

Exercise Description: Bear Bags

Bear Bags helps participants build skills in phonemic awareness, the understanding of the alphabetic principle (phonics), and decoding of one-syllable words.

Reading Curriculum Standards and Bear Bags

Bear Bags correlates to the following Language and Reading Arts curriculum standards for first graders:

- Distinguish initial, medial, and final sounds in single-syllable words
- Distinguish long- and short-vowel sounds in orally stated single-syllable words (e.g., *bit/bite*)

Skills Strengthened by Bear Bags

Bear Bags focuses on helping participants improve skills in phonemic awareness and sound/letter correspondence in the following ways:

- **Phonemic awareness:** Bear Bags provides practice in categorizing one-syllable words by initial, final, and medial sounds. As the participant progresses in the exercise, the participant moves from sorting with picture cues to sorting without picture cues, and the sound contrasts the participant must listen for progress from easy (phonetically dissimilar) to hard (phonetically similar).
- **Sound/letter correspondence:** Bear Bags also provides repeated exposure to highly decodable one-syllable words with paired presentation of print and speech. Frequently, the letter associated with a target sound is highlighted in the printed word.

In addition, Bear Bags builds cognitive skills as follows:

- **Memory**—working memory
- **Attention**—focused attention
- **Processing**—using auditory processing skills to distinguish speech sounds and learn to recognize their differences

How Participants Work on Bear Bags

In Bear Bags, the participant is asked to help Mama Bear sort words (on pieces of toast) into phoneme-based categories (lunch bags). The words will be sorted on the basis of the phoneme in the position currently targeted. The target phoneme could be the initial or final consonant, or the medial vowel.

When the participant clicks the yellow paw, phoneme categories appear on the lunch bags and a description of each category is read aloud. A piece of toast pops out of the toaster and displays a picture and word. The word is read aloud. The participant must determine which category the word fits into, and then click that category bin (lunch bag). As the exercise progresses, the words are presented aurally and as text but, without the accompanying pictures.

The participant can click the speaker buttons next to each lunch bag to repeat the category description aloud, or click the yellow paw to hear the word repeated aloud.

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How Participants Progress through Bear Bags

Participants progress through Bear Bags based on the type of phoneme to sort by and the position of that phoneme within each word at a given difficulty level. The difficulty level is determined by whether the alternate responses are phonetically dissimilar (easier) or phonetically similar (harder). Additionally, for each category group, at each difficulty level, participants will progress from sorting words accompanied by pictures, to sorting only words.

- Initial Consonants: Phonetically dissimilar alternate responses
 - Category groups [t,m,s,g], [d,c,r,f], [p,l,h,j], [b,k,n,w]
- Final Consonants: Phonetically dissimilar alternate responses
 - Category groups [g,m,b,t], [d,n,p,g]
- Short Vowels (Medial)
 - Category groups [a,e,i,o], [u,e,i,o]
- Initial Consonants: Phonetically similar alternate responses
 - Category groups [b,p,d,t], [h,g,k,j], [f,c,s,w], [m,n,l,r]
- Final Consonants: Phonetically similar alternate responses
 - Category groups [d,b,p,t], [m,n,g,b]

- Long Vowels (Medial)
 - Category groups [a,e,i,o], [a,i,o,u]

How Participants Advance in Bear Bags

Bear Bags exposes participants to progressively larger numbers of words in progressively more phoneme categories. Initially, pictures are presented along with the words to be sorted. Then, only words (without pictures) are presented, and are sorted into the same group of categories.

- When starting to sort a new group of phonemes, Bear Bags presents 2 different phoneme categories (*/t/* and */m/*) from the first category group (Initial Consonants, [t,m,s,g]). The participant then sorts 8 different pictures/words (such as *tag* and *man*) into these 2 categories.*
- After the 8 words have been sorted, Bear Bags evaluates that group of trials. If the participant has sorted 100% of the words correctly, Bear Bags adds 2 more categories and more items to be sorted until the participant is sorting 20 pictures/words into the 4 different categories.
- After the 20 pictures/words have been sorted, Bear Bags evaluates that group of trials. If the participant has sorted 90% of the trials correctly for the current category group, Bear Bags presents 20 words (without pictures) to be sorted into the same 4 categories.
- After the 20 words have been sorted, Bear Bags evaluates that group of trials. If the participant has sorted 90% of the word-only trials correctly for the current category group, Bear Bags advances to a Fluency Round. The participant sorts words into the same 4 categories, but each trial now has a time limit. The Fluency Round lasts for only 1 minute and the trials do not count towards advancement. The Fluency Round provides extra practice for the participant, and the chance to earn more points. After the Fluency Round ends, Bear Bags advances to the next category group and begins again with 2 categories and 8 pictures/words.

*The first time the participant enters the exercise, he or she is introduced to the task by sorting only 4 words into a single category. This group of trials is not evaluated.

If the participant fails to meet the criteria to pass a group of trials, the group repeats up to 2 more times to allow the participant 3 attempts at mastery.

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When sorting 8 pictures/words into only 2 categories, if the participant does not sort all of the words correctly after 3 tries, Bear Bags presents the other 2 categories in the category group and the participant gets 3 tries to correctly sort 8 new pictures/words into those categories.

Plateau-Based Transitions

If after 3 attempts, the participant has not met the criteria for passing a group of trials, Bear Bags transitions the participant to the next category group. At the end of the exercise, those category groups which were not passed are repeated, using the same progression and rules of advancement as when they were originally presented. The participant will continue to work on these category groups until mastery is achieved.

Points Awarded in Bear Bags

Bear Bags awards points to the participant based on the following conditions:

- **Correct answers:** The participant earns 1 point for each trial that is completed correctly.
- **Bonus points:** After the participant completes 11 trials correctly, Bear Bags rewards the participant's performance with 10 bonus points.

Exercise Description: Flying Fish

Flying Fish helps participants build skills necessary for fluent reading, such as decoding and word identification. The participant is repeatedly presented with the 200 most frequently used words in written English, and is required to distinguish among them and identify them. This exercise improves phonological working memory by requiring the participant to remember a spoken word while attending to a series of written words, and selecting the word that matches. Flying Fish also provides practice in visual tracking to reinforce left-to-right reading patterns.

Reading Curriculum Standards and Flying Fish

Flying Fish correlates to the following Language and Reading Arts curriculum standard for first graders:

- Read common, irregular sight words (e.g., *the, have, said, come, give, of*).

Skills Strengthened by Flying Fish

Flying Fish focuses on helping the participant improve reading fluency and word recognition skills in the following ways:

- **Word recognition:** Flying Fish provides practice in matching the spoken and written forms of words that appear with a high frequency in English print. The 200 highest frequency English words are covered in this exercise.

In addition, Flying Fish builds cognitive skills as follows:

- **Memory**—working memory and long-term memory
- **Attention**—sustain attentional focus while monitoring a stream of possible answers for the correct word
- **Processing**—auditory and visual processing

How Participants Work on Flying Fish

In this exercise, the participant works with each group of words in 3 stages. At all stages, the task is to click on the fish with the word that matches the word spoken by the pelican. In the first stage, the fishing pelican pronounces a word while the written word appears in a speech bubble. Then, spoken and written words fly across the screen on fish. In the second stage, the pelican pronounces a word, but the written word is not displayed. Then flying fish display written words, but these words are not pronounced. The third stage is like the second, but now the participant is presented with words from multiple word sets.

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How Participants Progress through Flying Fish

Flying Fish progresses through 6 levels as follows:

Level 1 includes the very highest frequency words (e.g., *the, of, and, that, was*). Each subsequent level includes slightly lower frequency words. Level 6 includes the lowest frequency words covered in this exercise; however, even these words occur with a very high frequency in English print (e.g., *eat, soon, less, blue, thank, enough*).

The presentation rate of the sequence of words varies: the sequence starts off slow, and speeds up as the participant advances through the exercise.

How Participants Advance in Flying Fish

Flying Fish presents progressively lower-frequency words, requiring that the participant master each word in 2 stages.

The words are presented in groups of 10. In stage 1, the participant matches a word that is written and spoken with other words that are written and spoken:

- If the participant matches 9 of the 10 words correctly (90% accuracy), the participant advances to the stage 2.
- If the participant does not match 9 of the 10 words correctly, the group of words is repeated for the current stage. The participant is given 3 attempts to pass the group of words and advance to stage 2,

In stage 2, the participant works on the same group of words that were presented in stage 1, but is now required to match spoken words with written words.

- If the participant matches 9 of the 10 words correctly in stage 2, the next group of words is presented. The participant is given 3 attempts to pass this stage.

After the participant meets the criteria for both stages of 4 groups of words, a Fluency Round is presented. In the Fluency Round, words from the previous 4 groups are presented as in stage 2, and at the fastest rate. The Fluency Round lasts only one minute and these trials are not counted towards advancement. The Fluency Round provides extra practice for the participant, and the chance to earn more points.

Plateau-Based Transitions

If after 3 attempts, the participant has not met the criteria for passing a group of words at the current stage, Flying Fish transitions the participant to the first stage of the next group. At the end of the exercise, those word groups which were not passed are repeated, beginning with stage 1, using the same progression and rules of advancement as when they were originally presented. The participant will continue to work on these groups of words until mastery is achieved.

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Points Awarded in Flying Fish

Flying Fish awards points to the participant based on the following conditions:

- **Correct answers:** The participant earns 3 points for each trial that is completed correctly.
- **Bonus points:** After the participant completes 12 trials correctly, Flying Fish rewards the participant's performance with 10 bonus points.

Exercise Description: Magic Rabbit

Magic Rabbit helps participants build skills in spelling, phonemic awareness, and sensitivity to letter-sound correspondences.

Reading Curriculum Standards and Magic Rabbit

Magic Rabbit correlates to the following Language and Reading Arts curriculum standards for first graders:

- Distinguish initial, medial, and final sounds in single-syllable words
- Distinguish long- and short-vowel sounds in orally stated single-syllable words (e.g., *bit/bite*)
- Add, delete, or change target sounds to change words (e.g., change *cow* to *how*, *pan* to *an*)
- Spell three- and four-letter short-vowel words correctly

Skills Strengthened by Magic Rabbit

Magic Rabbit focuses on helping the participant improve spelling skills and sensitivity to letter-sound correspondences in the following ways:

- **Spelling:** Magic Rabbit presents sets of simple spelling words as minimal pairs—word pairs in which switching a single letter turns one word into the other (e.g., *hat* → *bat*). Using a click-and-drag interface, the participant must either select the missing letter to complete a partially spelled word or rearrange scrambled letter tiles to spell a word. In the beginning levels, restricted stimulus sets are used to progressively teach all of the targeted sound-letter correspondences, according to a phonics/spelling instructional sequence. To help build automaticity and generalization, the advanced levels sample from all targeted letters and positions. These are presented as chains of minimal pairs (e.g., *bat*, *cat*, *cap*, *cup*...), providing experience with word families and the combinatorial nature of our alphabetic writing system.
- **Sensitivity to letter-sound correspondences and phonemic awareness:** Magic Rabbit aurally and visually presents 3-letter words with highly regular spellings (words with four letters, ending in silent-e are also included), and provides trial-by-trial feedback as participants manipulate single letters to change the sounds and the words. When a letter is needed to complete a new word, the participant will be presented with a principled array in which the visual and phonetic similarity of response options is controlled. There are two levels of response option difficulty, based on the similarity of the target letter to the alternate responses.

Magic Rabbit also builds the following cognitive skills:

- **Memory**—holding a spoken word in working memory while recalling letter-sound associations from long-term memory
- **Attention**—focused attention
- **Processing**—auditory and visual processing
- **sequencing**—using positional cues to identify a missing letter or reorder the letters of a "scrambled" word

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How Participants Work on Magic Rabbit

Word Pairs: When the participant clicks the yellow paw, a word is spelled with letter tiles (e.g., *b a t*) and read aloud. Next, one of the letter tiles in the word becomes blank (e.g., *b a t* → *__ a t*) and a new word is pronounced. Four letter tiles appear and the participant must complete the word by dragging the missing letter to the blank.

Word Chains: When the participant clicks the yellow paw, blank tiles appear and a word is pronounced. The letter tiles for the word are displayed in scrambled order (e.g., *t c a* → *cat*). The participant drags the letter tiles into the blanks in the correct order to spell the word. When the word is correctly spelled, one of the letter tiles in the word becomes blank and a new word is pronounced. New letter tiles appear and, as in the beginning levels, the participant drags the correct letter to the blank to spell the word.

When possible, Magic Rabbit also displays a picture to illustrate the word. If the participant needs to hear the word again, the participant can click the yellow paw to hear it repeated.

How Participants Progress through Magic Rabbit

Magic Rabbit presents three spelling categories: initial consonants, final consonants and vowels. The participant progresses through these categories as follows

Level 1: The target letter is presented with easily discriminated alternate responses.

- Word Pairs:
 - Initial Consonants: For each group of target letters listed below, 20 word pairs are presented.
 - t, m, s, g
 - d, c, r, f
 - p, l, h, j
 - b, k, n, w
 - Final Consonants: For each group of target letters listed below, 20 word pairs are presented.
 - g, m, b, t
 - d, n, p, g
 - Vowels: For each group of target letters listed below, 25 word pairs are presented.
 - short a, long a, short i, long i, short u
 - short e, short o, long o, short u, long i
- Word Chains:
 - Mixed: 20 chains of ten words selected from all the words previously presented; the target letter may be a beginning or final consonant, or a vowel.

Level 2: The target letter is presented with alternate responses that are hard to discriminate.

- Word Pairs:
 - Initial Consonants: For each group of target letters listed below, 20 word pairs are presented.
 - b, p, c, t
 - c, g, k, j
 - f, h, s, w
 - m, n, l, r

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- Final Consonants: For each group of target letters listed below, 20 word pairs are presented.
 - d, m, p, t
 - m, n, b, g
- Vowels: For each group of target letters listed below, 25 word pairs are presented.
 - short a, short o, short i, long i, short e
 - short a, short o, short u, long o, short o
- Word Chains:
 - Mixed: chains of 10 words selected from all the words previously presented; the target letter may be a beginning or final consonant, or a vowel.

How Participants Advance in Magic Rabbit

In Word Pairs, Magic Rabbit presents 20 word pairs, where the target letter is from the first group of letters in the first category (e.g., initial consonants). After the participant has completed all the trials for that group, Magic Rabbit evaluates the trials.

- If the participant has completed the spelling of at least 90% of the words correctly, Magic Rabbit advances to the next group of trials.
- If the participant does not achieve 90% correct, the group of trials is repeated for up to 3 attempts.

In Word Chains, Magic Rabbit presents one scrambled word trial that begins a chain of 10 single word trials. After the participant completes this group of trials, the trials are evaluated. (Note: The scrambled word trial is never evaluated for progression.)

- If the participant has completed the spelling of at least 90% of the words correctly, Magic Rabbit advances to the next word chain.
- If the participant does not achieve 90% correct, the group of trials is repeated for up to 3 attempts.

Learning Trials: If the participant answers a question incorrectly, the question is repeated as a learning trial, with that incorrect answer disabled. The participant is given up to 2 learning trials on a failed question, but these do not count towards advancement. Rather than giving away the answer after participants fail an item, the learning trials give struggling participants the chance to find the answer for themselves, with additional support.

Plateau-Based Transitions

If after 3 attempts the participant has not met the criteria for passing a group of trials, Magic Rabbit transitions the participant to the next group. At the end of the exercise, those groups of trials which were not passed are repeated, using the same progression and rules of advancement as when they were originally presented. The participant will continue to work on these content groups until mastery is achieved.

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Points Awarded in Magic Rabbit

Magic Rabbit awards points to the participant based on the following conditions:

- **Correct answers:** The participant earns 7 points for each trial that is correctly completed. The participant earns 1 point for each learning trial that is correctly completed.
- **Bonus points:** After the participant completes 10 trials correctly, Magic Rabbit rewards the participant's performance with 10 bonus points.

Exercise Description: Quail Mail

Quail Mail helps participants build vocabulary knowledge and skills. The participant learns to rapidly access various dimensions of vocabulary, including multiple semantic attributes and other linguistic properties. Quail Mail also encourages the development of automatic word recognition, conceptual relationships, and a flexible approach to vocabulary.

Reading Curriculum Standards and Quail Mail

Quail Mail correlates to the following Language and Reading Arts curriculum standards for first graders:

- Respond to *who, what, where, when, and how* questions
- Identify singular and plural nouns

Skills Strengthened by Quail Mail

Quail Mail focuses on helping the participant improve vocabulary knowledge and skills in the following ways:

- **Conceptual relationships:** Categorizing and grouping both familiar and less familiar words helps participants compare and contrast concepts, and see concrete and abstract relationships among the words.
- **Semantics:** A core set of grade-level appropriate words is presented, along with a smaller number of more advanced words. Participants must consider various aspects of word meaning as they work with these words, requiring deeper processing, and encouraging both conceptual flexibility and the development of more fully elaborated vocabulary representations.
- **Grammatical properties:** At the most advanced level, participants must consider grammatical information such as tense and number, to correctly sort the words.

In addition, Quail Mail builds cognitive skills as follows:

- **Memory**—holding a spoken word in working memory while forming associations between a picture, a spoken word, and a written word, and recalling semantic information to categorize the word
- **Attention**—focused attention
- **Processing**—auditory and visual processing

How Participants Work on Quail Mail

When the participant clicks the yellow paw, categories appear on the mailboxes (or category bins) and a description of each category is read aloud. A card displaying a picture and/or word is pulled from the mailbag. If a word is displayed, the word is read aloud. The participant must determine which category the picture and/or word fits into, and then respond by clicking that category bin (mailbox) on the right.

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The participant can click the speaker buttons next to each mailbox to repeat the category description aloud, or the yellow paw to hear the word repeated aloud.

How Participants Progress through Quail Mail

Quail Mail progresses through 6 category types as follows:

- **Basic:** The participant sorts pictures into the very simple categories reflected by common concrete words (e.g., given pictures of a variety of dogs and many styles of chair, participants must sort them into the categories of *dog* and *chair*).
- **Super-ordinate:** The participant sorts words into the more abstract categories reflected by words used for items that share the same function or class (e.g., *animals*, *body parts*, *clothes*),
- **Thematic:** The participant sorts words into categories that reflect their frequent association by place or event (e.g., *animals in a zoo*, *things in a classroom*).
- **Descriptive (functions):** The participant sorts words into categories that reflect what the items are commonly used for (e.g., *clean with it*, *go places with it*).
- **Descriptive (features):** The participant sorts words into categories that reflect salient features of the items (e.g., *It is bigger than a car*. *Careful, it's sharp!*)
- **Linguistic:** The participant sorts words into categories based on number (e.g., *many*), verb tense (e.g., *happened before*), or whether it would answer a *who*, *what*, *when*, or *where* question.

Each category type includes 2 category groups (4 categories per group).

How Participants Advance in Quail Mail

Quail Mail participants work with progressively larger numbers of words in progressively more categories. In the first level, participants sort pictures presented without written words. For all subsequent levels, participants work with spoken and written words. Initially, pictures are presented along with the words. Later, the same words are presented without pictures, to be sorted into the same group of categories.

When starting to work on a new group of categories, Quail Mail presents 2 different categories (such as bugs and birds) from the first category group. The participant then sorts 8 different pictures/words (such as butterfly and duck) into these categories.*

- After the 8 words have been sorted, Quail Mail evaluates that group of trials. If the participant has sorted 100% of the words correctly, Quail Mail adds 2 more categories and more items to be sorted until the participant is sorting 32 pictures/words into 4 different categories.
- After the 32 pictures/words have been sorted, Quail Mail evaluates that group of trials. If the participant has sorted 90% of the trials correctly for the current category group, Quail Mail presents 32 words (without pictures) to be sorted into the same 4 categories.
- After the 32 words have been sorted, Quail Mail evaluates that group of trials. If the participant has sorted 90% of the word-only trials correctly for the current category group, Quail Mail advances to a Fluency Round. The participant sorts words into the same 4 categories, but each trial now has a time limit. The Fluency Round lasts for only one minute and the trials do not count towards advancement. The Fluency Round simply provides extra practice for the participant, and the chance to earn more points.**
- After the Fluency Round ends, Quail Mail advances to the next category group and begins again with 2 categories and 8 pictures/words.

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*The first time the participant enters the exercise, he or she will be introduced to the task by sorting only 4 words into a single category. This group of trials is not evaluated.

**The Basic category type includes pictures only (no words). For that reason, this group of trials and the Fluency Round are not presented for the Basic category type.

When sorting a group of 8 pictures/words into only 2 categories, if the participant does not sort all of the words correctly after 3 tries, Quail Mail presents the other 2 categories in the category group and the participant gets 3 tries to correctly sort 8 new pictures/words into those categories.

When sorting a group of 32/pictures/words into 4 categories, if the participant does not meet the criteria for a group of trials, the group repeats up to 2 more times to provide the participant with a total of 3 attempts.

Plateau-Based Transitions

If after 3 attempts, the participant has not met the criteria for passing a group of trials, Quail Mail transitions the participant to the next category group. At the end of the exercise, those category groups which were not passed are repeated, using the same progression and rules of advancement as when they were originally presented. The participant will continue to work on these category groups until mastery is achieved.

Points Awarded in Quail Mail

Quail Mail awards points to the participant based on the following conditions:

- **Correct answers:** participant earns 4 points for each trial that is completed correctly.
- **Bonus points:** After the participant completes 10 trials correctly, Quail Mail rewards the participant's performance with 10 bonus points.

Exercise Description: Bedtime Beasties

Bedtime Beasties helps participants to build skills in sentence comprehension by requiring participants to complete sentences with missing words, letters, or punctuation. The participant builds vocabulary skills, knowledge of punctuation and capitalization rules, working memory, and awareness of sentence structure. Brief passages and individual sentences are used to provide context, including both fiction and non-fiction text. As participants gain mastery, sentence length increases and reading supports are reduced. At the most challenging level, both the stimulus sentences and the response words, must be read independently by the participant.

Reading Curriculum Standards and Bedtime Beasties

Bedtime Beasties correlates to the following Language and Reading Arts curriculum standards for first graders:

- Listen attentively
- Use context to resolve ambiguities about word and sentence meanings
- Use a period, exclamation point, or question mark at the end of sentences
- Use sentence and word context to find meaning of unknown words
- Capitalize the first word of a sentence, names of people, and the pronoun I

Skills Strengthened by Bedtime Beasties

Bedtime Beasties helps the participant improve sentence comprehension in the following ways:

- **Sentence comprehension:** Bedtime Beasties provides practice in listening while reading along to sentences and short passages and using context to correctly identify missing elements. In order to fill in missing words, punctuation marks, and capitalized or lowercase letters, participants must attend carefully to both meaning and sentence structure, and must take the problem solving approach that is often required when reading challenging text.

In addition, Bedtime Beasties builds cognitive skills as follows:

- **Memory**—holding an incomplete sentence in working memory while recalling vocabulary and punctuation rules from long-term memory
- **Attention**—sustained attention
- **Processing**—auditory and visual processing
- **sequencing**—using word order to comprehend sentences and help identify the missing parts

How Participants Work on Bedtime Beasties

In this exercise, the participant is presented with a sentence that includes a blank space in place of a word, punctuation mark, or letter. Four responses are available at the bottom of the screen. The participant clicks on the response which correctly fills in the blank to complete the sentence. Initially, sentences are read aloud by Granny Elephant and the responses include both a word and picture. As the participant progresses through the exercise, the participant must read the sentences independently and the responses no longer include a picture.

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Some sentences stand alone, and others are presented in sequence making up brief fiction or non-fiction passages. To help the participant know where they are within a passage, the bottom of the text display shows a row of "page" icons mirroring the number of blocks of text in that passage. The current block within the passage is highlighted.

How Participants Progress through Bedtime Beasties

Bedtime Beasties progresses through 12 levels of difficulty as follows:

- **Level 1:** Sentences are read aloud, are short and are part of a passage. Responses are pictures and text.
- **Level 2:** Sentences are read aloud, are longer, and are part of a passage. Responses are pictures and text.
- **Level 3:** Sentences are read aloud, are short and stand alone. Responses are pictures and text.
- **Level 4:** Sentences are read aloud, are longer, and stand alone. Responses are pictures and text.
- **Level 5:** Sentences are read aloud, are short, and stand alone. Responses are text only.
- **Level 6:** Sentences are read aloud, are longer, and stand alone. Responses are text only.
- **Level 7:** Sentences are read aloud, are short, and stand alone. Responses are punctuation marks or uppercase/lowercase letters.
- **Level 8:** Sentences are read aloud, are longer, and stand alone. Responses are punctuation marks or uppercase/lowercase letters.
- **Level 9:** Sentences are not read aloud, are short and are part of a passage. Responses are pictures and text.
- **Level 10:** Sentences are not read aloud, are longer, and are part of a passage. Responses are pictures and text.
- **Level 11:** Sentences are not read aloud, are short, and stand alone. Responses are text only.
- **Level 12:** Sentences are not read aloud, are longer, and stand alone. Responses are text only.

How Participants Advance in Bedtime Beasties

Each level includes 20 sentences. The participant must correctly complete 18 out of the 20 sentences in order to advance to the next level. Otherwise, the level will be repeated up to 2 more times to provide the participant with a total of 3 attempts.

Plateau-Based Transitions

If after 3 attempts, the participant has not met the criteria for passing a level, Bedtime Beasties transitions the participant to the next level. At the end of the exercise, those levels which were not passed are repeated, using the same progression and rules of advancement as when they were originally presented. The participant will continue to work on these levels until mastery is achieved.

Reentering Bedtime Beasties

If a participant exits or times out of a level while working on a "stand-alone" sentence, the participant returns to the next sentence upon reentering the exercise. If a participant exits or

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times out while working on a sentence within a passage before the passage has been completed, the participant returns to the beginning of that passage upon reentering the exercise.

Points Awarded in Bedtime Beasties

Bedtime Beasties awards points to the participant based on the following conditions:

- **Correct answers:** The participant earns 4 points for each trial that is completed correctly.
- **Bonus points:** After the participant completes 8 trials correctly, Bedtime Beasties rewards the participant's performance with 10 bonus points.

Exercise Description: Buzz Fly

Buzz Fly helps participants build skills in passage comprehension, working memory, and answering multiple choice questions. No independent reading is required. Passages and questions are always presented aurally, as well as in written form, and the answer choices are presented as pictures. To help the participant develop comprehension skills for a variety of text types, both fiction and nonfiction passages are presented. To build sustained attention and working memory, the length of the text between questions increases as participants progress through the exercise. To support beginning readers in reading along, the aural presentation of the text is slowed; the rate increases as the participant advances further in the exercise. Line by line highlighting of the written text is synchronized to the aural presentation, to help participants visually keep pace.

Reading Curriculum Standards and Buzz Fly

Buzz Fly correlates to the following Language and Reading Arts curriculum standards for first graders:

- Listen attentively
- Use context to resolve ambiguities about word and sentence meanings
- Respond to *who*, *what*, *when*, *where*, and *how* questions

Skills Strengthened by Buzz Fly

Buzz Fly focuses on helping the participant improve passage comprehension in the following ways:

- **Passage comprehension:** Buzz Fly provides practice in listening and reading-along to both fiction and non-fiction short passages. As the participant progresses, the vocabulary level becomes more challenging and the aural presentation rate shifts from very slow to moderately slow. The passages are divided into very short pages. After each page, participants are given one or two comprehension questions, providing immediate feedback on comprehension, as well as an engaging, interactive reading experience.

In addition, Buzz Fly builds cognitive skills as follows:

- **Memory**—using both working memory and long term memory to integrate and comprehend passage segments, and to recall the gist and details to answer questions
- **Attention**—using divided attention to listen while reading along; using sustained attention across multiple passage segments and questions
- **Processing**—coordinating the auditory and visual processing of two perceptual streams: speech and written text
- **sequencing**—tracking temporal and causal event sequences in passages

How Participants Work on Buzz Fly

In this exercise, the participant listens to a passage and answers comprehension questions relating to the passage. The passages are presented on sheets of paper coming from the

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newsroom typewriter, and the answer choices are presented on cards by flies in the room. Each passage is broken down into “blocks” (or pages) of text, which are displayed and read aloud. Each text line highlights as it is read aloud. At the end of the text block, the participant must answer multiple choice questions, which are presented both aloud and as text. The answer choices are presented as pictures. The participant must click on the picture that best answers the question.

To help the participant know where they are within a passage, the bottom of the text display shows a row of “page” icons mirroring the number of blocks of text in that passage. The current block within the passage is highlighted.

How Participants Progress through Buzz Fly

Buzz Fly participants work on progressively longer and more difficult passages presented at a progressively quicker reading rate.

Buzz Fly progresses through 5 levels of difficulty as follows:

- **Level 1:** The participant works on 6 fiction and 2 nonfiction passages. Each passage is at the Kindergarten comprehension level and is broken into 6 blocks, around 15 words in length. Each block is followed by a comprehension question, for a total of 6 questions per passage.
- **Level 2:** The participant works on 2 fiction and 6 nonfiction passages. Each passage is at the first grade comprehension level and is broken into 6 blocks, around 15 words in length. Each block is followed by a comprehension question, for a total of 6 questions per passage.
- **Level 3:** The participant works on 2 fiction and 2 nonfiction passages. Each passage is at the Kindergarten comprehension level and is broken into 6 blocks, around 40 words in length. Each block is followed by 1 or 2 comprehension questions, for a total of 9 questions per passage.
- **Level 4:** The participant works on 2 fiction and 2 nonfiction passages. Each passage is at the first grade comprehension level and is broken into 6 blocks, around 40 words in length. Each block is followed by 1 or 2 comprehension questions, for a total of 9 questions per passage.
- **Level 5:** The participant works on 2 fiction and 2 nonfiction passages. Each passage is at the second grade comprehension level and is broken into 6 or 7 blocks, around 40 words in length. Each block is followed by 1 or 2 comprehension questions, for a total of 9 questions per passage.

In levels 1 and 2, passage text is read aloud at a slow rate to allow beginning readers to easily follow along. This rate increases when the participant progresses to level 3. At all levels, the participant is asked *what*, *where*, *who*, *when*, and *how* questions, along with questions that relate to vocabulary within the passage.

How Participants Advance in Buzz Fly

One or more questions are presented after each block of text. The participant clicks on an answer choice. If the answer is correct, the participant is presented with the next question for that text block, or advances to the next text block for the current passage. If the block is the last text block for the current passage, the participant advances to the first text block of the next passage in the current level. Participants will not advance to the next level until they have passed, or had 3 attempts to pass, each passage.

Fast ForWord[®]

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Learning Trials: If the participant answers a question incorrectly, the previous text block is presented again, and the question is repeated with the answer that was previously chosen disabled. The participant is given up to two learning trials on a failed question, but these do not count towards advancement. Rather than giving away the answer after participants fail an item, the learning trials give struggling participants the chance to find the answer for themselves, with additional support, and to practice reviewing a text to find information

In levels 1 and 2, the participant must correctly answer 11 out of 12 questions from a group of 2 passages, in order to pass those passages. In subsequent levels, the participant must answer 8 out of 9 questions correctly to pass a passage. At the end of the level, any passages that were not passed are repeated, up to two more times.

Plateau-Based Transitions

If after 3 attempts, the participant has not met the criteria for passing all passages within a level, Buzz Fly transitions the participant to the next level. At the end of the exercise, those passages which were not passed are repeated, using the same progression and rules of advancement as when they were originally presented. The participant will continue to work on these passages until mastery is achieved.

Reentering Buzz Fly

If a participant exits or times out of a passage before it has been completed, upon reentering the exercise the participant will be returned to the beginning of the passage.

Points Awarded in Buzz Fly

Buzz Fly awards points to the participant based on the following conditions:

- **Correct answers:** The participant earns 6 points for each regular trial that is completed correctly. The participant earns 1 point for correctly answering a learning trial.
- **Bonus points:** After the participant completes 4 trials correctly, Buzz Fly rewards the participant's performance with 10 bonus points.