



ROBO-DOG

Teacher Manual

Contents

Goals/Objectives	2
Exercise Overview	3
Exercise Screen	3
Task	4
Content	4
Targeted Practice	6
Facilitate and Encourage	8
Introduce: Engage and Demo	8
Monitor Student Progress	10
Adjust Instruction/Intervene	13
Differentiation Activities	13
Student Resources	15

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

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.

Exercise Overview

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	<ul style="list-style-type: none"> • Initial or Final • Initial • Final 	Easy	On	base, face, bear, bell, safe, save, dip, sip
2	<ul style="list-style-type: none"> • Initial or Final • Initial • Final 	Difficult	Off	chip, dip, sip, zip me, knee, bee, D bug, buck, bud, bus phone, foam, foal, four
3	<ul style="list-style-type: none"> • Initial or Final • Initial • Final 	Difficult		
4	<ul style="list-style-type: none"> • Initial or Final • Initial • Final 	Difficult		
Natural Speech	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.



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](#)

Facilitate and Encourage

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.

Facilitate and Encourage

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

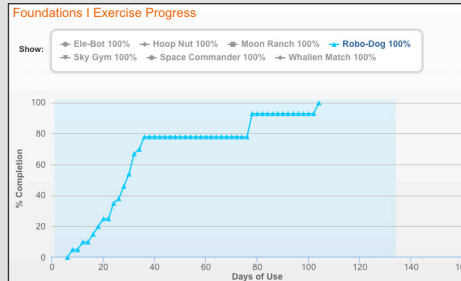
Monitor Student Progress

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.



What to look for... what it means

Is the line going up?

The student is completing content accurately and making progress.

Is the line flat across several dots?

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

Are there long lapses between dots?

The student may be skipping this exercise.

USAGE: Usage Details - Schedule

Schedule		Minutes/Questions			Start Time		Time/Exercise		
Days of Use	Date	Ele-Bot	Hoop Nut	Moon Ranch	Robo-Dog	Sky Gym	Space Commander	Whalien Match	
56	04/13/2020	●	●		●				
55	04/12/2020			○					
54	04/09/2020				●				
53	04/08/2020	●	●						
52	04/07/2020			●	●				

Schedule

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

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

Do you see half-filled gray circles?

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

Schedule		Minutes/Questions				Start Time				Time/Exercise					
Days of Use	Date	Ele-Bot		Hoop Nut		Moon Ranch		Robo-Dog		Sky Gym		Space Commander		Whalien Match	
		Min	Ques	Min	Ques	Min	Ques	Min	Ques	Min	Ques	Min	Ques		
55	04/12/2020	-	-	-	-	6	41	-	-	-	-	0	0	-	-
54	04/09/2020	-	-	-	-	-	-	10	53	9	52	-	-	11	298
53	04/08/2020	12	15	10	26	-	-	-	-	8	53	-	-	-	-
52	04/07/2020	-	-	-	-	8	43	7	28	7	4	7	4	-	-
51	04/06/2020	12	29	-	-	-	-	-	-	7	16	-	-	11	254

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.

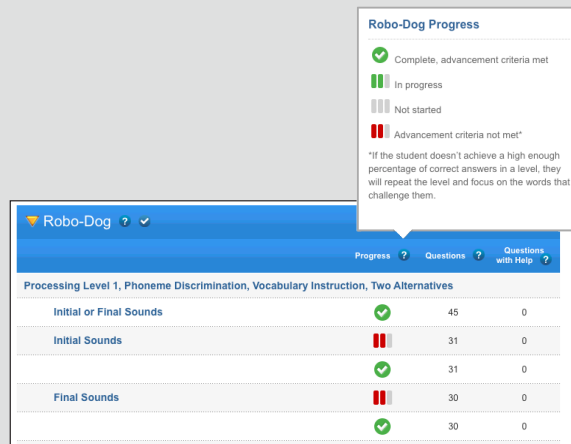
Is the student answering more questions than usual?

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.

Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Robo-Dog Progress



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.

Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Robo-Dog Progress (Continued)

What to look for... what it means

- 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.

PROGRESS: Errors - Robo-Dog

Content the student is struggling with is indicated in red.

Initial sounds	Errors	Score %	Questions
/A/	6%	1 / 16	
/TH/	7%	2 / 30	
/b/	22%	15 / 68	
/d/	14%	10 / 69	
/r/	11%	2 / 18	

Number sense	Errors	Score %	Questions
dime	20%	1 / 5	
dozen	29%	2 / 7	
least	25%	1 / 4	
less	67%	4 / 6	
more	29%	2 / 7	

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](#)

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 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.

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.