FOUNDATIONS I
Teacher Manual

FOUNDATIONS I Teacher Manual

Contents

ELE-BOT
Teacher Manual

Goals/Objectives

English Language Arts Standard(s)	Conventions of Standard English: students will be able to demonstrate command of the conventions of standard English grammar and usage Vocabulary Acquisition and Use: students will be able to determine or clarify the meaning of unknown and multiple-meaning words in phrases, choosing flexibly from an array of options

Language/ Reading Skills	Students will be able to...
	• demonstrate understanding of English grammar and usage elements such as:
	  ○ adjectives, comparatives, quantifiers
	  ○ singular/plural nouns and verbs
	  ○ possession
	  ○ simple negation
	  ○ subject-verb agreement
	  ○ pronouns
	  ○ verb tenses
	  ○ prepositions
	  ○ active/passive voice
	  ○ clauses
	• demonstrate understanding of vocabulary in terms of meaning, phonological structure, and grammatical role
	  ○ use sentence-level context as a clue to the meaning of a word or phrase
	  ○ use frequently occurring affixes as a clue to the meaning of a word
	  ○ use frequently occurring root words (e.g. look) and their inflectional forms (e.g. looks, looked, looking)

Cognitive Skills	Students will be able to... • hold a question/statement in working memory while retrieving picture-concept associations from their long-term memory to identify the correct response (memory) • 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 • regulate emotional responses (e.g. excitement or frustration)

Icon Key

🔊 Audio	⬇ Download	EL English Learner	✓ Quick Check	⚙ Settings	▶ Video

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A CARNEGIE LEARNING SOLUTION
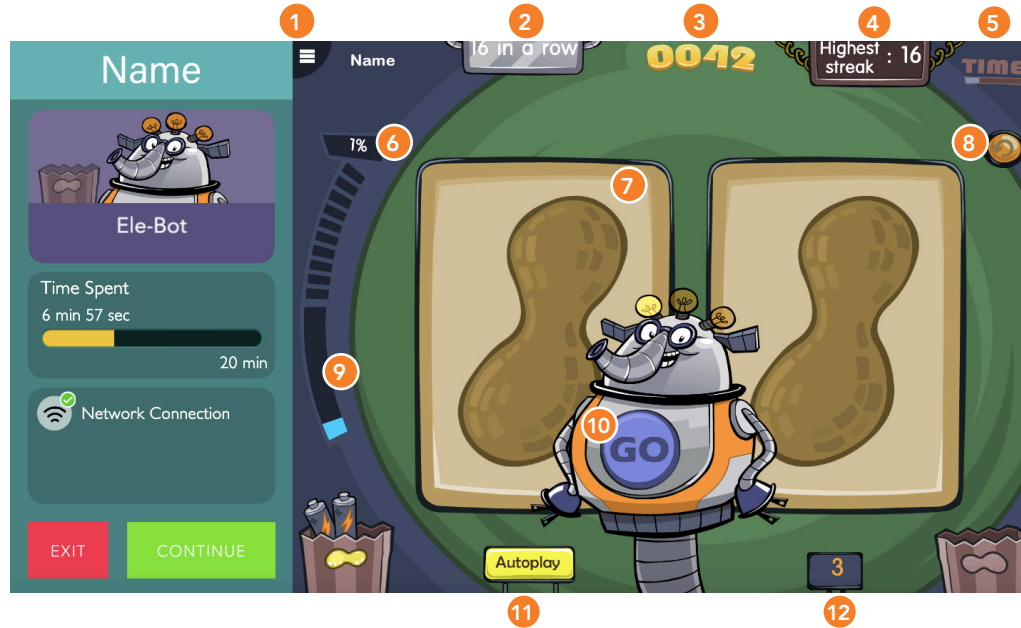
Exercise Screen

1 Menu
Shows:
- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments screen.
- Continue: Returns student to the exercise.

2 Current Streak
Shows the current number of consecutive correct answers in the session.

3 Points
Shows total points awarded across all of a day's sessions.
- Correct answers: 2 points for each correct answer.
- Bonus points: 10 points after 12 correct answers.
- Autoplay bonus: double the usual points if all answers in a set are completed correctly.

4 Highest Streak
Shows the highest number of consecutive correct answers in this session.

5 Time
Fills in from left to right to show the amount of time spent vs. the time scheduled for the exercise.

6 Progress Meter
Tracks and celebrates every 10% of exercise content completion. Shows actual percent complete for the exercise.

7 Answer Buttons
Respond to a question by clicking the picture that most accurately represents the statement or answers the question.

8 Replay
Repeats the question or sentence to be answered.

9 Feeder Meter
Tracks and celebrates every 1% of exercise content completion.

10 Go
Presents a question or series of Autoplay questions.

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

12 Autoplay Counter
When an Autoplay sequence is in progress, this counter shows how many questions remain in the sequence.

Task

The Ele-Bot exercise starts by presenting Ella, the electric robot.

1. Clicking the Go button activates the robot.
2. Two to four pictures are revealed on the screen.
3. A statement or question is heard.
4. Students click the image that best represents the statement or answers the question.
5. Corrective feedback is presented.
6. The set of images disappear, setting the stage for the next question.

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Content

In Ele-Bot students progress through five speech processing levels. Within each speech processing level, Ele-Bot presents content that covers a range of grammatical content and difficulty. Across the levels, grammatical content includes:

Language Structure	Example
Object Pronouns: Him & Her	Point to "him."
Description Words	Which is "heavy"?
Action Words	Which is "eat"?
Predicative Adjectives	The tub is full.
Comparative with More	Which one is more prickly?
Comparative with -er	Which one is bigger?
Quantifier: None	Look at these bowls with goldfish. Which bowl has none?
Quantifier: Some	Look at the boxes with carrots. Which box has some?
Singular Nouns	Choose the picture of the dog.
Plural Nouns	Choose the picture of the dogs.
Singular Nouns with Quantifier: A	Choose the picture of a dog.
Plural Nouns with Quantifier: Some	Choose the picture of some dogs.
Singular Auxiliary Verb: Is	The sheep is eating.
Plural Auxiliary Verb: Are	The sheep are eating.
Singular Verbs	The sheep eats.
Plural Verbs	The sheep eat.
Possession: Has	The cat has stripes.
Possession: Apostrophe-s	Which is the baby's bird?
Wh- Object Questions	What is the dog chasing?
Who vs. What	Who is by the door?
Simple Negation	The box is not open.

Language Structure	Example
Third Person Subject Pronouns	She is walking.
Active Voice	The cat is following the dog.
Passive Voice	The dog is being followed by the cat.
Passive Voice with Negation	The cat is not being followed by the dog.
Present Tense	The boy is opening the box.
Past Tense	The boy opened the box.
Future Tense	The boy will open the box.
Preposition: For	The box is being carried for the doctor.
Preposition: With	The box is being carried with the doctor.
Complex Negation	The dog that is not running is big.
Object Relative Clauses	The cat is chasing the dog that is big.
Object Relatives with Relativized Objects	The cat is following the dog that the mouse is leading.
Subject Relative Clauses	The dog that is black is following the cat.
Reduced Subject Relative Clauses	The teacher smiling is helping the girl.
Sentences with Subject Relative Clauses and Noun-Verb-Noun Endings	The dog that is following the cat is black.
Sentences with Reduced Subject Relative Clauses and Noun-Verb-Noun Endings	The girl helping the teacher is smiling.
Relative Pronouns with Double Function	The cat that the dog is following is black.
Sentences with Double Embedding	The dog that is following the cat that is black is white.
Cleft Sentences	It's the dog that the cat chases.

Progression

In Ele-Bot students progress through five speech processing levels. In the early levels, Ele-Bot presents questions and sentences in which the speech sounds have been digitally altered. As students progress through the exercise, the processing level decreases and eventually the questions and sentences are presented using natural speech.

Vocabulary Pre-Teaching
- For the first 10 days, Ele-Bot starts the first session of the day with a pre-teaching activity to help familiarize students with the vocabulary in the exercise.
- Each session presents 9-10 words.
- Each word is illustrated with 1-2 pictures, and the word is pronounced and sometimes used in a sentence.
- After a few moments, the pictures disappear. If the student wishes to review a word, they may click the replay button once. Otherwise, the student clicks the Go button to continue with the activity until all of the words for the day have been presented.

Standard Levels
The student proceeds with the standard exercise questions. The student does not work on all types of grammatical content in each processing level. Ele-Bot adapts to students' performance introducing new content and removing mastered content, ensuring that students move through the content at an appropriate pace, while focusing on the content that is challenging.

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.

Ele-Bot provides a variety of targeted practice activities when needed. The student can receive 1 or 2 of these interventions at a time, depending on the task and difficulty level with which the student is struggling. Each intervention takes a few seconds to 2-3 minutes to complete. The student's progression in the exercise stops temporarily while working through an intervention, then resumes when the student returns to the regular exercise content.

One type of intervention is Picture Exploration, where students are asked to click the part of the picture that correctly answers a specific question. Students are provided immediate feedback as to whether their answer is correct or incorrect followed by additional questions on the concept.

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Did you know?

Reading comprehension is a complex skill that requires students to recognize individual words, access their meanings, and interpret grammatical structures - simultaneously! Readers must also draw on their background knowledge, in order to understand the message that the print conveys. Cognitive skills such as working memory are essential for keeping track of and integrating these various strands of information. Skilled reading demands that students construct a coherent and integrated mental representation of the text based on these many skills.

The Ele-Bot exercise helps students become skilled readers by developing their understanding of the relationship between words, grammar, and meaning (language structures). It also helps increase the speed at which they identify and understand rapid, successive changes in sound (listening accuracy).

Students will see a variety of grammatical structures, but the following are some of the most common:

Subject-Verb Agreement: a singular subject takes a singular verb, e.g.,

> The child —— is smiling.

A plural subject takes a plural verb, e.g.,

> The children —— are smiling.

Passive-Voice - Negative: We use the passive voice when the subject is not important or when we do not know the subject. A sentence in the passive voice focuses on the action. To negate a sentence in passive voice, put 'not' after the helping verb, e.g.,

The window	was	not	broken	by	a rock.
subject	helping verb	negative	verb past participle	preposition	agent of the action

Subject and Object Relativization: in sentences with reduced subject relative clauses and noun-verb-noun endings, information related to the sentence topic is put into the middle of the sentence to give the reader more information and make clear distinctions, e.g.,

The girl	helping the teacher	is smiling.
reduced subject relative clause		predicate

Which girl is smiling? The girl who is helping the teacher.

The ending, "teacher is smiling," can make this type of sentence especially confusing. Students who don't recognize the role of the reduced subject relative clause may misinterpret this sentence as "the girl is helping and the teacher is smiling."

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.

"Why does everything sound so strange?"

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.

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

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Facilitate and Encourage

Introduce

Engage

When you're ready to introduce the exercise to your students, you can start by calling out how grammar impacts meaning. Say: Think of a time when you didn't hear something that someone said to you. What happened? Give an example, like: Have you ever played Simon Says? What happens if you don't hear or understand the instructions? Students can share what happens when they don't hear or understand directions or commands, with the idea being that they all come to the conclusion that you might miss something important if you aren't paying attention. Say: The same is true with this Ele-Bot exercise; you have to be careful to pay attention to every word in the sentence and the order of the words.

Students will encounter subject-verb agreement tasks in Ele-Bot, so it will be helpful to have students practice singular/plural subject-verb agreement rules. There's nothing like a good "Yes" question answered with a complete sentence to see if they understand subject-verb agreement.

For example, ask students: Does your friend like carrots? Do your friends like carrots? Write their responses on the board: "Yes, my friend likes carrots. Yes, my friends like carrots." Ask: Who is each sentence about? (my friend, my friends) Yes, 'my friend' and 'my friends' are the subjects of the sentences. Which is plural? Singular? What other word changes when you answer the questions and how does it change? (like > likes)

Encourage students to generate similar questions and repeat the activity. Continue the activity, but this time work with examples with other irregular subject-verb agreement examples, especially subjects that are the same in both their singular and plural forms, for example: *shrimp, salmon, squid, moose, deer, buffalo, aircraft, spacecraft*, and so on.

Demo

1. Say: Today, we're going to practice identifying the picture that best matches a sentence or answers a question. Together, we'll work on an exercise called Ele-Bot. I'll get us started, and then I'd like for you to try.
2. Project the Ele-Bot Introduction (English or Spanish) demo.
3. Describe the details you see in each picture.
4. Find the picture that best matches the statement or answers the question.
5. Explain why this is the best match, and how you ruled out other options.
6. Click the correct picture.
    *   Correct answer: a "ding" sound effect plays, the rollover light is replaced by a "golden glow" and points are awarded
    *   Incorrect answer: a "thunk" sound effect plays, the correct answer is highlighted, the incorrect answers are darkened
7. Keyboard Shortcuts:
    *   Go button = Space bar
    *   Possible answers (left to right - start in top row) = Number keys 1 - 4

Direct students to log in and work individually on the Ele-Bot 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.

Ele-Bot 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.
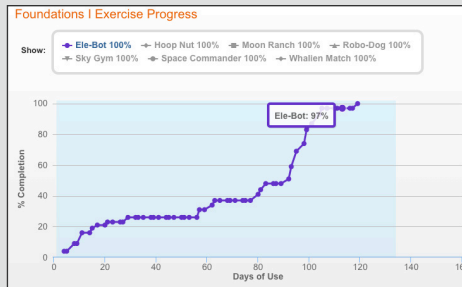
Facilitate and Encourage

Monitor Student Progress

Review Ele-Bot 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: Foundations I Exercise Progress - Ele-Bot

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

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

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. Remind them that making progress depends on accuracy, not speed.

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READING

Where to look...

PROGRESS: Progress Details - Ele-Bot Progress

Percent Correct

To make progress, students must get 80-90% correct on a question group. Levels include multiple question groups.

Questions

The number varies depending on level. If a level must be repeated, the student may only be required to repeat a subset of the language structures, in which case the number of questions will be reduced.

PROGRESS: Errors - Ele-Bot
Content the student is struggling with is highlighted in red.

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 language structures they are struggling with). It is important to note 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 percent correct above 80%?
The student is close to the criterion for progressing (80% or 90% correct, depending on the question group). Encourage them to avoid mistakes by slowing down, thinking about each question, and using the Replay button. Note that a student with a high percent correct on a level may have only passed some question groups and not others. In this case they must repeat the question groups not already passed.

Is percent correct well below 80%?
The student may be struggling with one or more language structures. Check Errors section of this report to determine where the student needs additional support.

When a level is repeated, does the number of questions decrease?
The student has mastered some language structures 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 language structures. If their percent correct increases, they are learning from their mistakes and may simply 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. Otherwise, check the Errors section of this report which can help you determine where the student needs additional support.

Are specific language structures highlighted in red?
Consider providing the student with instruction on the specific vocabulary and/or language structures with which they are struggling.

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

⬇ Foundations I 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 Ele-Bot 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 Ele-Bot.

✓ **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. Make sure the student clearly understands the task of the exercise. Ask: Can you tell me what this exercise wants you to do? If needed, explain how the exercise works. Say: The computer will ask you a question or make a statement. You must click on the picture that best answers the question or matches the sentence.

Listen along with a student while they work on the exercise. Say: Repeat the question or sentence back to me and explain why you would choose one picture over the others before you click on the picture. This will help you identify if the student is having trouble with listening comprehension, paying attention, and/or understanding the vocabulary or grammatical concepts presented.

✓ **Are there words in the sentence or question or answers that the student doesn't know?**

Engage the student in an offline activity, such as flashcards, that focus on the specific vocabulary they are struggling with.

✓ **Is the student using their memory skills?**

Ask the student to repeat the sentence or question back to you. If they are having difficulty remembering, encourage students to build more memory and focused attention by practicing with you in a game. For example, give your student a 3 letter word to spell out loud. Then ask them to spell it out loud but backwards. See if they can spell 4 or even 5 letter words backwards! If the student can't spell yet, you can 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.

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✓ **Is the student noticing the details in the pictures that provide clues to the correct answer?**

Discuss the importance of looking closely at each picture before choosing an answer. Remind the student that they can use the Replay button to listen to the question or sentence again before answering. Go into the Ele-Bot demo and ask the student to describe some of the pictures, giving plenty of detail.

If they need more support, say: It's important that we can notice little things about pictures. Ask questions relevant to the picture, such as: Who are the characters? What are the characters doing? What objects are shown? How could you describe the objects? Where is this picture happening? What is happening in this picture?

For further support, provide students with verbal sentence frames as needed: The character is _____. The object is _____. This picture is happening in/at/by/on _____. In this picture _____ is/are _____.

✓ **Can the student eliminate any alternatives?**

Listen to a sentence or question with the student. Can they identify at least one picture that does not fit the sentence or answer the question? This could help the student narrow down their choices, and it also has the benefit of making them think through their response instead of just answering impulsively.

✓ **Is the student struggling with a specific language structure?**

Look at the Errors section in the student's Progress Report to determine the specific language structure the student is struggling with, then provide an activity that focuses on the specific language/grammar concept.

✓ **Can the student identify unnecessary words in the question or sentence?**

Listen with the student and observe them as they complete an exercise question. Remind the student that before answering, they can listen to the question or sentence again by clicking the Replay button. Ask the student to identify any words that are unnecessary in a sentence they are working on, and then explain why to the student. Then have the student point to the picture that best matches the reduced sentence.

Here is an example: "The dog that is standing by the girl has spots." Explain how the clause *that is* provides more information about the noun *dog* it follows, but how it is unnecessary for understanding the sentence. Removing *that is* simplifies the sentence and makes it easier to understand.

Adjust Instruction/Intervene

Student Resources

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

Foundations I 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.

Foundations I Completion Chart in Student & Teacher Resources

Students can self-monitor their progress on each exercise in Foundations I by filling in the bar representing their actual completed percentage to provide them 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 per component.

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HOOP NUT
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

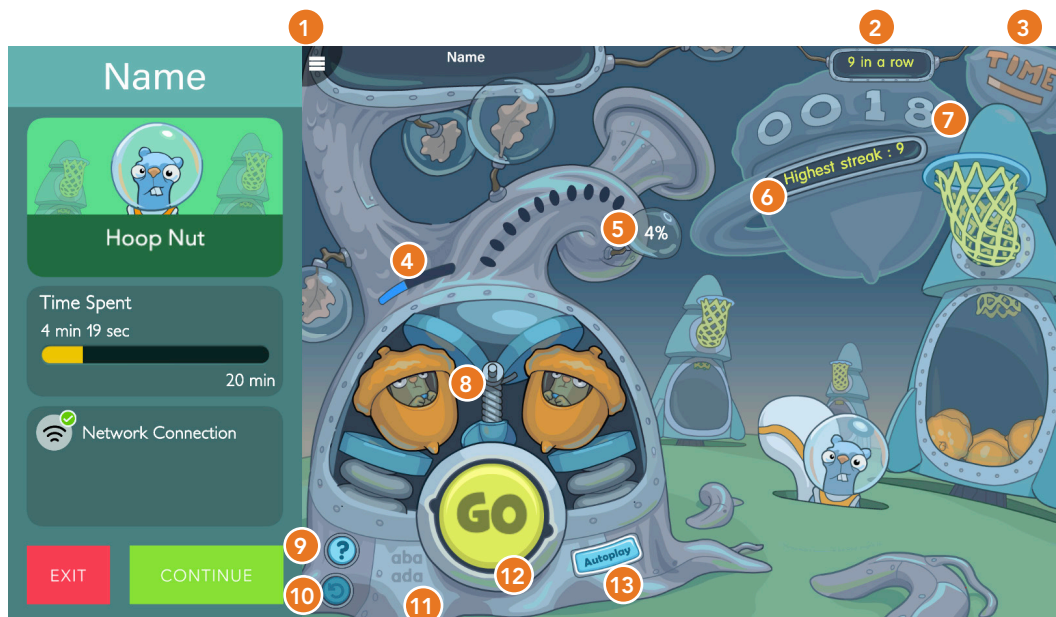| Audio	Download	English Learner	Quick Check	Settings	Video

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Exercise Screen

1 Menu
Shows:
- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments screen.
- Continue: Returns student to the exercise.

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

3 Time
Fills in from left to right to show the amount of time spent vs. the time scheduled for the exercise.

4 Feeder Meter
Tracks and celebrates every 1% of exercise content completion.

5 Progress Meter
Tracks and celebrates every 10% of exercise content completion. Shows actual percent complete for the exercise.

6 Highest Streak
Shows the highest number of consecutive correct answers in this session.

7 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 answered correctly.

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

9 Help
Allows the student to listen closely to sample questions and take practice attempts without affecting their progress.

10 Replay
Repeats the directions to be followed.

11 Phoneme Pair
Displays the phoneme pair the student is currently working on.

12 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.

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

Task

When the student clicks the Go button, Hoop Nut presents a target syllable, such as /ba/. Next, the acorn on the left moves and plays a syllable. Finally, the acorn on the right moves and plays a syllable. One of the acorns plays the target syllable and the other plays the alternate syllable for the current phoneme pair. The student must click the acorn that played the target syllable.

Content

In Hoop Nut, the student progresses 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 Hoop Nut 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.

Hoop Nut 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. Hoop Nut helps students to clearly perceive and represent these easily confusable consonant sounds.

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Progression

Hoop Nut 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. Hoop Nut 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 Hoop Nut, the student must pass all phoneme pairs at the highest stage.

Wacky Questions
To keep the student engaged and attentive, Hoop Nut 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.
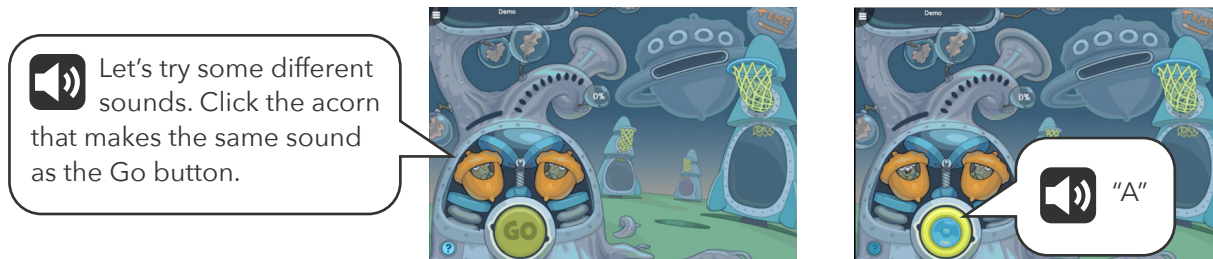
Targeted Practice

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.

Hoop Nut provides a variety of inline 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. 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 acorns.

> 🔊 Let's try some different sounds. Click the acorn that makes the same sound as the Go button.

> 🔊 "A"

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.

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.

> **"Why does everything sound so strange?"**

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.

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

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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 Hoop Nut. I'll get us started, then I'd like for you to try.
2. Project the "Introduction – English or Spanish demo" for Hoop Nut.
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 astro-nut animates
     - Incorrect answer: a "thunk" sound effect 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 Hoop Nut 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.

> Hoop Nut 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.
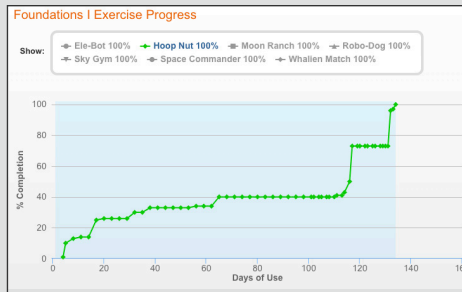
Monitor Student Progress

Review Hoop Nut 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...

What to look for... what it means

PROGRESS: Foundations I Exercise Progress - Hoop Nut

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

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

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

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 questions to minutes may indicate that the student is trying to amass points or progress through the content without actually learning it. Ask them to turn Autoplay off. Remind them that making progress depends on accuracy, not speed.

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Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Hoop Nut Progress

Hoop Nut Progress

✅ Complete, advancement criteria met

▮▮ In progress

▮▮▮ Not started

▼ Hoop Nut ? ✔

	Progress ?	Questions ?
Phoneme Pair /aba/ /ada/	✅	1504
Phoneme Pair /ba /da/	✅	395
Phoneme Pair /be/ /de/	✅	200
Phoneme Pair /bi /di/	✅	340
Phoneme Pair /va/ /fa/	✅	290

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?

Each phoneme pair includes a minimum of 48 questions.
- Most students should be able to complete a level in under 100 questions.
- 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, 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.

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

Foundations I 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 Hoop Nut 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 Hoop Nut.

✅ **Does the student understand the exercise goal/task?**

If necessary, demonstrate how the exercise works by using your hands to simulate the acorns 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/.

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.

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✅ **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 [Foundations I 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?**

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. Students can 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.

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.

Foundations I 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.

Foundations I Completion Chart in Student & Teacher Resources
Students can self-monitor their progress in each Foundations I 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.

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MOON RANCH

Teacher Manual

Goals/Objectives

English Language Arts Standard(s)	Phonological Awareness: students will demonstrate an understanding of spoken words, syllables, and speech sounds (phonemes)
Language/ Reading Skills	Students will be able to... • identify speech sounds in a quick and efficient manner (phonological fluency) • distinguish between syllables that differ by a single phoneme (phonological accuracy)
Cognitive Skills	Students will be able to… • rapidly process auditory details (auditory processing) • remember speech sounds and recognize when a sound pattern has changed (phonological memory)
Social-Emotional/ Executive Function Skills	Students will be able to... • focus attention on a lesson or an activity • refrain from making impulsive responses • manage excitement and frustration

Icon Key

Audio	Download	English Learner	Quick Check	Settings	Video

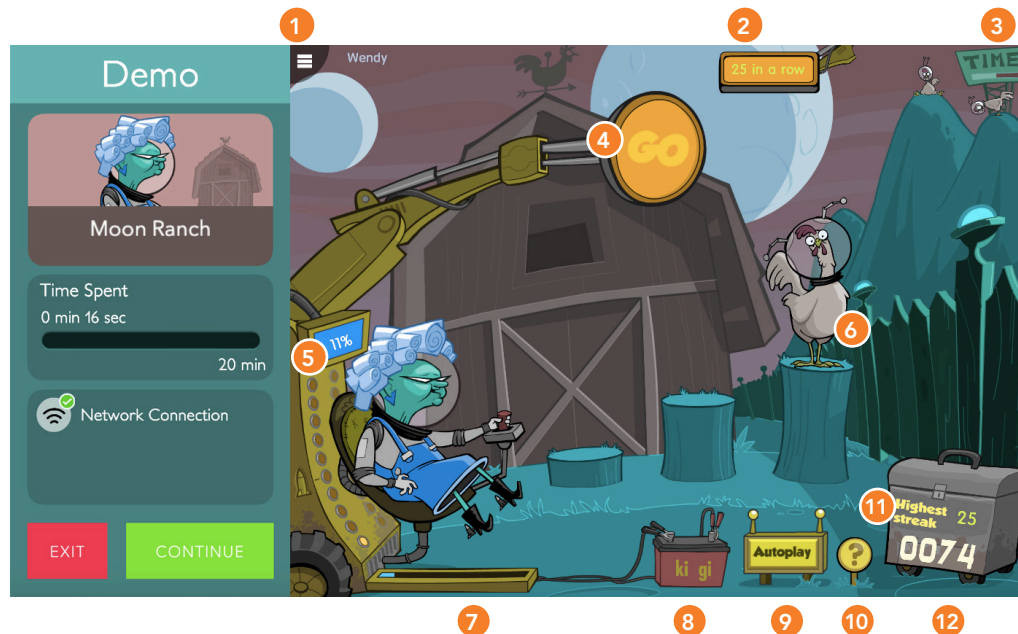FAST FORWORD®
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Exercise Overview

Exercise Screen

1 Menu
Shows:
- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments screen.
- Continue: Returns student to the exercise.

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

3 Time
Fills in from left to right to show the amount of time spent vs. the time scheduled for the exercise.

4 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.

5 Progress Meter
Tracks and celebrates every 10% of exercise content completion. Shows actual percent complete for the exercise.

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

7 Feeder Meter
Tracks and celebrates every 1% of exercise content completion.

8 Phoneme Pair
Displays the phoneme pair the student is currently working on.

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

10 Help
Allows the student to listen closely to sample questions and take practice attempts without affecting their progress.

11 Highest Streak
Shows the highest number of consecutive correct answers in this session.

12 Points
Shows total points awarded across all of a day's sessions.
- Correct answers: 2 points for each correct answer, and 4 points for a correct answer on a wacky question.
- Bonus points: 5 points after 3 streaks of correct answers.
- Autoplay bonus: 2 points for each correct answer, if all answers in an Autoplay sequence are correct.

Task

In Moon Ranch students answer each question as follows:

🔊 Click the Go button to start the question. The animal begins pulsing while a series of syllables plays. For example, "ki-ki-ki-ki-gi." Listen closely! As soon as the syllable changes, click the animal again.

For each question, the initial syllable is repeated from 3 to 8 times before the syllable changes. When the syllable changes, the student must respond quickly. This combination of patiently waiting then rapidly responding helps students learn to stay focused and refrain from acting impulsively.

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:

SOUND SETS	
Target Syllable	Alternate Syllable
/gi/	/ki/
/chu/	/shu/
/si/	/sti/
/ke/	/ge/
/to/	/do/
/ba/	/da/

Wacky Questions

To keep the student engaged and attentive, Moon Ranch occasionally presents "wacky" questions—easy-to-answer questions that provide a fun, unexpected break in the exercise. It includes the following wacky questions, with a sound randomly chosen as the target sound:

a/i (vowel sounds)

low/high tones

weep/woop (Sky Gym sounds)

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

Progression

Within each sound set, students progress through 18 stages. Across these stages the following changes occur:

- At first the syllables are modified so that they are easier to tell apart. This support is gradually reduced until the syllables resemble natural speech.
- The maximum repetitions of the alternate syllable increases from 6 to 8 after Stage 9.
- The syllable presentation becomes more rapid. Time between the syllables (inter-stimulus interval, or ISI) is reduced from 500ms to 300ms.
- The time allowed for a response is shortened.

Moon Ranch adapts to the students' performance within each sound set, moving them up and down between stages. Students also cycle between sets. A different set is presented at the beginning of each day, and/or when the student is struggling to progress. Each set is closed after its highest stage is passed.

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.

"Why does everything sound so strange?"

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.

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

Did you know?

Phonological fluency affects reading fluency. If students are unable to quickly and easily distinguish between all the sounds presented in a word, they may mispronounce or misremember words in a passage. Building phonological memory and fluency with Moon Ranch can help students strengthen reading skills by training them to hear all of the sounds in a syllable or word.

Phoneme: the smallest unit of sound in a word. Phonemes include all the distinct units of sound (consonants and vowels) used by the speakers of a language: /b/ /a/ /t/.

Syllable: a cluster of sounds that includes exactly one vowel: bat = 1 syllable.

Phonological memory: the ability to hold speech-based information in memory. We rely heavily on our phonological memory when reading and spelling. Students with poor phonological memory are unable to remember and then repeat nonsense words of increasing length and complexity. They tend to forget parts of a word or confuse the sounds and/or sequence of sounds in a word.

Phonological fluency: the ability to identify and manipulate speech sounds quickly and efficiently, such as, distinguishing between the syllables /ba/ and /da/.

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.

Moon Ranch provides a variety of in-product interventions, such as: explanations, easier questions, coaching, and focus mode. For example, the Practice Mode intervention allows students to review a sound set by actually practicing and getting feedback on their efforts, without earning points or affecting their progress. The student can return to the exercise after listening to each sound 2 times.

The sounds in Moon Ranch may be hard to tell apart. Can you hear the difference? Click each of the Go buttons at least two times, listen for the sound that is different, and click as soon as you hear it.

ki-ki-gi   ki-ki-ki-ki-gi   ki … gi

Exit

GO   GO   GO

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Introduce

Engage

To introduce the exercise to your students, you can start by explaining to students that they will be listening to two syllables that sound alike. Say: In this exercise you will be asked to choose between two syllables that sound alike, such as /ba/ and /da/. This seems like it should be very easy but these types of syllables can be difficult for our brains to tell apart, especially in some listening situations like in a noisy room, or when listening to someone who mumbles or who talks very quickly. If you don't hear these sounds clearly, you might misinterpret what someone is saying. For example, if you don't hear the difference between "my friend's bad" instead of "my friend's dad" you could be very confused about a situation.

Students will encounter easily confusable pairs of syllables in Moon Ranch, so it will be helpful to have students practice the sounds prior to working on the exercise. Explain how the exercise works. Say: You will hear a series of syllables, and you will click an image when you hear the syllable change. We are going to practice listening to these sounds before you work on this exercise.

SOUND SETS			
Target Syllable	Pronunciation	Alternate Syllable	Pronunciation
/gi/	(ghee)	/ki/	(key)
/chu/	(chew)	/shu/	(shoe)
/si/	(see)	/sti/	(stee)
/ke/	(cay)	/ge/	(gay)
/to/	(toe)	/do/	(doe)
/ba/	(bah)	/da/	(dah)

1. Ask students to close their eyes and listen to you say the two sounds /gi/ and /ki/.
2. Have them repeat the sounds with you. Talk about changes in the shape of their mouth and jaw when they say each of the two sounds.
3. Block your mouth with your hand or a piece of paper (so that the students can't guess an answer by reading your lips), or ask students to keep their eyes closed and listen carefully while you say /ki/. Ask the student to raise their hands when they hear the syllable change to /gi/.
4. Practice this same routine with the other sound sets.

Demo

1. Say: Today, we're going to practice listening for small changes in sounds. Together, we'll work on an exercise called Moon Ranch. I'll get us started, and then I'd like for you to try.
2. Project the Moon Ranch Introduction (English or Spanish) demo.
3. Follow along with the demo, which explains how the exercise works.
4. Click the bubble:
   - Correct answer: the bubble pops and disappears
   - Incorrect answer: if the bubble is clicked too early or too late, a "thunk" sound effect plays, and the bubble remains on the screen.
5. Keyboard Shortcuts:
   - Go button = Space bar
   - Answer = Down arrow

Direct students to log in and work individually on the Moon Ranch 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.

Moon Ranch 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.

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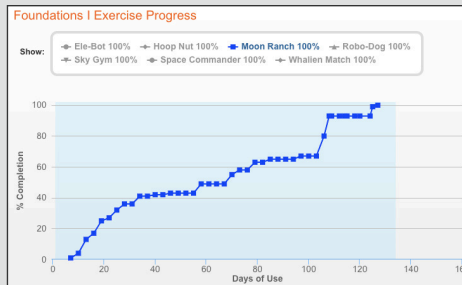
FAST FORWORD®
READING

Monitor Student Progress

Review Moon Ranch 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...

What to look for... what it means

PROGRESS: Foundations I Exercise Progress - Moon Ranch

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

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

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

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 - Moon Ranch Progress

Moon Ranch Progress

✅	Complete, advancement criteria met
�,	In progress
⫿	Not started

▽ Moon Ranch ? ✔

	Progress ?	Questions ?
Introductory Level	✅	97
Phoneme Pair /gi/ /ki/	✅	329
Phoneme Pair /chu/ /shu/	✅	303
Phoneme Pair /si/ /sti/	✅	367
Phoneme Pair /ge/ /ke/	✅	426
Phoneme Pair /do/ /to/	✅	541
Phoneme Pair /ba/ /da/	✅	464

Questions

Typical range for students making good progress:
- Introductory Level: 9-28
- Phoneme Pair /gi/ /ki/: 70 - 180
- Phoneme Pair /chu/ /shu/: 70 - 200
- Phoneme Pair /si/ /sti/: 50 - 120
- Phoneme Pair /ge/ /ke/: 50 - 150
- Phoneme Pair /do/ /to/: 50 - 150
- Phoneme Pair /ba/ /da/: 60 - 200

What to look for... what it means

Has the student taken too many questions without passing a level?
High performers can complete each level in fewer than 100 questions.

A student who is still working on a level after answering more than 200 questions may be struggling. Make sure the student remains focused and motivated. When a student reaches content that is difficult for them, their progress will slow and completing a level will require more questions. Monitor the student's progress graph and celebrate small advances.

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

⬇ Foundations I Progress Monitoring Chart in Student & Teacher Resources

FAST FORWORD®
A CARNEGIE LEARNING SOLUTION

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 Moon Ranch 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 in Moon Ranch.

✅ **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.

✅ **Does the student frequently "miss" the correct answer because they have difficulty with timing and rhythm?**

Unlike many of the other exercises, this one requires a fast response time—so timing is everything! Ask the student to tap their foot every time they hear the syllable repeated to help them improve their timing. You may also suggest the student close their eyes while they listen to help them focus. If the student has trouble using a mouse or iPad, consider switching to a keyboard to use the keyboard shortcuts.

✅ **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 backward 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. Students can use the Three-in-a-Row Worksheet.

Facilitate and Encourage

☑ **Does the student easily lose focus?**

Choose an object near the student to focus on and ask them if they can hold their eyes on the object for 3 seconds without looking away. Have the student prove that they can. Ask the student if they can hold their eyes on the same object for 5 seconds. If they can, have them focus for 7 seconds. Affirm the student's ability to concentrate for that amount of time. Then explain that one answer in Moon Ranch rarely takes more than 7 seconds of concentration. Finally, ask the student to turn off autoplay so they determine when their 7 seconds of concentration begins. When the student has the discipline to resume with autoplay, allow them to do so.

☑ **Is the student having difficulty discriminating between the two syllables?**

Practice a "live" version of the exercise with an individual student or a small group.

1. Ask the student to close their eyes and listen to you say the two sounds "ki" and "gi" (pronounced "key" and "ghee"). Have them repeat the sounds with you. Talk about changes in the shape of their mouth and jaw when they say each of the two sounds.

2. Next, ask the student to keep their eyes closed and listen carefully while you say "ki" (key). The second time you say "ki" have them raise their hand. The third time you say "ki" have them say the sound with you while raising their hand.

3. Now, introduce the "gi" (ghee) sound to the student. Ask them to listen carefully with their eyes closed. The second time you say "gi" have the student place their hand down toward the floor. The third time you say "gi" have them say the sound with you while placing their hand down toward the floor.

4. Finally, explain that you will now say a series of "ki" sounds and then sneak in a "gi" sound. Ask the student to keep their eyes closed and listen carefully. Have them raise their hand each time they hear the "ki" sound, and then lower their hand when they hear you sneak in the "gi" sound.

5. Practice with the other sound pairs, if necessary:
   - shu/chu – "shoe" and "chew"
   - sti/si – "stee" and "see"
   - ke/ge – "cay" and "gay"
   - to/do – "toe" and "doe"
   - da/ba – "dah" and "bah"

✅ **Does the student need help identifying the syllables?**

Show the student how to use Help mode within the exercise. Using Help will not affect the student's standing in the exercise.

1. Have the student click the Help button in the exercise to see 3 streams of syllables at the current set and stage.

2. When Help opens, have the student click the Go button to hear the corresponding syllable streams:

   - 2 repeated syllables + new syllable
   - 4 repeated syllables + new syllable
   - 3-6 repeated syllables + new syllable

✅ **Is the student unable to consistently get 3 correct answers in a row?**

Challenge the student to "Beat the Teacher." The goal of this activity is to achieve accuracy and get streaks of correct answers. 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.

On a sheet of paper, make two columns, then put your name on the top of one column and the student's name on the top of the other column. Or use the Beat the Teacher Worksheet.

Listen along with the student during the exercise.

When the student gets three in a row correct, record one point for the student. When the student makes an error, record a point for yourself.

At the end of the intervention, total the points for each column. Calculate the number of student points earned minus the number of teacher points earned. This number represents the total number of steps forward the student has progressed.

Have the student set a points goal to help them strive for even greater consistency and faster progress.

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

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

⬇ Beat the Teacher 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. If a student is unable to consistently get 3 correct answers in a row, use this chart to play "Beat the Teacher"—a fun way to motivate the student and provide extra practice while observing their skill level. This sheet is useful as an intervention. Students will need one copy at your discretion.

⬇ 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. Since streaks record the number of correct answers in a row, this chart is helpful for self-monitoring of 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.

⬇ Foundations I 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.

⬇ Foundations I Completion Chart in Student & Teacher Resources
Students can self-monitor their progress on each exercise in Foundations I by filling in the bar representing their actual completed percentage to provide them 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 per component.

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ROBO-DOG
Teacher Manual

Goals/Objectives

English Language Arts Standard(s)	Phonological Awareness: students will demonstrate understanding of spoken words, syllables, and sounds (phonemes) 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... • 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 & 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 rapidly presented, complex information

Icon Key

Audio	Download	English Learner	Quick Check	Settings	Video

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Exercise Screen

1 Menu
Shows:
- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments dashboard.
- Continue: Returns student to the exercise.

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

3 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.
- Bonus points:
  - 5 points for 3 streaks of correct answers.
  - 10 points for 15 streaks of correct answers.
  - 30 points for completing a speech processing level.
- Autoplay bonus: double the usual points if all answers in an autoplay set are answered correctly.

4 Highest Streak
Shows the highest number of consecutive correct answers in the session.

5 Time
Fills in from left to right to show the amount of time spent vs. the time scheduled for the exercise.

6 Help
Turns Help on or off; when on, it pronounces each vocabulary word and shows its corresponding picture before each question is presented.

7 Replay
Repeats the target word.

8 Progress Meter
Tracks and celebrates every 10% of exercise content completion. Shows actual percent complete for the exercise.

9 Answer Buttons
Show possible answers to a question.

10 Feeder Meter
Tracks and celebrates every 1% of exercise content completion.

11 Go
Presents a question or a series of Autoplay questions.

12 Autoplay Counter
Shows how many questions remain in an Autoplay sequence.

13 Autoplay
Turns Autoplay on or off; when on, each click of the Go button presents a series of three or more questions. Shows actual percent complete for the exercise.

Exercise Overview

Task

In Robo-Dog, students listen to a target word and view 2-4 pictures, then click the picture that best represents the target word they just heard.

Content

Students work on two separate types of content, phoneme discrimination and academic vocabulary.

Phoneme Discrimination: the exercise 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.

Academic Vocabulary: the exercise presents math and science academic vocabulary terms organized in domain specific groups: Number Sense, Earth Sciences, Arithmetic, Geometry and Life Sciences.

Note: As Robo-Dog introduces new content, it presents a teaching activity to help familiarize students with the words and pictures for the vocabulary. This can be particularly helpful to younger students, English language learners, and special education students.

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.

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.

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Progression

In Robo-Dog, students work on the content in two activities.

Phonemic Discrimination: students progress through 5 speech processing levels. As students move through levels 1 to 4, the degree of speech processing decreases, until finally the words are presented using natural speech. Four factors vary to make the task progressively more difficult within each speech processing level:

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

Speech Processing Level	Target Sound Positions	Difficulty Level of Possible Answers	Vocabulary Instruction	Sample Words
1	• Initial or Final • Initial • Final	Easy	On	base, face, bear, bell, safe, save, dip, sip
2	• Initial or Final • Initial • Final	Difficult	Off	chip, dip, sip, zip me, knee, bee, D bug, buck, bud, bus phone, foam, foal, four
3	• Initial or Final • Initial • Final	Difficult		
4	• Initial or Final • Initial • Final	Difficult		
Natural Speech	• Initial or Final	Difficult		

Academic Vocabulary: students are provided with the most support early on and increasingly less support as they progress through the content:

Speech Processing Level	Vocabulary Groups	Vocabulary Instruction	Sample Words
Natural Speech	• Number Sense and Earth Sciences • Arithmetic and Geography • Life Sciences	On	penny, nickel, dime, quarter fog, cloud, dew, rainfall feathers, skin, fur, scales
Natural Speech	• Number Sense and Earth Sciences • Arithmetic and Geography • Life Sciences	Off	
Natural Speech	Math and Science vocabulary from domain specific groups are intermixed		

Robo-Dog adapts to the student's performance at each level and provides targeted interventions with just-in-time assistance if the student is struggling.

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.

For example, Vocabulary Teaching is used when a question is answered incorrectly:

1. The same question is repeated, for example: "Piece"
2. One at a time, each possible answer is highlighted and named.
3. All 4 pictures disappear and then reappear in newly randomized places.
4. The student must answer the question.

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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.

"Why does everything sound so strange?"

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.

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

Introduce

Engage: Phonemic Discrimination

To introduce this part of 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: Phonemic Discrimination

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 Robo-Dog. I'll get us started, and then I'd like for you to try.

2. Project the "Introduction – English or Spanish demo" for Robo-Dog.

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.
     - Correct answer: a "ding" plays and a pair of nets pop out from the edge of the screen and drag the matching objects off screen
     - Incorrect answer: no sound plays and the objects remain on the screen

4. Demo the keyboard shortcuts:
   - Go button = Space bar
   - Possible answers (left to right, start in top row) = Number keys 1 - 4

Direct students to log in and work individually on this Robo-Dog 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.

Introduce

Engage: Academic Vocabulary

To introduce this part of 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 you being able 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 your own words.
- Create a picture, pictograph, or symbolic representation of the term.

Demo: Academic Vocabulary

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 Robo-Dog. I'll get us started, and then I'd like for you to try.

2. Project the "Late Levels > Academic Vocabulary, Natural Speech demo" for Robo-Dog.

3. Follow along with the demo.
   - 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 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, start in top row) = Number keys 1 - 4

Direct students to log in and work individually on this Robo-Dog 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.

Robo-Dog 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*.
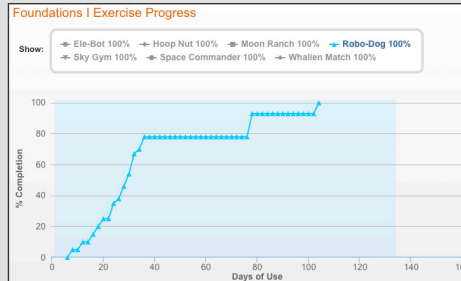
Facilitate and Encourage

Monitor Student Progress

Review Robo-Dog 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: Foundations I Exercise Progress - Robo-Dog

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

USAGE: Usage Details - Schedule

USAGE: Usage Details - Minutes/Questions

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.

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.

Are many days highlighted in red?
The student is not completing 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 questions to minutes may indicate the student is not applying themselves to the task.

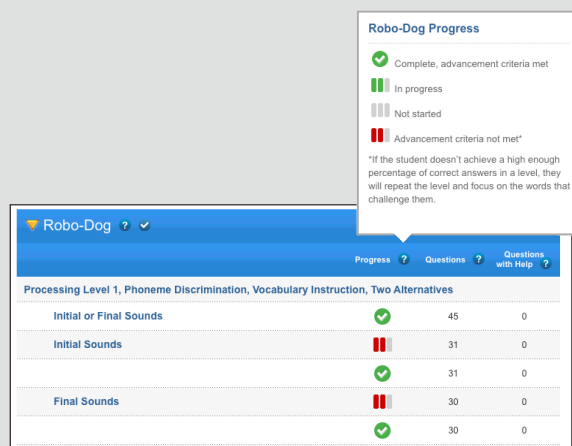**Is the student answering more questions than usual?**
They may be rushing. In comparison to their previous activity, a high number of questions to minutes may indicate that the student is trying to amass points or progress through the content without actually learning it. Ask them to turn Autoplay off. Remind them that making progress depends on accuracy, not speed.

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Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Robo-Dog Progress

Robo-Dog 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 level and focus on the words that challenge them.

🚩 Robo-Dog ? ✔

	Progress ?	Questions ?	Questions with Help ?
Processing Level 1, Phoneme Discrimination, Vocabulary Instruction, Two Alternatives			
Initial or Final Sounds	✅	45	0
Initial Sounds	▮▮	31	0
	✅	31	0
Final Sounds	▮▮	30	0
	✅	30	0

Questions: Phoneme Discrimination (minimum number varies by group)

Processing Level 1, Vocabulary Instruction
- Initial or Final Sounds: 45
- Initial Sounds: 31
- Final Sounds: 30

Processing Levels 2-4
- Initial or Final Sounds: 27
- Initial Sounds: 26
- Final Sounds: 41

Natural Speech
- Initial or Final Sounds: 94

Questions: Academic Vocabulary (minimum number varies by group)

Natural Speech, Vocabulary Instruction
- Number Sense and Earth Sciences: 15
- Arithmetic and Geometry: 10
- Life Sciences:10

Natural Speech
- Number Sense and Earth Sciences: 14
- Arithmetic and Geometry: 10
- Life Sciences: 10
- All Topics: 69

What to look for... what it means

Phoneme Discrimination: 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:
- Processing Level 1: Vocabulary Instruction is on; students are taught the vocabulary immediately before each question.
  - Encourage students to use Help to repeat the words if they are having difficulty differentiating between the phonemes.
- Processing Levels 2-4: Help is available, but students are encouraged to learn the vocabulary as soon as possible and will need to master it by the final level.
  - Incorrectly answered questions and questions answered with Help will be repeated at the end of the level, and will need to be answered correctly without Help to pass a level.
  - More than the minimum number of questions indicates that many questions are being incorrectly answered. If a student is missing a lot of questions, encourage them to use Help to learn the vocabulary and the differences between the phonemes.
- Natural Speech: Help is not available.
  - Incorrectly answered questions will be repeated at the end of the level but will not count towards progression.
  - More than the minimum number of questions indicates that many questions are being incorrectly answered and should be practiced.
  - 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 struggles at any level without the number of questions decreasing, they may need more support.
- Students who struggle to maintain a high level of accuracy for an extended period may do better by attacking the content in smaller chunks. Have the student turn off Autoplay, answer 10 questions with laser focus, and take a brief brain break before doing the next set of 10.

Academic Vocabulary: 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:
- Natural Speech, Academic Vocabulary, Vocabulary Instruction: Vocabulary Instruction is on; students are taught the vocabulary immediately before each question.
  - Make sure students understand the task and are listening closely.
- Natural Speech, Academic Vocabulary:
  - Number Sense and Earth Sciences, Arithmetic and Geometry, Life Sciences:
    - Help is available, but students are encouraged to learn the vocabulary as soon as possible, as it will need to be mastered to complete the final level.

Where to look...	What to look for... what it means

PROGRESS: Progress Details - Robo-Dog Progress (Continued)	▪ Incorrectly answered questions and questions answered with Help will be repeated at the end of the level and will need to be answered correctly without Help to pass the level.
	▪ More than the minimum number of questions indicates that questions are being incorrectly answered. If a student is missing a lot of questions, encourage them to use Help to learn the vocabulary.
	○ All Topics:
	  ▪ Help is not available.
	  ▪ Incorrectly answered questions will be repeated at the end of the level but will not count towards progression.
	  ▪ More than the minimum number of questions indicates that many questions are being incorrectly answered and the words should be practiced.
	  ▪ 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 struggles at any level without the number of questions decreasing, they may need more support.
	• Students who struggle to maintain a high level of accuracy for an extended period may do better by attacking the content in smaller chunks. Have the student turn off Autoplay, answer 10 questions with laser focus, and take a brief brain break before doing the next set of 10.

Where to look...	What to look for... what it means
PROGRESS: Errors - Robo-Dog Content the student is struggling with is indicated in red. 	**Phoneme Discrimination: Are specific sounds 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/, /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. **Academic Vocabulary: Are specific word groups highlighted in red?** Consider providing the students 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.

Foundations I Progress Monitoring Chart in Student & Teacher Resources

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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 Robo-Dog 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 Robo-Dog.

✅ **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. 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 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

✓ 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.

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Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

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

⬇ Foundations I 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.

⬇ Foundations I Completion Chart in Student & Teacher Resources

Students can self-monitor their progress in each Foundations I 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.

SKY GYM
Teacher Manual

English Language Arts Standard(s)	The listening accuracy and auditory sequencing skills addressed by this exercise precede those addressed by typical reading standards, but are essential for learners to: • recognize rapidly changing sounds, which is important for phoneme discrimination • recognize and remember the order of a series of sounds, which is critical for mapping sound sequences to letter sequences when decoding or spelling
Language/ Reading Skills	Students will be able to... • identify rapidly changing sounds (listening accuracy) • correctly recognize and remember the order of a series of sounds (auditory sequencing)
Cognitive Skills	Students will be able to… • hold a sound sequence in working memory while recalling visual symbol-sound associations from long-term memory (memory) • focus and sustain attention (attention) • process tonal sweeps (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 • manage ability to process rapid, complex information

Icon Key

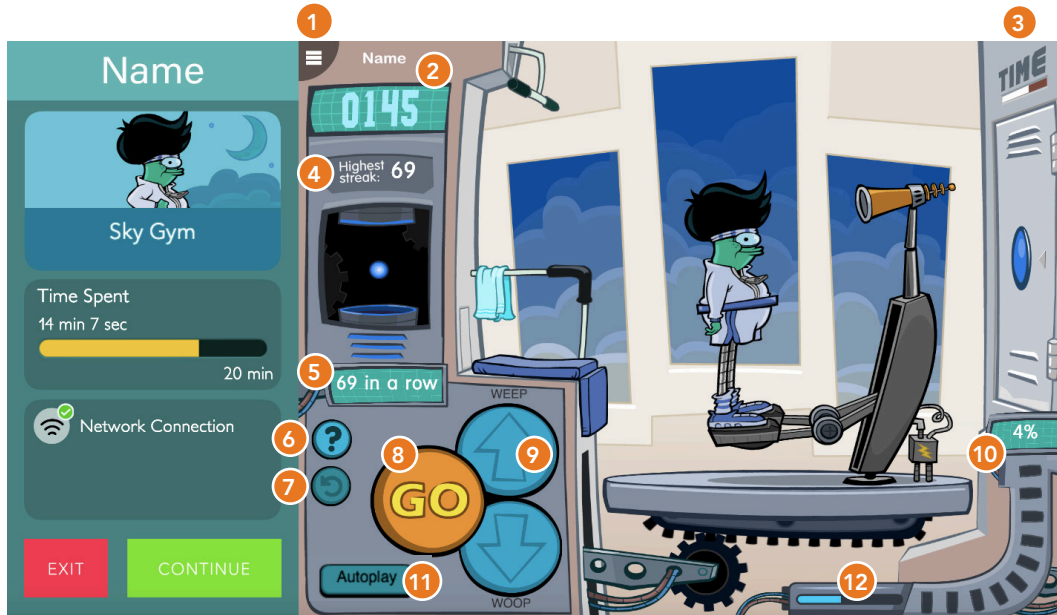| Audio	Download	English Learner	Quick Check	Settings	Video

Exercise Overview

Exercise Screen

1 Menu
Shows:
- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments dashboard.
- Continue: Returns student to the exercise.

2 Points
Shows total points awarded across all of a day's sessions.
- Correct answers: 1 point for each correct answer.
- Bonus points: 10 points for 6 streaks of correct answers.
- Autoplay bonus: double the usual points if all questions in a set are answered correctly.

3 Time
Fills in from left to right to show the amount of time spent vs. the time scheduled for the exercise.

4 Highest Streak
Shows the highest number of consecutive correct grids passed in this session.

5 Current Streak
Shows the number of consecutive correct answers since the last incorrect answer (or since the beginning of the session, if no answers have been incorrect).

6 Help
Allows students to listen closely to the current sound sweeps and take practice attempts without affecting their progress.

7 Replay
Repeats the sound or sequence of sounds.

8 Go
Starts 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.

9 Answer Buttons
Respond to a question by clicking the up and down arrows in the right order to match the sound or sequence of sounds presented in the target sequence.

10 Progress Meter
Tracks and celebrates every 10% of exercise content completion. Shows actual percent complete for the exercise.

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

12 Feeder Meter
Tracks and celebrates every 1% of exercise content completion.

Task

In Sky Gym, students listen to frequency-modulated sweep sounds that change their pitch, going from low to high (an up sweep or "Weep") or from high to low (a down sweep or "Woop"). Many speech sounds (phonemes) include sweeps. For example, to distinguish /b/ from /d/, one must be able to distinguish and recognize the sweep components of those speech sounds.

Sky Gym begins with single sweeps, then progresses to paired sweeps. Students must click the Go button to hear a sweep or a pair of sweeps. If they hear a single sweep, they must click the up or down arrow to match that sound. If they hear a pair of sweeps, they must click the up and down arrows in the correct order to match the pattern of sounds.

Content

As students progress in Sky Gym, the exercise presents paired sweeps that change in frequency, duration, and inter-stimulus interval (ISI–the silence between the paired sweeps).

Frequency: Each frequency sweep starts at a base frequency, measured in Hertz (Hz) or cycles per second. The exercise rotates through three base frequencies, to promote generalization to natural human speech.

- Low (500 Hz)
- Middle (1000 Hz)
- High (2000 Hz)

Duration: Each frequency sweep also varies in length or duration, measured in milliseconds (ms). As students progress, they move from longer to shorter sweeps, which increases the difficulty of the task. Changes to the sweep duration push the brain to process very rapid transitions, such as those found in natural speech.

- 80 ms
- 60 ms
- 40 ms
- 35 ms
- 30 ms

Inter-stimulus Interval (ISI): When a pair of frequency sweeps is presented, there may be a silent pause or gap between the two. This gap is also known as the inter-stimulus interval, or ISI, and it is measured in milliseconds (ms). As students progress, the gap gets shorter (dropping from 500ms to 0ms–no gap at all). This increases the difficulty of the task. Changes to the ISI push the brain to process sounds separately, even when they occur very close together.

Progression

The task changes and gets more difficult in several ways:

- At first, students start by working through introductory levels that provide instructions, modeling, and supports (audio feedback and/or visual cues) to introduce the frequency sweeps and the tasks. As students progress through the introductory levels, the supports are gradually removed.

- In the standard levels, within each base frequency, students advance through 5 sets with progressively shorter durations. Within each set, students advance through 45 stages with progressively shorter ISIs. This progression challenges students to improve their rate of auditory processing.

- Sky Gym adapts to students' performance. If students are doing well, they may skip some stages; if they are struggling, they may need to work on more of the stages. If a student gets stuck for an extended period, they may be shifted to work on a different frequency or provided with targeted practice.

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.

Sky Gym provides a variety of in-product interventions, such as coaching, modeling, extended sweeps, alternative instructions and tasks, and modified progressions.

One type of intervention, Paired Sweep Alternate Stimuli, introduces the mechanics of the task and sound/button mappings using familiar, distinguishable animal sounds and words before progressing to frequency sweeps. correct or incorrect.

Let's try something new. See the chicken? The up button is now the chicken button. Click the chicken button. See the cow? The down button is now the cow button. Click the cow button. Nice job! Click Go to hear a sound. Click the chicken or cow button to make the same sound.

Now, Go will make two sounds. Here's what you do. Listen carefully. What was the order? Click the buttons in the same order. First, let's practice. I will talk you through. Click Go. We heard two "clucks." Click the chicken button two times. We heard a cluck, then a moo. So, click the chicken button, then the cow button. Remember. Hear two sounds? Make two clicks.

Students are provided immediate feedback as to whether their answer is correct or incorrect.

Students' progression in the exercise stops temporarily while working through an intervention, then resumes when they return to the regular exercise content.

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Did you know?

In Sky Gym, students identify and sequence frequency sweeps—sounds that change in pitch from low to high ("Weeps") or high to low ("Woops"). What does this have to do with being a good listener and reader? The frequencies and durations of the frequency sweeps resemble some of the rapid transitions in the sounds of the English language.

To understand speech it is important to be able to quickly tell frequency sweeps apart. Although we are unaware of such frequency sweeps when we hear someone talk, many of the common speech sounds, such as /b/, /d/, /g/, /p/,and /t/, have a frequency sweep component. Our brains have to be able to identify these frequency sweeps in order to understand what someone is saying. For example, one sweep is all that differentiates /p/ from /b/–and that makes the difference between hearing "pat" and "bat."

A frequency sweep that passes by in a fraction of a second can be critical to correctly identifying a speech sound, recognizing a word, and understanding a sentence. It can be especially difficult to hear these sounds when the language is unfamiliar, the speaker is unclear, or when listening in a noisy environment. Robust and rapid auditory processing is critical for students who are learning through spoken language. It is also critical for building the speech sound representations that are the basis of early reading skills like phonological awareness and phonics. Sky Gym improves students' ability to recognize frequency sweeps quickly and accurately.

Facilitate and Encourage

Introduce

Engage

To introduce the exercise to your students, you can start by explaining to students that they will be listening to frequency-modulated sweep sounds. Say: Have you ever had a song you know so well that you can recognize it after just a few notes have been played? 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 tunes your auditory system to quickly distinguish one of the important components of many speech sounds: frequency sweeps. The sounds presented are actually sound sweeps that cover the frequencies in human speech. The object is to listen carefully and determine whether the sound sweeps you hear are up or down sweeps. We will listen together and share strategies you might use to tell the difference.

Demo

1. Say: Today, we're going to practice matching the sound or sequence of sounds presented to you. Together, we'll work on an exercise called Sky Gym. I'll get us started, and then I'd like for you to try.
2. Project the Sky Gym Introduction (English or Spanish) demo.
3. Follow along with the demo, which explains how the exercise works.
4. Click the correct arrows:
    *   Correct answer: a "ding" plays and points are awarded
    *   Incorrect answer: a "thunk" sound effect plays
5. Encourage choral response or hand-raising. Ask those who can hear the difference to share their strategies (i.e. closing their eyes, humming to themselves, assigning an environmental sound to the sweeps for a memory association). Have students encourage each other by seeing who can get the most correct answers in a row.
6. Keyboard shortcuts:
    *   Go button = Space bar
    *   "Weep" answer = Up arrow
    *   "Woop" answer = Down arrow

Direct students to log in and work individually on the Sky Gym 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.

Sky Gym 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.
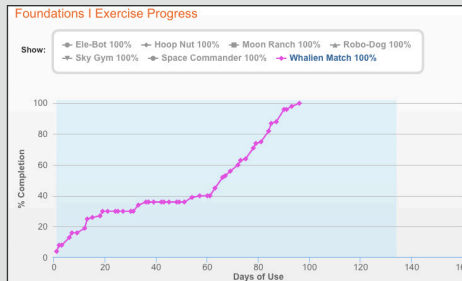
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Monitor Student Progress

Review Sky Gym 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...	What to look for... what it means

PROGRESS: Foundations I Exercise Progress - Sky Gym

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

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

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

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.
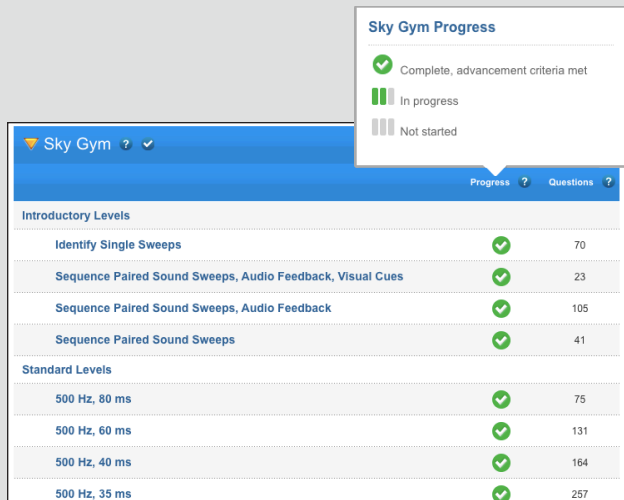
Is the student answering more questions than usual?
They may be rushing. In comparison to their previous activity, a high number of questions to minutes may indicate that the student is trying to amass points or progress through the content without actually learning it. Ask them to turn Autoplay off. Remind them that making progress depends on accuracy, not speed.

Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Sky Gym Completion Status

Sky Gym Progress

✅ Complete, advancement criteria met

▮▮ In progress

▯▯▯ Not started

▼ Sky Gym	Progress	Questions
Introductory Levels		
Identify Single Sweeps	✅	70
Sequence Paired Sound Sweeps, Audio Feedback, Visual Cues	✅	23
Sequence Paired Sound Sweeps, Audio Feedback	✅	105
Sequence Paired Sound Sweeps	✅	41
Standard Levels		
500 Hz, 80 ms	✅	75
500 Hz, 60 ms	✅	131
500 Hz, 40 ms	✅	164
500 Hz, 35 ms	✅	257

Questions

The number of questions needed varies by level:

Introductory Levels
Minimum questions:
- Identify Single Sound Sweeps: 27
- Sequence Paired Sound Sweeps, Audio Feedback, Visual Cues: 9
- Sequence Paired Sound Sweeps, Audio Feedback: 63
- Sequence Paired Sound Sweeps: 27

Standard Levels
Minimum questions: 69
- As students progress to more difficult levels (shorter sweeps), the number of questions required to complete a level generally increases.

What to look for... what it means

Has the student used too many clicks without passing a level?

Students who need more than 3 to 4 times the minimum questions to pass the introductory levels or more than 200 questions to pass a standard level with 80 ms sound sweeps may be struggling to understand the task, or they may be having auditory processing and/or memory difficulties.

As students progress to shorter sound sweeps, they typically need 200 or more questions to complete a level. Make sure students remain motivated and are applying themselves. When students reach content that is especially difficult for them, progress will slow more questions will be needed to complete a level. Monitor the student's Progress graph and celebrate small advances.

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

⬇ Foundations I Progress Monitoring Chart in Student & Teacher Resources

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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 Sky Gym 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 Sky Gym.

✔ **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. Make sure the student clearly understands the task of the exercise. Ask: Can you tell me what this exercise wants you to do? If needed, explain how the exercise works. Say: The computer will play a sound. If you hear a single sweep, you must click the up or down arrow to match the sound. If you hear a pair of sweeps, you must click the up and down arrows in the right order to match the pattern the computer played.

✔ **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 backward 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 to help the student visualize their progress and become more focused on accuracy and consistency.

✔ **Does the student need help identifying the sound sweeps?**

Show the student how to use Help mode within the exercise. Have the student click the Help button to see all four possible sequences of sound sweeps at the current frequency (Hz), duration (length of each sound sweep), and ISI (time between sound sweeps). When Help opens, have the student click a Go button to hear the corresponding sequence of sound sweeps. Using Help does not affect the student's standing in the exercise.

Facilitate and Encourage

✅ **Can the student distinguish between the four patterns of the paired sound sweeps (up/up, down/down, down/up, up/down)?**

Practice with the student focusing on sweep sequence identification. This can best be done by having the student use the Early Level Sky Gym demos. Have the student close their eyes while you control the exercise and they focus on listening to each sound sweep sequence. Randomly select different sequences until the student can demonstrate a high rate of accuracy, then allow the student to work in the demo. If the student's accuracy dips, repeat these steps before allowing them to work independently.

✅ **Is the student struggling to hear the difference between the current sound sweeps?**

Sit with the student while they work on the exercise. Ask the student what they hear. If they can't verbalize the sounds correctly, have them find a word that they can equate with the low tone and the high tone (a popular option is "Me" and "Joe"). Once students have created their own vocabulary word for each tone, direct the student to listen for them as they play along with the computer.

✅ **Does the student have basic sequencing skills?**

Start by using pairs of words, such as "orange-apple" and "big-little." Say the word pair and have the student repeat it back to you in the same order. Vary the order of the words in the pair: orange-apple, apple-orange, apple-apple, orange-orange. Then switch to "Weep-Woop" as the word pair. Randomly say one of the four possible variations, and have the student repeat that sequence aloud. Next, using a small sheet of paper, draw an arrow pointing up and an arrow pointing down right below it. Again, say the "Weep-Woop" variations and have the student point at the appropriate arrow sequence.

Facilitate and Encourage

☑ **Does the student struggle in later levels, as the sweeps get shorter with less time in between them?**

An extended flat line on a student's progress graph is evidence that they may not be able to handle the increased processing load. Encourage them by reminding them that they have made excellent progress and that many students hit a plateau just like this in Sky Gym. Remind the student of the best practices for making progress in this exercise: focus, listen intently, and identify the sequence before clicking the answer. If Autoplay is on, have the student turn it off so that they can choose when to start each question. This can help prevent students from getting incorrect answers, feeling discouragement, and giving in to frustration. Encourage the student to use the Replay button to get their ears used to the shorter and closer together sweep sequences.

☑ **Is the student unable to consistently get 3 correct answers in a row?**

Challenge the student to "Beat the Teacher." The goal of this activity is to achieve accuracy and get streaks of correct answers. 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.

1. On a sheet of paper, make two columns, then put your name on the top of one column and the student's name on the top of the other column. Or use the Beat the Teacher Worksheet.

2. Listen along with the student during the exercise.

3. When the student gets three in a row correct, record one point for the student. When the student makes an error, record a point for yourself.

4. At the end of the intervention, total the points for each column. Calculate the number of student points earned minus the number of teacher points earned. This number represents the total number of steps forward the student has progressed.

5. Have the student set a points goal to help them strive for even greater consistency and faster progress.

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

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

⬇ Beat the Teacher 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. If a student is unable to consistently get 3 correct answers in a row, use this chart to play "Beat the Teacher"—a fun way to motivate the student and provide extra practice while observing their skill level. This sheet is useful as an intervention. Students will need one copy at your discretion.

⬇ 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. Since streaks record the number of correct answers in a row, this chart is helpful for self- monitoring of 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.

⬇ Foundations I Streaks & Completion Chart in Student & Teacher Resources

Explain to students that accuracy is the key to moving through the content in *Fast ForWord.* Since streaks record the number of correct answers in a row, this chart is helpful for self-monitoring of 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 chart every 5 days.

⬇ Foundations I Completion Chart in Student & Teacher Resources

Students can self-monitor their progress in each Foundations I 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.

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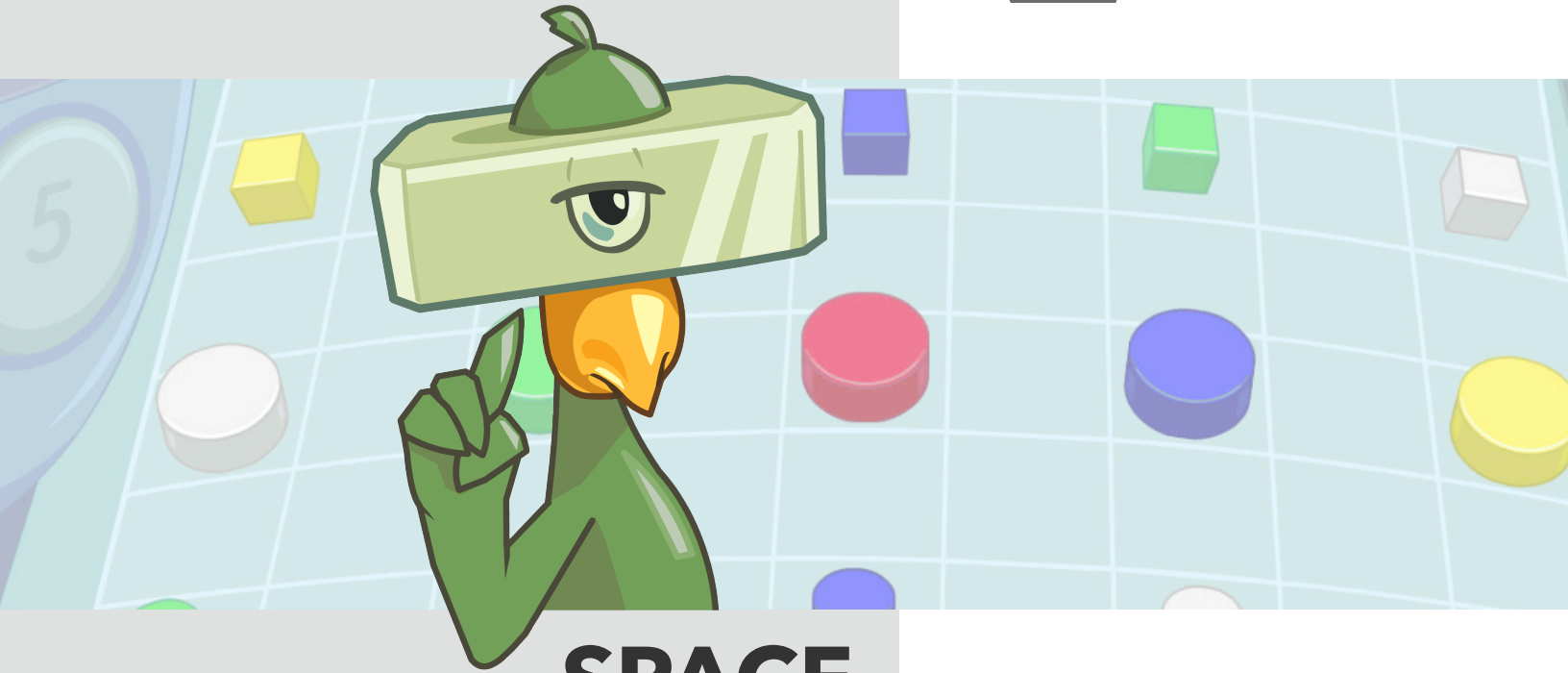
SPACE
COMMANDER
Teacher Manual

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, to sustain that focus, and to 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 ability to process rapid, complex information presented orally

Icon Key

Audio	Download	English Learner	Quick Check	Settings	Video

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Exercise Screen

1 Menu
Shows:
- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments screen.
- Continue: Returns student to the exercise.

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

3 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 answered correctly.

4 Time
Fills in from left to right to show the amount of time spent vs. the time scheduled for the exercise.

5 Highest Streak
Shows the highest number of consecutive correct answers in this session.

6 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.

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

8 Progress Meter
Tracks and celebrates every 10% of exercise content completion. Shows actual percent complete for the exercise.

9 Replay
Repeats the directions to be followed.

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

11 Feeder Meter
Tracks and celebrates every 1% of exercise content completion.

Task

In Space Commander 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 (size, 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.

Progression

In Space Commander 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.)

Space Commander 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.

> "Why does everything sound so strange?"

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.

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.
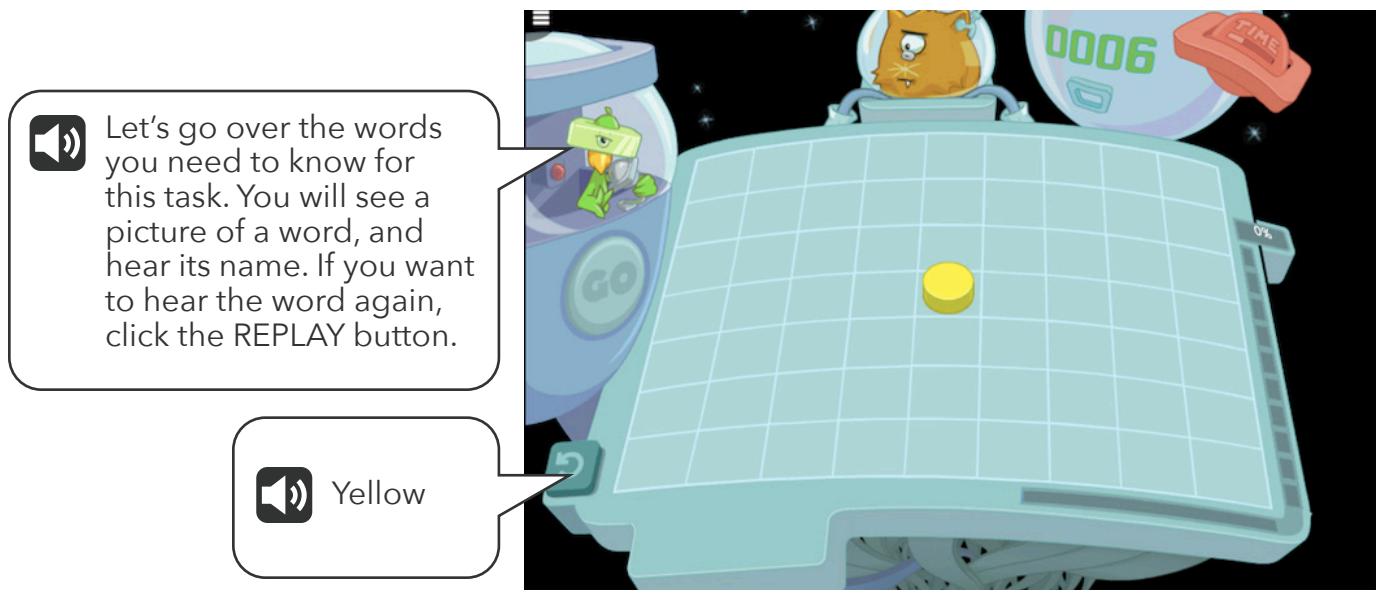
▶ Why Does Everything Sound So Strange? (Student) in Student & Teacher Resources

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

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.

🔊 Let's go over the words you need to know for this task. You will see a picture of a word, and hear its name. If you want to hear the word again, click the REPLAY button.

🔊 Yellow

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 Space Commander. I'll get us started, and then I'd like for you to try.
2. Project the "Introduction – English or Spanish demo" for Space Commander.
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 Space Commander 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.

Space Commander 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.
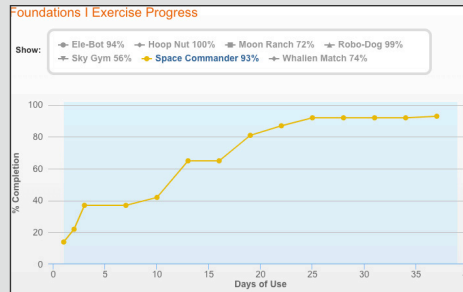
Monitor Student Progress

Review Space Commander 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: Foundations I Exercise Progress - Space Commander

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

USAGE: Usage Details - Schedule

USAGE: Usage Details - Minutes/Questions

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.

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.

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.

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READING

Where to look...

PROGRESS: Progress Details - Space Commander Progress

Space Commander 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 level and focus on the type of directions 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.

▼ Space Commander ❓ ✔

	Progress ❓	Correct ❓	Questions ❓
Processing Level 1	✅	100%	20
Processing Level 2	✅	98%	40
Processing Level 3	▮▮	80%	40
	✅	85%	20
Processing Level 4	✅	100%	20
Natural Speech	✅	97%	60

Correct

To make progress, students must achieve 80-90% correct on each level.

Questions

The number of questions 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 (80% or 90% correct, depending on the question group). Encourage them to avoid mistakes by slowing down, thinking about each question, and using the Replay button. Note that a student with a high percent correct on a level may only have passed some question groups, and not others. In this case, they must repeat the level, but will only work on those question groups not already passed.

Is the percent correct well below 80%?

The student may be struggling with either vocabulary or memory load. Check the Errors section of this report to determine where the student needs additional support.

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

As students pass more question groups, the number of questions for that level decreases. A decrease indicates the student is demonstrating increasing mastery of the skills presented in that level.

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 - Space Commander

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

▼ Space Commander

	Errors	Errors / Questions
High memory load (2 objects with 2 properties)	30%	3 / 10
Example: *Touch the blue triangle, and the orange square.*		
Highest memory load (2 objects with 3 properties)	38%	10 / 26
Example: *Touch the little blue triangle, and the big orange square.*		
Inclusion/Exclusion: All except	25%	1 / 4

Are specific command types highlighted in red?

Provide the student with instruction on the specific vocabulary and/or complex commands with which they are struggling.

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

⬇ Foundations I Progress Monitoring Chart in Student & Teacher Resources

Adjust Instruction/Intervene

Differentiation Activities

Differentiating instruction requires continually striving to know and to respond to each student's needs in order to maximize learning. Use the data in Space Commander 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. Encourage students to build their memory and focused attention by practicing it offline with you in a game:

- 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.

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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 may 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:

1. Turn off the Autoplay option.
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:

Foundations I Streaks & Completion Chart in <u>Student & Teacher Resources</u>

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.

Foundations I Completion Chart in <u>Student & Teacher Resources</u>

Students can self-monitor their progress in each Foundations I 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.

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WHALIEN MATCH
Teacher Manual

Goals/Objectives

English Language Arts Standard(s)	Phonological Awareness: students will be able to demonstrate understanding of spoken words, syllables, and sounds (phonemes)
Language/ Reading Skills	Students will be able to... • discriminate between sounds and to correctly identify sounds and sound sequences (listening accuracy) • understand and recall the order of sounds and 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)
Cognitive Skills	Students will be able to... • hold a sound sequence in working memory while recalling visual symbol-sound associations from long-term memory (memory) • focus and sustain attention (attention) • process tonal sweeps (processing)
Social-Emotional/ Executive Function Skills	Students will be able to... • selectively focus and sustain attention on a lesson or an activity • enhance student agency through retention strategy building • increase confidence in memory capacity training • regulate emotional responses (e.g. excitement or frustration)

Icon Key

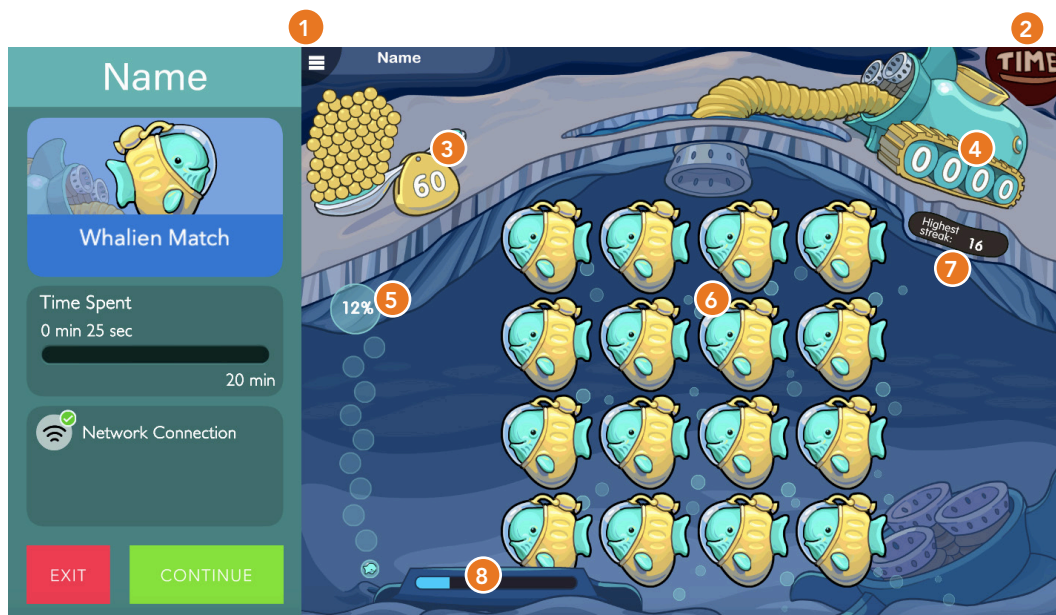| 🔊	⬇	🌐EL	✓	⚙	▶
Audio	Download	English Learner	Quick Check	Settings	Video

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Exercise Screen

1 Menu
Shows:
- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments dashboard.
- Continue: Returns student to the exercise.

2 Time
Fills in from left to right to show the amount of time spent vs. the time scheduled for the exercise.

3 Click Counter
Shows the number of clicks allowed to find and confirm all of the matches. Any remaining clicks are awarded as bonus points.

4 Points
Shows total points awarded across all of a day's sessions.
- Bonus points:
  - Remaining "clicks" awarded for each screen cleared in fewer than the maximum number of clicks.
  - 10 points for each large screen cleared after the periscope creature has reached the ship (starting after 50% completion).
  - 30 points for each speech processing level completed.

5 Progress Meter
Tracks and celebrates every 10% of exercise content completion. Shows actual percent complete for the exercise.

6 Answer Buttons
Plays the sound of a syllable/word; if clicking another object plays the same syllable/word, clicking the first object again to confirm the match will clear the objects from the screen.

7 Highest Streak
Shows the highest number of consecutive correct screens passed in this session.

8 Feeder Meter
Tracks and celebrates every 1% of exercise content completion.

Task

Whalien Match presents a pod of shipwrecked aliens (or Whaliens) with 4, 8, or 16 identical objects organized on the screen in a grid pattern. Students use their listening and memory skills as they click objects, listen to each object's syllable/word, and then match them together to clear the screen using the fewest number of clicks and within the maximum number of clicks allowed.

1. Click an object to hear the syllable/word associated with that object.

2. Click another object to try to find the object with the matching syllable/word. If it plays the same syllable/word as the first object, you have found a match.

3. Click the first object again to confirm the match. If it is a match, the objects are removed. If it is not a match, the objects remain on the screen.

First, click a Whalien and listen to the sound. Then click another Whalien and listen to the sound. When you find a match, click again on the object that first played the sound you heard.

Look at the counter. Each time you click an object, the number goes down by one. To advance in Whalien Match, you must make all of the matches before the counter goes down to zero.

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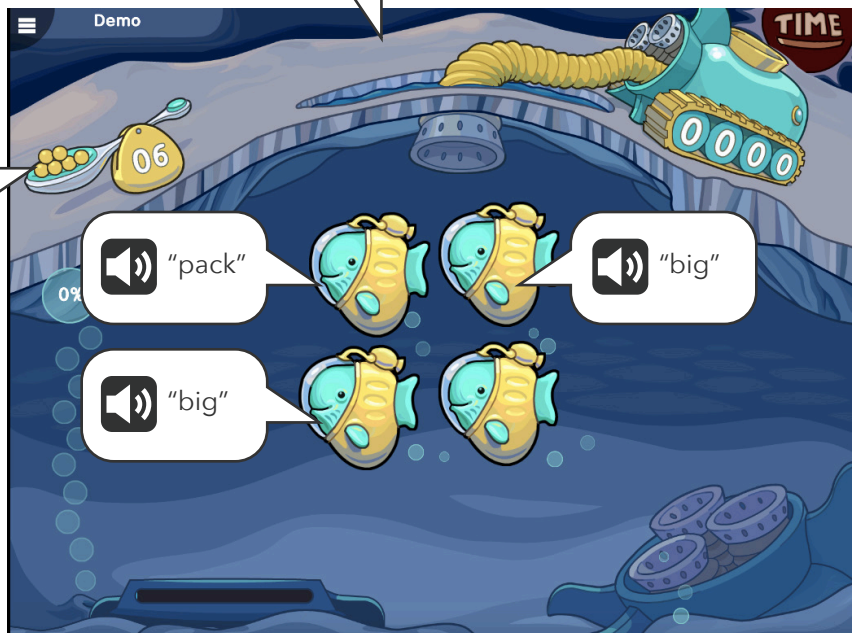
Content

Progression

As students work through the exercise, it changes in a few ways:

- it begins with speech sounds that have been digitally altered; as students progress through the exercise it decreases the processing level, and eventually presents the the syllables/words using natural speech

- the syllables/words to match become more similar

- the screen pattern increases in size: 4, 8, and 16 objects

Introductory Set CVC Words
pack
big
tug
dip
gap
pit
cut
tick

Introductory Level

Students begin by working through an introductory level that provides instructions, modeling, and supports (audio feedback and/or visual cues). It uses speech processing level 1, with a subset of highly differentiated words from the standard levels, and all three screen patterns. This level helps students learn the task and determine an effective strategy for making matches.

Standard Levels

Syllables/words differ only by initial and/or final consonants. All four sets or syllables/words are repeated in all 5 speech processing levels and in increasingly larger screen sizes.

Set 1 CVC Words	Set 2 CVC Words	Set 3 CVC Words	Set 4 CV Syllables
big	buck	back	ba
bit	bud	bag	cha
dig	but	bat	da
dip	cup	cab	ga
kick	cut	cap	ka
kid	duck	cat	la
kit	dug	gap	pa
pick	pub	pack	ra
pig	pup	pat	sa
pit	tub	tack	sha
tick	tuck	tag	ta
tip	tug	tap	za

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.

Whalien Match provides a variety of targeted interventions, such as: coaching, strategy walk-throughs and modeling, and motivational comments. The student's progression in the exercise stops temporarily while working through an intervention, then resumes when the student returns to the regular exercise content.

One type of intervention, Alternate Stimuli, allows students to learn how to complete the task and discover strategies for clearing the screens using number names instead of syllables/words. It should be easier for students to distinguish between familiar number names and remember them. Students are provided immediate feedback as to whether their answer is correct or incorrect.

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.

> ## "Why does everything sound so strange?"

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.

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

Did you know?

In Whalien Match students match objects representing different, but similar sounding syllables/words together. Why did we choose the syllables and words used in this exercise? Whalien Match is designed to challenge the brain to match syllables that represent common English language sound combinations that are very similar to one another—like *big*, *dig,* and *pig*. In order to do this, the brain has to be able to separate individual sounds like /b/, /i/, and /g/, that make up the word *big*.

Whalien Match exercises students' auditory processing by helping their brains improve their ability to distinguish these individual sounds and differentiate them from one another in closely related combinations. The individual sounds in *big*, *dig,* and *pig* vary by only their initial consonant sounds—/b/, /d/, and /p/—but the words have entirely different things. Confusing similar sounding words impedes comprehension and can be very embarrassing.

Being able to hear and absorb information clearly is essential for rapid word recognition, helping the brain to accurately store and quickly recall content. The more accurately and precisely the sounds for each word are received and transmitted in the first place, the better able the brain will be able to record it and relate it to other experiences. When the brain makes an attempt to recall the information about each different word—*big*, *dig,* and *pig*—a clear image of each word, based on its distinct sounds, meanings, and other associations will enable the brain to access the information faster and more easily. The increased speed in word recognition in turn improves the ability to remember the words practiced and make generalizations towards other similar words that might be easily confused or misread.

Facilitate and Encourage

Introduce

Engage

To introduce the exercise to your students, you can start by explaining to students that they will be playing a memory matching game with sounds. Say: Have you ever been in a funny or embarrassing situation because you misheard a word? It happens to all of us—you've been singing along to a song in front of your friends when suddenly everyone looks at you funny and shakes their heads—you've got the words wrong. What's the funniest thing you know you misheard? Ask students to share some of their stories or share some of your own examples of when this has happened to you. Say: The Whalien Match exercise encourages good listening and memory skills to locate and pair matching sounds in syllables and words that sound very similar to one another.

Demo

1. Say: Today, we're going to practice clicking on objects, listening to the syllable/word they make, and then matching them together to clear a screen. Together, we'll work on an exercise called Whalien Match. I'll get us started, and then I'd like for you to try.
2. Project the Whalien Match Introduction (English or Spanish) demo.
3. Follow along with the demo, which explains how the exercise works.
4. Click the objects that match:
    *   Correct answer: a "ding" plays and a pair of nets pop out from the edge of the screen and drag the matching objects off screen
    *   Incorrect answer: no sound plays and the objects remain on the screen
5. Encourage students to share their strategies for working through the screen and remembering what they hear.
6. There are no keyboard shortcuts for this exercise.

Direct students to log in and work individually on the Whalien Match 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.

Whalien Match 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.

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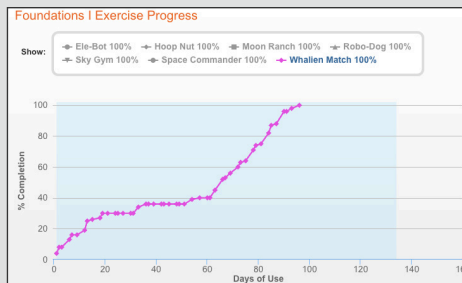A CARNEGIE LEARNING SOLUTION

Monitor Student Progress

Review Whalien Match 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: Foundations I Exercise Progress - Whalien Match

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

USAGE: Usage Details - Schedule

USAGE: Usage Details - Minutes/Questions

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.

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.

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.
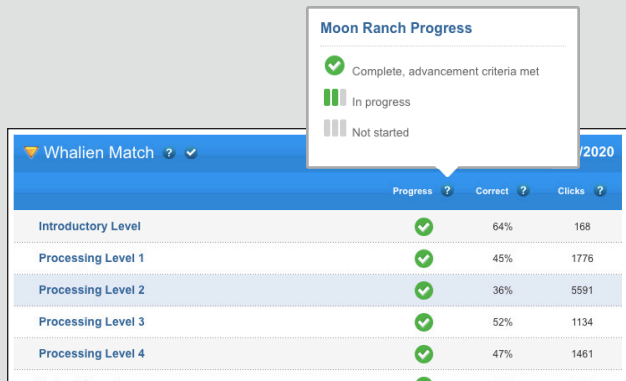
Is the student answering more questions than usual?
They may be rushing. In comparison to their previous activity, a high number of questions to minutes may indicate that the student is trying to amass points or progress through the content without actually learning it. Remind them that making progress depends on accuracy, not speed.

Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Whalien Match Completion Status

Moon Ranch Progress

✅ Complete, advancement criteria met

▮▮ In progress

▮▮▮ Not started

▼ Whalien Match ❓ ✔   /2020

	Progress ❓	Correct ❓	Clicks ❓
Introductory Level	✅	64%	168
Processing Level 1	✅	45%	1776
Processing Level 2	✅	36%	5591
Processing Level 3	✅	52%	1134
Processing Level 4	✅	47%	1461

Questions

The minimum number of clicks (questions) varies by level:

- Introductory Level: 78
- Processing Levels & Natural Speech: 480

After completing the Introductory level, students making good progress average 700-1400 clicks in a level.

What to look for... what it means

Has the student used too many clicks without passing a level?

Students who need more than 160 clicks to pass the introductory level or more than 1700 clicks to pass a processing level or natural speech may be struggling to approach the task strategically, or they may be having auditory processing and/or memory difficulties. Most students should be able to complete a level in under 100 questions.

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

⬇ Foundations I Progress Monitoring Chart in Student & Teacher Resources

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Adjust Instruction/Intervene

Differentiation Activities

Differentiating instruction requires continually striving to use student progress and usage data to respond to each students' needs in order to maximize learning. The activities below are suggestions to support students who might be struggling with their progress in Whalien Match.

☑ **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. Make sure the student clearly understands the task of the exercise. Ask: Can you tell me what this exercise wants you to do? If needed, explain how the exercise works. Say: Click the objects, listen to the sounds, and match them together to clear the screen.

☑ **Can the student repeat the word or sound they are trying to find?**

When the student can hold the word or sound in their working memory it will increase their success with this exercise.

☑ **Is the student confused by the speech processing, thinking they should be able to understand words that their ears are not detecting?**

Work with the student to listen for "sounds" vs. "words." Simulate environmental sounds (beep of a horn, moo of a cow, roar of a lion, etc.) and have the student repeat what they hear. The student will almost always be good at this. Go through several examples and then transition to the kinds of sounds students here at the earliest levels of the exercise. For example when the word "cap" is heard at processing level 1, the student will usually hear it as "cowp." At this point ask the learner to repeat the sound they hear 5 times. This gives the student the opportunity to refocus on repetition as a strategy for improving their working memory. Transition the student to working in the demos and have the student repeat the first sound they hear 3 to 5 times before clicking other objects on the screen.

Facilitate and Encourage

✔ **Is the student attempting to find matches in a haphazard way?**

The student has a limited number of clicks to find a match. The more they click around randomly looking for a sound match, the more clicks they lose and the less progress they will make. The student needs at least one point remaining once all the matches have been made in order to advance to the next level. Clicking randomly will decrease the number of points more quickly than using a pattern.

Listen with the student and observe them as they complete the task. Guide the student in using the following strategies.

- Teach the student to use a left-to-right, top to bottom strategy. After clicking the first sound, the student should hold that sound in their memory while they go left-to-right seeking the matching sound. Clicking in a pattern can help the student remember the sound for each location on the screen.

- Have the student remember the first sound and then click until they find the matching sound. If the student can't remember the first sound, have the student click the location again to commit it to memory.

- Have the student continually whisper the first sound clicked until they locate the matching sound. When the student finds the match to the sound they are whispering, have them go back and click the original location to complete the match. Repeat this process with the next sound.

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Adjust Instruction/Intervene

Student Resources

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

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