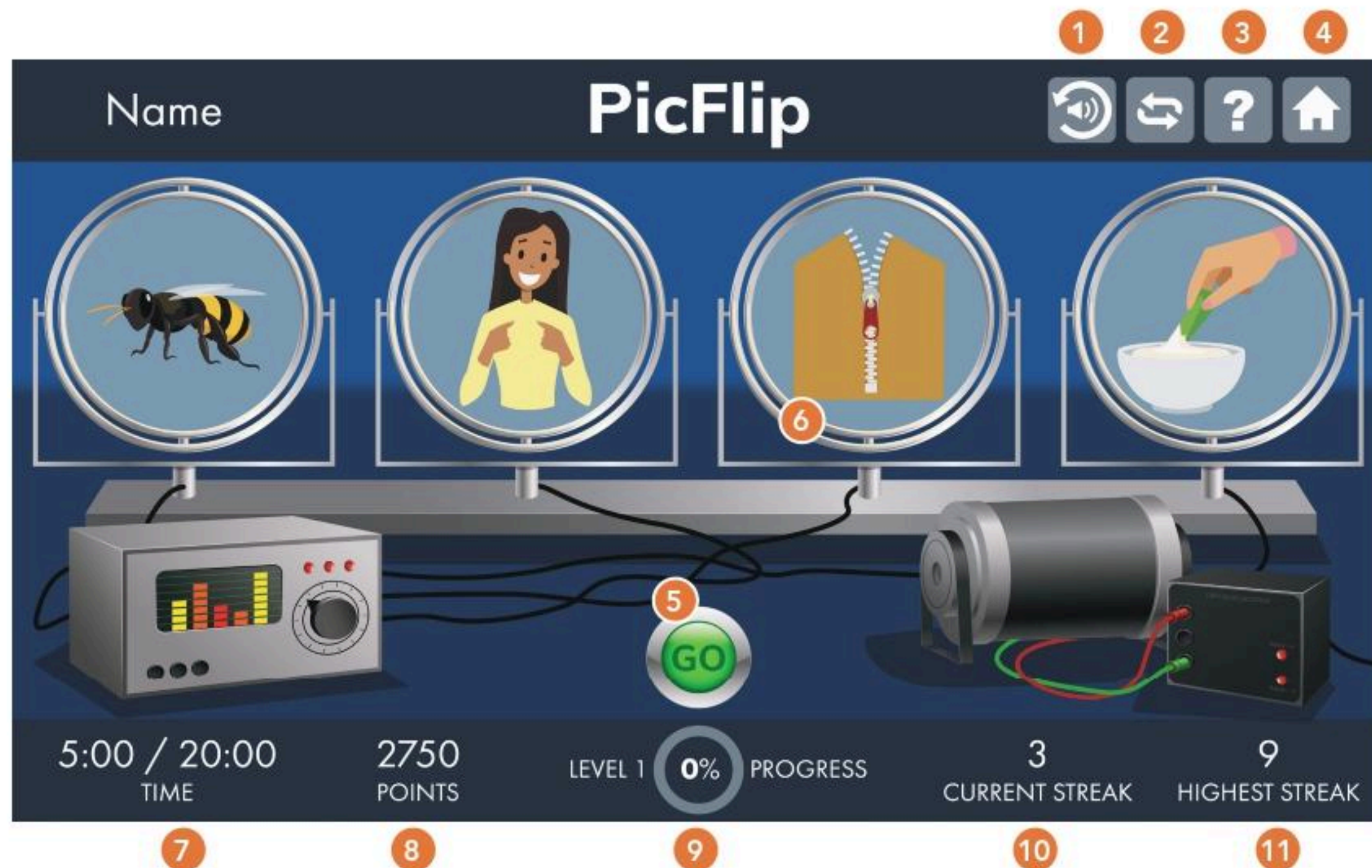
Settings



Video

Exercise Overview

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 or a series of Autoplay questions. When an Autoplay sequence is in progress, this counter shows how many questions remain in the sequence.

6 Answer Buttons

Show possible 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 questions that count toward progress; 1 point for practice or intervention questions.
- Autoplay bonus: double the usual points if all answers in an Autoplay set are answered 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 PicFlip, students listen to a target word and view 4 pictures, then they click the picture that best represents the target word.

Content

PicFlip is a picture identification task that presents 132 basic vocabulary words at the grade K-2 level. These words have similar sounding consonants that are emphasized and contrasted. Focusing on general vocabulary comprehension helps students build language and sound discrimination skills without having to decode less familiar terms.

Did you know?

Phonological awareness is the ability to identify and manipulate units of oral language - such as words, syllables, and onsets and rimes. Students who have phonological awareness skills are able to determine the number of syllables in a word, recognize words with the same beginning or ending sounds, and identify and make oral rhymes. The ability to parse words into their individual sounds (phonological awareness) is a critical skill underlying the ability to decode written words (phonics).

Some students, such as English language learners, those with non-standard dialects, or students with hearing issues, may have difficulty with phonological awareness, especially of similarly sounding consonants like /b/ and /d/. Developing strong competencies in phonological awareness is important for all students, as the awareness of the sounds in words and syllables is critical to hearing and segmenting the words students want to spell, and blending together the sounds in words that students read.

Progression

In PicFlip, students progress through 5 levels. In the early levels, the exercise uses modified (processed) speech to present the words. In the processed speech, the consonant sounds in each word have been lengthened and enhanced relative to the vowel sounds. As students move through the levels, the degree of speech processing decreases until, at level 5, the words are presented using natural speech.

Exercise Overview

Four factors are varied to make the task progressively more difficult within each processing level:

- the difficulty of the target sound
- the difficulty of the possible answers
- the position of the target sound (initial vs. final)
- the availability of vocabulary help

Processing Level	Sounds	Alternatives	Vocabulary Help	Sample Words
1	Initial or Final Initial Final	Easy	Available	base, face, bear, bell base, vase, bee, knee safe, save, dip, sip
2	Initial or Final Initial Final	Difficult	Available	chip, dip, sip, zip me, knee, bee, D bug, buck, bud, bus
3	Initial or Final Initial Final	Difficult	Available	
4	Initial or Final Initial Final	Difficult	Available	
Natural Speech	Initial or Final	Difficult	Not Available	phone, foam, foal, four

PicFlip adapts to the student's performance at each level, and provides targeted interventions if the student is struggling.

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.

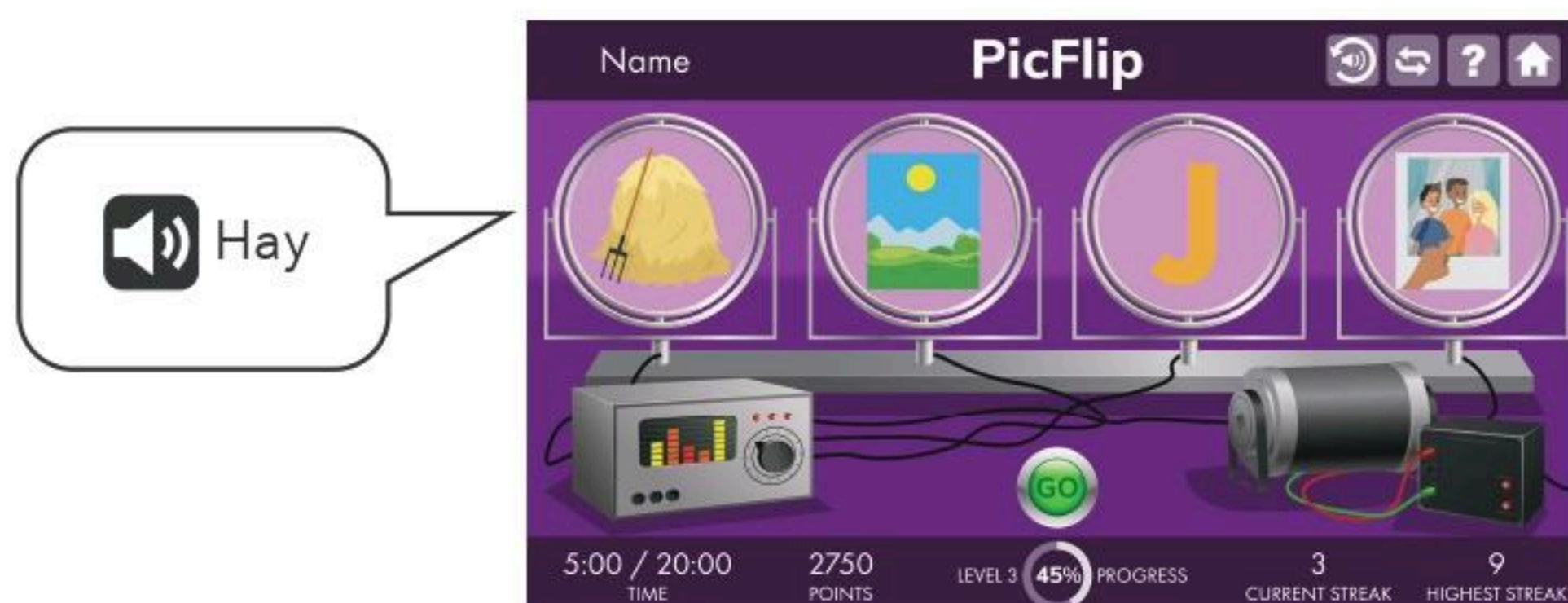


Exercise Overview

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. When a student answers a question incorrectly the same question is repeated. Then, one at a time, each alternate answer is highlighted and named. The 4 pictures disappear and then reappear in newly randomized places. Students proceed to answer the same question.



Acoustically

Modified

Speech

Have you ever worked with a student who had modifications for additional think time, extra wait time, or for teachers to speak more slowly? All of these modifications provide the student with extra time to make sense of information, also known as processing time. For students who struggle with processing speed, and for those learning a new language, slowing down the rate of speech and emphasizing specific sounds can be very beneficial to develop accurate phonological representations, while increasing comprehension.

Fast ForWord's acoustically modified speech technology (sometimes referred to as "glasses for the ears") slows and emphasizes speech sounds so that students can hear all sounds

in a word. This technology can even stretch out sounds that are physically impossible for human speakers to stretch on their own.

"Why does everything sound so strange?"

Some speech sounds, such as the /b/ sound in the word "bat," have very fast transitional elements. When we say them aloud, these elements are easy to miss, but slowing them and emphasizing them (by presenting them at a higher volume) helps the brain to hear and respond to them more quickly.

The modified words and syllables in the Fast ForWord exercises may sound strange or mechanical to those who process sounds quickly. But for students who need a little extra time, the modified sounds and words will be easier to hear than natural speech. As students progress, the stretching and emphasis are reduced, pushing the brain to process at faster and faster rates until it can process natural speech.

▶ Why Does Everything Sound So Strange? (Student) in [Student & Teacher Resources](#)

▶ Why Fast ForWord Sounds the Way it Does (Teacher) in [Student & Teacher Resources](#)

Facilitate and Encourage

Introduce

Engage

To introduce the exercise to your students, say, Words are made up of different sounds or combinations of sounds. In fact, although our alphabet has 26 letters there are 44 different sounds (phonemes) because some letters have more than one sound. For example, the letter 'c' makes two different sounds in words like *cat* and *celery*, and it makes a third sound when it comes before 'h,' in words like *chair*. In this exercise, it's important to pay attention to the sounds you hear.

I am going to say some words. Close your eyes and listen to the sounds that make up each word. Remember, I want you to identify the "sounds" not the "letters" in these words. Say a simple word like *dog*. Ask, What is the first sound you hear in *dog*? What is the last sound? What is the middle sound? Students should answer /d/, /g/, and /aw/. What sounds can the letter 'o' make other than the /aw/ sound in *dog*? Possible answers: /oo/ as in *who*, /long -o/ as in *toe*. Repeat the activity with other words that either begin with /d/ or end with /og/.

Demo

1. Say: Today, we're going to practice listening to words and then finding the pictures that best represent those words. Together, we'll work on an exercise called PicFlip. I'll get us started, and then I'd like for you to try.
2. Project the "Introduction - English or Spanish demo" for PicFlip.
3. Follow along with the demo, which explains how the exercise works.
 - Describe the details you see in the pictures.
 - Explain which one is the best match and how you ruled out the other options.
 - Choose an answer
 - Correct answer: a "ding" sound effect plays, the answer is highlighted, and the word appears below the picture.
 - Incorrect answer: a "thunk" sound effect plays, the correct answer is highlighted with the 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 PicFlip 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.



PicFlip 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 PicFlip 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 - PicFlip

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	Min	Ques	Min	Ques
19	04/07/2020	●	●	●	●	●				
18	04/06/2020	●	●	●	●	●				
17	04/03/2020	●	●	●	●	●				
16	03/23/2020	●	●	●	●	●				
15	03/01/2020	●	●	●	●	●				
14	02/24/2020	●	●	●	●	●				

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, add some breaks to their schedule.

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
18	04/06/2020	-	-	-	-	-	0	-	0	-
17	04/03/2020	6	57	0	-	-	0	-	0	-
16	03/23/2020	-	-	-	-	-	0	-	0	-
15	03/01/2020	12	101	-	-	-	0	-	0	-
14	02/24/2020	9	64	0	-	-	0	-	0	-
13	01/03/2020	-	-	-	-	-	0	-	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 - PicFlip Progress

Group	Progress	Questions	Questions with Help
Initial or Final Sounds	Complete	20	0
Initial Sounds	Complete	24	0
Final Sounds	Not started	20	0

Number of questions

The typical number of questions varies by group and level:

Level 1

Number of questions:

- Initial or Final Sounds: 20
- Initial Sounds: 24
- Final Sounds: 20

Level 2-4

Number of questions:

- Initial or Final Sounds: 18
- Initial Sounds: 18
- Final Sounds: 32

Level 5

Number of questions: 68

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:

- Levels 1 & 2: Students are encouraged to use Help to learn the vocabulary. Questions answered with the Help count towards progress.
 - If a student is missing a lot of questions, encourage them to use Help to learn both the vocabulary and the difference between phonemes, especially those that are easily confused.
- Levels 3 & 4: 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 5: 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 200 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 5 after more than 200 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 ten trials with laser focus, and take a brief brain break before doing the next set of 10.

PROGRESS: Errors - PicFlip

Content that the student is struggling with the most is highlighted in red.

Sound	Errors	Errors / Questions
Initial Sounds		
/b/	22%	15 / 68
/d/	14%	10 / 69
/f/	11%	2 / 18
/v/	67%	20 / 30
/m/	19%	7 / 36

Are specific word groups highlighted in red?

Have the student practice saying words that start/end with the specific sounds with which they are struggling, and with easily confusable sounds (i.e. /m/ and /n/, /b/ and /d/, and /p/) while focusing on the sounds and their differences. Sometimes just suggesting the student focus extra on those sounds as they progress through the exercise will help. Consider providing the student with instruction on the specific vocabulary with which they are struggling.

See the "Adjust Instruction/Intervene" section in this teacher manual for suggestions on supporting struggling students.



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

Facilitate and Encourage

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 PicFlip 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 PicFlip.



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?

Repeating the word helps the student commit it to memory, and it tells you what word the student hears. If the student can't remember or hear the word the first time, teach them to use the replay button to hear it again. Students can use the replay button as often as they want, without penalties.



Does the student know which picture represents each word?

Some of the words in the exercise (such as "thorn" or "foam") 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, especially at Processing Level 1. Remind them that they need to learn the words. Beyond Level 1, they won't make progress when they use Help so they should only use it when they don't know the picture for a word.

Facilitate and Encourage



Does the student have difficulty telling the difference between similar words they hear?

Words like “thorn” and “torn” sound similar. For words like these, make sure the student knows they can use the Replay button to hear the word repeated as many times as they want. The more the student practices hearing the word, the more likely they are to succeed with the task.



Is the student staying engaged with the activity?

Ask the student how difficult the exercise is for them. If they say it is too easy, they may be losing interest. Remind the student that advancing through content depends on correct answers.

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. Because streaks record the number of correct answers in a row, this chart can help students self-monitor for accuracy. 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.

