



COGNOBOT

Teacher Manual

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Goals/Objectives

English Language Arts Standard(s)	Students will develop reading comprehension skills by extracting different types of information (e.g. literal, sequential, causative, and inferential) from a variety of texts including fiction and nonfiction, poems, tables, schedules, and instructions.
Comprehension Skills	Students will... <ul style="list-style-type: none">• describe the overall structure (e.g., cause/effect, problem/solution) of events, ideas, concepts, or information in a text (craft & structure)• refer to details and examples in a text when drawing inferences from it (drawing inferences)• read texts independently, with minimal to no assistance (independent reading)• use information gained from the words in a text to demonstrate understanding of the text (interpreting visual information)• distinguish key ideas from supporting details to answer specific questions (key ideas & details)• recognize whether they understand what they are reading, and if necessary, take steps to repair their comprehension before continuing to read (monitoring comprehension)
Language/Reading Skills	Students will... <ul style="list-style-type: none">• use the language needed for success in school, including general academic words (which appear frequently in print, but rarely in social conventions), discipline-specific terms, and multiple-meaning words (academic language)• read texts with accuracy, appropriate rate, and expression to support comprehension (fluency)• attend to details, and plan an appropriate sequence of steps in order to respond to written instructions (following directions)• clarify the meaning of unknown words using strategies such as morphemic and contextual analysis (word learning strategies)• recognize and apply knowledge of words and word parts such as morphemes and phonemes (word structure & knowledge)
Cognitive Skills	Students will... <ul style="list-style-type: none">• use working memory for reading with comprehension and answering questions (memory)• focus on specific information, sustain that focus, and ignore distractions while carrying out a task (attention)• use language processing skills to identify written information and analyze its meaning in context (processing)• recognize and track temporal and causal event sequences in passages of text, as well as alphabetical and logical ordering in tables, schedules, and instructions (sequencing)
Social-Emotional/ Executive Function Skills	Students will... <ul style="list-style-type: none">• build and continuously revise a mental model of text in working memory• increase confidence in independent reading and the ability to draw inferences based on personal knowledge and experience• build social awareness through interpretation of character representations• increase motivation to read for enjoyment

Icon Key						
	Audio	Download	English Learner	Quick Check	Settings	Video

Exercise Screen

Name Cognobot

Fruit		Plant Type	Uses
apple	red, yellow, green	tree	juice, pie
banana	yellow	tree	milkshake, bread, pie
grape	purple, red, green	vine	juice, jelly
orange		tree	juice

Which fruit in this table does not grow on a tree?

orange

pumpkin

apple

grape

5:00 / 10:00 TIME 78 POINTS LEVEL 2 0% PROGRESS 3 CURRENT STREAK 9 HIGHEST STREAK

1 Reread

Returns to the original content screen so the student can reread when needed.

2 Help

Provides access to help options:

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

3 Home

Returns the student to their assignments screen.

4 Content

Shows a passage, graphic organizer, or summary that the student must review and interpret.

5 Question

Shows a question about the content presented.

6 Answer Buttons

Shows possible answers to the question.

7 Time

Shows Time Worked / Time Scheduled for the exercise.

8 Points

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

- Correct answers: 8 points for questions that count toward progress; 4 points for practice or intervention questions.

9 Level Progress

Displays the current level and percent complete of the level.

10 Current Streak

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

11 Highest Streak

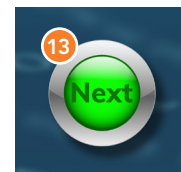
Shows the highest number of consecutive correct answers in this session.

12 Go

Presents content or a question.

13 Next

Continues to the next page or task.



Exercise Overview

Task

In Cognobot, students read and answer questions about two types of texts: passages (fiction, nonfiction, and poetry) and reference texts (tables, schedules, and instructions).

- When working on passage texts, the student reads the passage first, then clicks the Next button to move to a series of questions about the passage. If needed, the student can return to the passage and read it again using the Reread button.
- When working on reference texts, the table, schedule, or set of instructions remains on the screen while the student answers questions about it.

Content

Cognobot presents 48 texts across three levels of difficulty, with vocabulary at the 2-4 grade levels.

	Passage Texts	Reference Texts
2nd Grade Vocabulary, Short Sentences	3 Fiction Passages 6 Nonfiction Passages 1 Poem	2 Tables 2 Schedules 2 Instructions
3rd Grade Vocabulary, Mid-length Sentence	3 Fiction Passages 6 Nonfiction Passages 1 Poem	2 Tables 2 Schedules 2 Instructions
4th Grade Vocabulary, Long Sentences	3 Fiction Passages 6 Nonfiction Passages 1 Poem	2 Tables 2 Schedules 2 Instructions

Each text is associated with 6 questions that ask the student to think across multiple categories of text comprehension.

For passage texts, the questions include:

- Cause & Effect
- Content & Style
- Inferential: Intent
- Inferential: Order
- Inferential: Vocabulary
- Literal

For reference texts, the questions include:

- Literal
- Inferential

Did you know?

Reading comprehension involves creating a mental model of text in working memory then revising the model as the text progresses. This requires an ability to make two types of meaningful connections: connecting separate pieces of literal information, and linking literal information from the text to the reader's background knowledge. The ability to link literal information provided in a text involves grammatical skills such as pronoun resolution or recognizing causal relationships. Linking literal information from the text to the reader's background knowledge requires drawing inferences, such as inferring why a character acted in a specific way.

Most students need explicit instruction and practice in linking literal textual information and drawing inferences. Students who are learning English as a second language or those with oral language limitations require more extended specific practice with these skills.

Progression

In Cognobot, the student progresses through the texts across 3 levels of difficulty. The exercise varies several factors to make the tasks more challenging.

Within the passage texts (fiction, nonfiction, and poems), the exercise varies 3 factors:

- the vocabulary level (2nd - 4th grade)
- the length of the sentences (10 - 16 words)
- the length of the passages (6 - 8 sentences)

Within the reference texts (tables, schedules, and instructions), the exercise varies 2 factors:

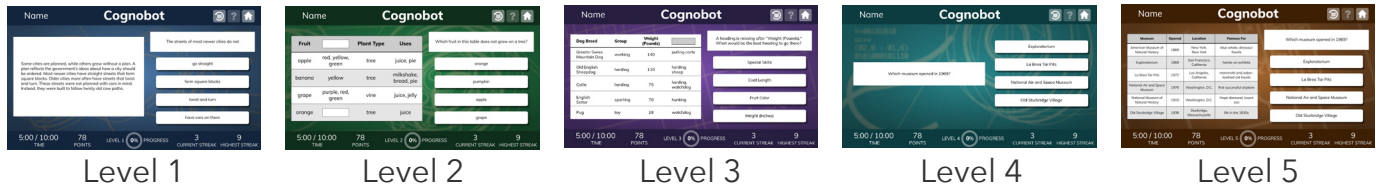
- the topics shift from concrete and familiar to abstract and/or less familiar
- the length or complexity of the text increases

Cognobot adapts to the student's performance and provides targeted interventions if the student is struggling.

Exercise Overview

Motivational Levels

After each 20% of progress through the exercise, students “level up” and the screen changes slightly. These motivational levels are not connected to specific content.



Targeted Practice

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

One type of intervention, Tables, is used when a student is struggling with reading tables. The student is shown an example and walked through an explanation on how tables are organized by vertical columns and horizontal rows, and how the information is grouped by concept.

Tables are useful for organizing information by grouping similar concepts and showing relationships. For example, this table lists some of the animals that are state symbols...

Animal Class	California	Oregon	Washington
amphibian	California red-legged frog	–	Pacific chorus frog
bird	California quail	Western meadowlark	willow goldfinch
fish	California golden trout	Chinook salmon	steelhead trout
mammal	California grizzly bear	beaver	Olympic marmot

5:00 / 10:00 TIME 78 POINTS LEVEL 3 50% PROGRESS 3 CURRENT STREAK 9 HIGHEST STREAK

Introduce

Engage: Reading Comprehension

To introduce the exercise to your students, say: Today we are going to focus on reading comprehension. Reading comprehension means that you can understand what is being read or what you are reading. We are going to work on this by practicing reading short passages, tables and schedules. To build student engagement, choose a high-interest short passage, table, and schedule. Consider choosing content from student preferred text, stories, and topics. Say: First, we will practice by reading the ____ together and then we will identify key facts from the ____.

Display the short passage, table, or schedule. Read it aloud and then state the key facts as you mark/annotate them. Say: We will review our notes and then identify three key facts together. I will state the first example and then I want you to try the next two.

Demo

1. Say: Today, we're going to practice reading passages, tables, and schedules, then answering questions about them. Together, we'll work on an exercise called Cognobot. I'll get us started, and then I'd like for you to try.
2. Project the "Introduction - English or Spanish demo" for Cognobot.
3. Follow along with the demo, which explains how the exercise works:
 - When looking at a table or schedule, describe the details you see.
 - Explain which answer is the best match and how you ruled out the other options.
 - Choose an answer:
 - Correct answer: a "ding" sound effect plays and the answer is highlighted.
 - Incorrect answer: a "thunk" sound effect plays and the incorrect answers are dimmed.
4. Demo the keyboard shortcuts:
 - Go button = Space bar
 - Next button = Space bar
 - Possible answers (top to bottom) = Number keys 1 - 4

Direct students to log in and work individually on the Cognobot 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.



Cognobot 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

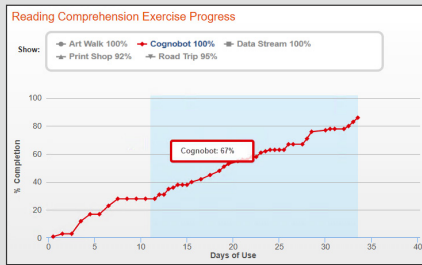
Monitor Student Progress

Review Cognobot 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: Reading Comprehension Exercise Progress - Cognobot

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		Total Minutes	
Days of Use	Date	Art Walk	Cognobot	Data Stream	Print Shop	Road Trip	
10	06/18/2021	●	○				
9	06/17/2021	●					
8	06/15/2021	●	●				
7	06/14/2021	●	○				
6	06/10/2021	●					
5	06/09/2021						

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		Total Minutes	
Days of Use	Date	Art Walk	Cognobot	Data Stream	Print Shop	Road Trip	
		Min	Ques	Min	Ques	Min	Ques
8	06/30/2021	-	-	-	-	30	202
7	06/29/2021	-	-	15	40	3	10
6	06/28/2021	-	-	0	344	5	5
5	06/25/2021	10	1092	0	253	1	5
4	06/24/2021	-	-	1	61	7	53
3	06/23/2021	1	5	2	7	5	5
2	06/22/2021	3	10	1	13	2	10
1	06/21/2021	-	-	3	33	2	21

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.

Where to look...

PROGRESS: Progress Details - Cognobot Progress

Cognobot		Progress		
2nd Grade Vocabulary, Short Sentences				
Fiction, Nonfiction, Poems		✓		
Tables, Schedules, Instructions		✓		
3rd Grade Vocabulary, Mid-length Sentences				
Fiction, Nonfiction, Poems		✓	54%	111
Tables, Schedules, Instructions		✓	100%	36
4th Grade Vocabulary, Long Sentences				
Fiction, Nonfiction, Poems		▯▯▯	0%	0
Tables, Schedules, Instructions		▯▯▯	0%	0

Progress

For groups in progress, the report shows the number of texts successfully completed out of the total number in that group.

Percent Correct

To make progress, students must correctly answer all 6 questions associated with a text.

Questions

Each text includes 6 questions. The minimum number of questions per group varies depending on the number of texts in that group (10 for standard texts, 6 for reference texts):

2nd Grade Vocabulary, Short Sentences

- Fiction/Nonfiction/Poems: 60
- Tables/Schedules/Instructions: 36

3rd Grade Vocabulary, Mid-length Sentences

- Fiction/Nonfiction/Poems: 60
- Tables/Schedules/Instructions: 36

4th Grade Vocabulary, Long Sentences

- Fiction/Nonfiction/Poems: 60
- Tables/Schedules/Instructions: 36

If a group of texts must be repeated, the student may only be required to repeat a subset of the texts and/or questions.

What to look for... what it means

Has the student completed the minimum number of questions and most of the texts?

The student is close to passing and may be struggling with just one question type (for example, cause and effect, sequencing, etc.). Check the Errors section and encourage them to take their time, think about each question, and use the Reread button.

Has the student completed the minimum number of questions but very few texts?

The student may be struggling with multiple types of questions (for example, cause and effect, sequencing, etc.). Check the Errors section of this report.

- If they are making a few mistakes on each question type, encourage them to take their time and read each question closely.
- If they are struggling with multiple question types, the student may need additional support.

Is percent correct well below 80%?

The student may be struggling with multiple types of comprehension questions (for example, cause and effect, sequencing, etc.). Check the Errors section of this report to determine where the student needs additional support.

Note that percent correct reflects performance across all the texts in a group, so early difficulties can mask later successes and early successes can mask later difficulties. Check the Error Report for the most recent day's results.

Has the student taken too many questions without passing?

Typically, students require 60-250 questions to complete the standard texts, and 39-150 questions to complete the reference texts.

A student who is still working on the standard texts after 250 or more questions or the reference texts after 150 or more questions may be struggling. Check the Errors section of this report to determine where the student is struggling so you can assist them on specific language structures.

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

PROGRESS: Errors - Cognobot

Errors in red are the most problematic for the student.

Cognobot		Errors	Items / Questions
Fiction			
Causative		25%	1 / 4
Example: Everyone was late that day, because _____.			
Content and Style		50%	2 / 4
Example: Rolling river is an example of alliteration because _____.			
Inferential/Intent		75%	3 / 4
Example: Why did Franklin arrive early?			

Are specific language structures highlighted in red?

Consider providing the student with instruction on how to gather specific types of information from a text.

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



Reading Comprehension 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 Cognobot 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 Cognobot.



Does the student understand the exercise goal/task?

After initially reviewing the exercise goal/task with the student, if the student is demonstrating difficulty, consider clarifying the instructions, setting a goal based on student area of need, and modeling and practicing self-monitoring to encourage accuracy, confidence, and independence.

- First, start by setting a clear goal:
 - Set a goal in student-friendly language prior to beginning the exercise. The goal should be positively stated, written using clear and concise language, and be observable and measurable.
 - Review the goal with the student and check for understanding.
- Next, introduce and model how the student will monitor their goal:
 - Choose or create a self-monitoring chart for students to track their progress over time. Use the chart to motivate, encourage, and allow the student to practice self-monitoring. Include the goal on the self-monitoring chart.
 - Explain and model the steps needed to complete and interpret the self-monitoring chart.
 - Practice completing and interpreting the self-monitoring chart with the student.
- Then, clarify the expectations by modeling and reviewing the specific steps required to complete the exercise:
 - Review the steps of the activity with the student.
 - Model or explain the steps of the activity.
 - Practice completion of the task with the student.
 - Encourage the student to explain or show you how to complete the task.
 - Monitor independent practice and provide feedback and prompts as needed.

Facilitate and Encourage



Is the student on task and engaged with activity?

When a student is struggling to stay on-task and engaged, consider the strategies below as a starting point to increasing student engagement.

- Adjust the pacing or duration of instruction.
- Provide built-in breaks as well as allow the student to request breaks as needed. Involve the student in determining their preferred and most successful work schedule. Some students prefer longer work periods and longer breaks while others prefer shorter work periods and more frequent breaks. Adjust as needed to increase student momentum, success, and confidence.
- Consider student motivation. Motivation can be intrinsic and extrinsic. How to motivate the student is largely dependent on their learning needs, preferences, and reinforcers. Student observation, reinforcer surveys, rapport building, and parent and student questionnaires can be helpful in determining how to increase student motivation.



Are there words in the task (prompt and response) that the student doesn't know?

- Define and review key vocabulary used in the task.
- Display key vocabulary words and definitions.
- Promote student practice with vocabulary sentence strips, guided notes, response cards, or note cards.



Is the student identifying facts or key details?

- Provide the student with multiple opportunities to practice identifying facts from short passages, tables, and schedules.
- When presenting the student with a reading passage, table, or schedule, provide a graphic organizer for the student to track 3 key details prior to identifying the main idea. If needed, you can use the graphic organizers from the Data Stream Graphic Organizer Worksheet in [Student & Teacher Resources](#).

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

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



Reading Comprehension 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.



Reading Comprehension Completion Chart in [Student & Teacher Resources](#)

Students can self-monitor their progress on each exercise in Reading Comprehension 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.