

Book Monkeys

Book Monkeys helps participants develop paragraph comprehension skills. Specifically, Book Monkeys helps participants learn to read for literal meaning, cause-and-effect relationships, and inferential comprehension; these different aspects of text contribute to participant's overall comprehension of long passages. Book Monkeys helps participants improve working memory as well as vocabulary skills, which are crucial for flexible, fluent reading.

Reading Curriculum Standards and Book Monkeys

Book Monkeys reinforces the following nationwide Language and Reading Arts curriculum standards that center on third grade but contain items above and below grade level:

- Use sentence and word context to find meaning of unknown words
- Understand and be able to use complete and correct declarative, interrogative, and imperative sentences
- Identify pronouns
- Demonstrate comprehension by pinpointing answers in text
- Recall and summarize major points in text
- Make predictions about coming information
- Distinguish main idea and supporting details in expository text
- Distinguish cause and effect
- Extract appropriate and significant information from text, including problems and solutions
- Determine the underlying theme or author's message in fiction and nonfiction

The Skills Developed in Book Monkeys

Book Monkeys helps the participant improve paragraph comprehension in the following ways:

- **Literal comprehension:** Book Monkeys presents questions that ask the participant to recall facts from the paragraph, such as the main point. The ability to extract the main point from a paragraph—the gist—contributes to comprehension of longer passages, and is a skill targeted by 3rd grade curriculum standards.
- **Causative comprehension:** Book Monkeys presents questions about the cause of the events within the paragraph. Understanding cause and effect is important for comprehending and remembering text. Participants work on recognizing cause-and-effect relationships as part of the 2nd grade curriculum.
- **Inferential comprehension:** Book Monkeys presents questions that ask the participant about various hypotheses he or she needed to form in order to understand the text, such as to whom a pronoun refers and

what the best title for the paragraph might be. Inferential comprehension is crucial for understanding the links between concepts and building a coherent gist for the entire passage.

- **Working memory:** The participant must hold in working memory the gist of the paragraph, as well as important details, to answer the questions correctly. Developing working memory abilities helps the participant not only keep the gist of the paragraph in mind but also read and comprehend longer, more complicated texts.
- **Vocabulary:** As the participant progresses, Book Monkeys presents longer paragraphs that use more advanced vocabulary words. In addition, Book Monkeys regularly asks participants to identify the meaning of a word that is from 1 to 3 grade levels above the vocabulary level of the paragraph. Vocabulary skills contribute to automatic word recognition, an important factor in fluent reading.

How Participants Work on Book Monkeys

When the participant clicks the yellow paw, a monkey dangles an open book on the screen. The participant must first read the displayed paragraph, click the **Done Reading** button, and then read the librarian's question. Several scholarly monkeys display possible answers to the question, and the participant must choose the correct answer.

After the participant has answered two questions about the paragraph, Book Monkeys displays the paragraph again to help the participant refresh his or her memory. The librarian asks six questions about each paragraph; the paragraph reappears after the participant has answered the second and fourth questions.

How Participants Progress through Book Monkeys

Book Monkeys progresses through three levels of difficulty as follows:

- **Level 1:** The participant works on paragraphs of around 6 sentences; each sentence contains, on average, 10 to 11 words. Questions are easier than level 2. Words are at the 2nd grade level at highest.
- **Level 2:** The participant works on paragraphs of around 5 to 6 sentences; each sentence contains, on average, 9 to 10 words. Words are at the 2nd grade level at highest.
- **Level 3:** The participant works on paragraphs of around 7 sentences; each sentence contains, on average, 9 to 12 words. Words are at the 3rd grade level at highest.

At each level, Book Monkeys presents four nonfiction paragraphs and six fiction paragraphs. After the participant has read a paragraph, Book Monkeys asks the participant:

- Two **literal** questions of a true-false nature (*This story does not tell you...*)

- Two **causative** questions regarding causes of events within the paragraph (*The animals dig the holes first because...*)
- Two **inferential** questions that require the participant to formulate a hypothesis about certain components of the paragraph. The two inferential questions are chosen from four possible types:
- The most appropriate title for the paragraph (*The best title for this story is...*)
- What is most likely to happen next (*Which sentence would most likely come next?*)
- The meaning of a particular word (*The word "mayor" means...*)
- Whom or what a particular pronoun refers to (*The word "she" is talking about...*)

At each level, the monkeys ask all types of inferential questions.

How Participants Advance in Book Monkeys

After Book Monkeys presents a paragraph and six questions about that paragraph, Book Monkeys evaluates the participant's responses. If the participant answered all six questions correctly, Book Monkeys activates the yellow paw and allows the participant to go on to the next paragraph. If the participant has not answered a question correctly, Book Monkeys gives the participant two more tries at it.

Book Monkeys allows the participant to revisit incorrectly answered questions for two reasons. One is to accommodate the working memory capacity of young participants; a participant may have answered the question incorrectly simply because he or she could not remember the paragraph well enough. If so, the participant will do better after reading the paragraph again. The second reason is that the participant may not have developed the skills necessary to comprehend and extract the main point of a passage. By giving the participant the chance to rethink his or her reading strategy, Book Monkeys guides the participant toward reading for comprehension and retention of the salient points of a text.

During the participant's second attempt to answer a question correctly, Book Monkeys displays the paragraph again and the librarian repeats the question. The monkeys give the participant the same four choices, but Book Monkeys grays out and deactivates the incorrect answer the participant chose the first time.

After the participant responds, Book Monkeys displays another question that wasn't correctly answered (if there are any). After Book Monkeys cycles through all the questions that the participant didn't answer correctly the first time around, Book Monkeys evaluates the participant's responses.

If the participant still has not answered a question correctly, Book Monkeys gives the participant one last attempt. During the participant's third attempt to answer a question correctly, Book Monkeys displays the paragraph again and the librarian repeats the question. The monkeys give the participant the same four choices, and Book Monkeys grays out and deactivates both incorrect answers that the participant

chose the first two times. If the participant answers correctly, Book Monkeys displays the next question that has not yet been correctly answered (if any). If the participant doesn't choose the correct answer on the third try, Book Monkeys highlights the correct answer.

Book Monkeys does not give the participant a fourth try at questions that the participant has not answered correctly; after the third round of attempts, Book Monkeys activates the yellow paw and allows the participant to progress to the next paragraph.

After the participant has completed all the trials in one level, Book Monkeys evaluates all the trials for that level. In evaluating trials for advancement, Book Monkeys only considers the participant's first response to each question. If the participant has chosen 90 percent of the answers correctly on the first try, Book Monkeys advances to the next level.

Plateau-Based Transitions

Book Monkeys does not use plateau-based transitions to advance the participant to the next level for the following reasons:

- Book Monkeys presents all categories of questions at all three levels.
- Level 2 increases the difficulty of the exercise by increasing the similarities between the target answer and the foils, but it does not increase the difficulty of the type of question asked.
- Level 3 increases the difficulty of the paragraph by increasing the number of sentences per paragraph, the sentence length, and the vocabulary level, but it does not increase the difficulty of the type of question asked.

Therefore, Book Monkeys requires the participant to work on the trials at Level 1 until he or she achieves 90 percent accuracy. At that point, the participant is better prepared to work on the same types of questions at a higher level of difficulty.

However, if a participant is unable to answer a question about a paragraph after three tries, Book Monkeys transitions the participant to another paragraph. Because the librarian asks slightly different questions about each paragraph, the participant has the chance to not only read different material but also respond to questions that might be more comprehensible to him or her.

Points Rewarded in Book Monkeys

Book Monkeys awards points to the participant based on the following conditions:

- **Correct answers:** The participant earns 12 points for each trial that is correctly completed on the first attempt. The participant earns 6 points

for a trial that is correctly completed on the second attempt and 3 points for a trial that is correctly completed on the third attempt.

- **Bonus points:** After the participant completes 10 trials correctly, Book Monkeys rewards the participant's performance with 40 bonus points.