



## Smarty Ants Reading World - Non Fiction

### 2nd Grade Scope and Sequence

	Warm-up	Outline	My Read	Summary	Recording and Presentation
Purposes and Explanations	<p><b>Purposes of Warm-up</b></p> <p>1) to provide explicit teaching of skilled-reading behaviors 2) to give students the opportunity to transfer a skill to a new text 3) to familiarize students with academic language</p> <p><b>Explanation</b></p> <p>While many readers pick up skilled behaviors through reading widely and intensively, many students benefit from explicit teaching, hence the warm-ups. Following the warm-ups, students are encouraged, as they read the informational book, to remember the warm-up and use the strategy as they read.</p>	<p><b>Purposes of the Outline Interactive</b></p> <p>1) to provide background knowledge; 2) to explore the ways visuals are used in texts, both static and interactive; and 3) to build motivation; and to build in some redundancy of information by explaining the same concepts in different ways</p> <p><b>Explanation</b></p> <p>One of the largest deterrents to student comprehension is not having enough background/vocabulary knowledge to make inferences as informational text is read. Each outline segment brings new concepts that relate to the My Read text into the forefront and uses the appropriate, as well as necessary, academic language.</p>	<p><b>Purpose of My Read</b></p> <p>1) to provide grade-appropriate, scientific knowledge 2) to provide time to read informational text 3) to encourage the asking of questions as a form of monitoring comprehension 3) to understand that often new vocabulary can be understood by exploring the surrounding context 4) to understand that sometimes a friendly, dictionary definition is useful 5) to give teachers the opportunity to monitor understanding through four comprehension questions at the end of each text.</p> <p><b>Explanation</b></p> <p>The topics in the second grade curriculum cover science knowledge deemed appropriate at both the State and National (lexile) levels. The Information Books in the Smarty Ants series have been written by professional writers, consequently while staying within a 2<sup>nd</sup> grade lexile range, vocabulary</p>	<p><b>Purpose of Summary</b></p> <p>1) To highlight and teach the main strategies used by skilled readers to summarize, and 2) for the purpose of deeply understanding new material to the point of being able to talk about it with accuracy.</p> <p><b>Explanation</b></p> <p>Summary is one of the most difficult skills to master. But, there are a few, research-based principles that inform the summary lessons: 1) Delete trivial and/or redundant information; 2) Substitute superordinate terms for lists; 3) Select a topic sentence or invent one if one is missing. A good question to either find or make-up a main idea is to ask, "What are all the sentences about?" Our focus for 2<sup>nd</sup> grade is mostly on 1 and 3, although 2 comes up on occasion. Also, there is not an occasion to have to make up a topic sentence/main idea. In the 2<sup>nd</sup> grade material, the main ideas are stated explicitly.</p>	<p><b>Purposes of Recording and Presentation</b></p> <p>1) to provide an authentic purpose for re-reading, hence for motivation; 2) to deepen understand in the content areas through repetition; 3) To experience revision at the oral level via the opportunity to re-record in order to review prosodic features, such as pitch, tone, etc. 4) to strengthen reading fluency 5) to feel pride through being integrated into an authentic, content-based production</p> <p><b>Explanation</b></p> <p>One of the best ways to become a good reader is to both read text and re-read it for an authentic purpose. This gives cause to the recording and presentation segments of the program. Additionally, new vocabulary is learned through multiple encounters with the same word, thus the recording and presentation opportunity gives students this</p>



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#### Purposes and Explanations

appropriate to each content is used without reservation. Yes/No questions occur throughout the text—as children read—as a way to model comprehension monitoring through the asking of simple, factual questions; and, in all cases the answers to the questions are in the text, spurring a very close reading, where children attend to what the text says explicitly.

On Yes/No questions... Students will practice answering yes/no questions that deal with factual information in the book (right-there question); they will know how to look back at the text to answer factual questions.

On Comprehension questions Students will practice answering comprehension questions that require both factual retrieval and inferential thinking. Content vocabulary is often tested, as is occasionally testing the understanding of a reading strategy or skill taught in the book's "warm-up."

opportunity.



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<b>Book One: Life Cycles</b>	<b>Understanding a Sequence of Events/Signal Words</b>  Students will understand that signal words help them understand text structure/organization, and since the text they are about to read uses signal words that relate to stages, they will recognize the signal words <i>first</i> , <i>second</i> , <i>third</i> , and so on.	<b>Outline Concepts</b>  <b>Movie 1:</b> Life Cycle and the concepts of life going on and on in a circular, yet offspring keep it going: butterfly, frog, and plant life cycles <b>Movie 2:</b> Explores the concept of stages within a life cycle. The example is a butterfly <b>Interactive:</b> Stages of plant growth and the concept of pollination	<b>Take-away Main Ideas for Life Cycles</b>  Life cycles demonstrate that living things grow and change; examples in the text include the life cycles of butterflies, frogs, apples; All animals and plants roll along on their own, individual life cycles.  <b>Highlighted Content or Academic Vocabulary (definitions)</b> Cycle, stages, caterpillar, stem, chrysalis, tadpole, froglet	<b>Summary</b>  Students will use headings to guide their summary work; will understand the difference between main ideas and details; be able to put their summary sentences into the same order as the book, and they will be able to wrap up a summary with what was said about the topic: the main idea.
<b>Book Two: Plants</b>	<b>Synthesizing Information</b>  After completing this lesson, students will know to think about what they already know as they learn to accommodate new information into known information. This is an important realization because knowledge gain is incremental, and one way it builds upon itself is through the act of combining the new with the known.	<b>Outline Concepts</b>  <b>Movie 1:</b> No matter the size, plants need to grow. The concept of photosynthesis is explained. <b>Movie 2:</b> Plants need just the right amount of water, heat (temperature), and sunlight; plants and seeds move <b>Interactive:</b> Students practice choosing whether a given plant part shown is a root, shoot or fruit.	<b>Take-away Main Ideas for Plants</b>  Plants are everywhere on the planet; they need just the right amount of sunlight, heat because they have different requirements; plants make their own food through the process of photosynthesis; minerals help the photosynthesis process; the food plants make helps their root, stems, and leaves grow; these plant parts have different functions; plants and seeds move.  <b>Highlighted Content or Academic Vocabulary</b>	<b>Summary</b>  Students will build on the knowledge they used to write a summary for Book One, but in addition, they will realize the importance of defining an important content word in their summaries, if applicable.



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Book Three: Traits	<p><b>(definitions)</b> Planet, algae, habitat, rainforests, meadows, moss, deserts, minerals, photosynthesis, chemical, roots, leaves, stems, carbon- dioxide, tendril, sprout, depend, environment</p>			
	<p><b>Detecting an Explicit Main Idea</b></p> <p>Students will know that in order to find the main idea of a paragraph it is useful to ask, “What are all the sentences about?” Usually this sentence will occur at the beginning of the paragraph, but students will also know that it can come at the end, or even sometimes in the middle. The key is the question: What are all the sentences about?”</p>	<p><b>Outline Concepts</b></p> <p><b>Movie 1:</b> “Reproduction” and the concept of “uniqueness” are woven together</p> <p><b>Movie 2:</b> Frogs and rabbits are compared with the idea that living things are alike yet different, depending on their needs, which are often affected by the environment; specific traits support survival.</p> <p><b>Interactive:</b> a review of the concept that animals and plants have different traits that help them survive, grow and produce offspring</p>	<p><b>Take-away Main Ideas for Reproduction and Inherited Traits</b></p> <p>Reproduction is how adults make young of their own kind; young inherit traits; all living things are like their parents in some ways and unlike them in others; yes, all living things are unique because traits are inherited from both parents</p> <p><b>Highlighted Content and Academic Vocabulary (definitions)</b> Resemble, fact, offspring reproduction inherited characteristics, produce unique, combination, pollen, compare, habitat</p>	<p><b>Summary</b></p> <p>Students will build on the knowledge they used to write a summary for Book One and Two, but in addition they will realize the importance of word repetition in discovering the main idea of a paragraph.</p>
Book Four: Rocks	<p><b>Understanding Author’s Purpose</b></p> <p>Students will understand that texts are written with a purpose and that they must take the author’s purpose into account when they read texts. They</p>	<p><b>Outline Concepts</b></p> <p><b>Movie 1:</b> Rocks are an important part of the landscape; rocks contribute to the natural</p>	<p><b>Take-away Main Ideas for Rocks:</b></p> <p>The earth is mostly rock; rocks are made of thousands of types of</p>	<p><b>Summary</b></p> <p>Students will build on the knowledge they used to write a summary for Book One-Three, but in addition</p>



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	<p>must understand that authors consider their audience, the most important things they have to say about their topic, and how they will organize their information. Students need to look for what the most important information is and how the text is organized.</p>	<p>habitat of living things; rocks are used to make many things; rocks are composed of different minerals  <b>Movie 2:</b> Rocks are altered by weathering through such forces as wind, water and temperature to create smaller particles (e.g. sand); three different categories of rocks exist: sedimentary, igneous, and metamorphic; describe the three categories of rocks and give examples.  <b>Interactive:</b> Reviews the three kinds of rock - sedimentary, igneous, and metamorphic; introduces specific examples of kinds of rock - what they are and their use</p>	<p>minerals, which are different from each other; minerals are used in many different ways; there are three types of rocks: sedimentary, igneous, and metamorphic.</p> <p><b>Highlighted Content or Academic Vocabulary (definitions)</b>  Ingredients, minerals, crystals, classified, sediments, fossils, melted, statues</p>	<p>they will understand that they can't make up information and also that they can change long lists into a superordinate idea/term.</p>	
<p><b>Book Five: Fossils</b></p>	<p><b>Understanding "5 Ws and H" Text Structure and typical signal words used</b></p> <p>Students will understand organizing structure of 5Ws (who, when, why, what, where) and H (how) by learning these key, question words and attending to answers that capture the main idea behind each question.</p>	<p><b>Outline Concepts</b></p> <p><b>Movie 1:</b> Fossils are evidence of life from long ago; many fossils are from extinct organisms; many fossils are similar to modern organisms; fossils are formed in different ways: imprints, fossilized bones and preservation in amber, tar, and ice  <b>Movie 2:</b> Not all body parts easily become fossils—bias towards things like bones, teeth,</p>	<p><b>Take-away main ideas for Fossils</b></p> <p>Definition of fossils; how fossils are formed; how bones turn into fossils; How imprints turn into fossils; why fossils are important; who studies fossils</p> <p><b>Highlighted Content or Academic Vocabulary (definitions)</b>  Evidence, fossils, remains, amber, proof, decompose,</p>	<p><b>Summary</b></p> <p>Students learn to use the 5Ws and H question words to form a summary paragraph. The idea of omitting interesting, though less-important, details is reinforced. Additionally, students are reminded to look for highlighted words from the text to include in their summaries.</p>	



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Book Six: Measurement		<p>and shells; fossils give us clues about ancient plants and animals (life long ago); fossils help us understand how the earth has changed over time.</p> <p><b>Interactive:</b> Reviews the concepts of extinct and modern and provides the student the opportunity to “dig” for fossils.</p>	fossilize, woolly mammoths, minerals, imprints, sediment, mold, Antarctica, climates, extinct, paleontologists	
	<p><b>Understanding “Problem/Solution” Text Structure” and typical signal words used</b></p> <p>Students will understand that texts can be structured around the idea of problems that need to be solved (the problem/solution text structure), and become aware of typical signal words used in this structure, such as “because,” “as a result,” and so on.</p>	<p><b>Outline Concepts</b></p> <p><b>Movie 1:</b> Estimate lengths using standard units; introduce concept of standard measure; make predictions based on observed patterns and not random guessing</p> <p><b>Movie 2:</b> Introduction of measuring tools (e.g., rulers, scales, and so on); measuring with appropriate tools; expressing measurements in both English system and Metric system</p> <p><b>Interactive:</b> Review of measuring tools and what they’re used to measure</p>	<p><b>Take-away Main Ideas for Measurement</b></p> <p>Measuring solves problems; many tools are used to measure length, weight, and volume; there are two measuring standards: English and Metric; rulers measure length; scales measure weight; thermometers measure temperature; and several tools measure volume, such as teaspoons and liters; ordinary people and scientists need to measure things</p> <p><b>Highlighted Content or Academic Vocabulary (definitions)</b></p> <p>Measure, solutions, guessing, precisely, unit, measurement, standards, English system, metric system, centimeter, meter,</p>	<p><b>Summary</b></p> <p>The idea that titles and headings carry the main topic and main ideas in nonfiction texts is reinforced; students distinguish between important ideas and interesting details; students learn to collapse information by combining sentences; they are reminded that summaries don’t include the asking of questions, but rather just the fact/information given.</p>



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Book Seven: Light	kilometer, ruler, balance, kilograms, grams, temperature, estimate, thermometer, volume, ingredients, precise, liters			
	<p><b>Understanding the “Categorical” Text Structure and typical signal words used</b></p> <p>Students will understand that much of our scientific knowledge is organized by categories, and that categories are often hierarchical. They will become aware of typical signal words used in this text structure, such as “like,” “another kind of,” and so on.</p>	<p><b>Outline Concepts</b></p> <p><b>Movie 1:</b> Understand that light is necessary for us to be able to see objects, and that mirrors and prisms can alter a light beam’s path.</p> <p><b>Movie 2:</b> Understand that materials of various kinds allow different amounts of light to pass through them (transparent/translucent/opaque). Also understand that shadows are created when light cannot reach a particular area opposite of a light source.</p> <p><b>Interactive:</b> Experience deciding whether specific objects are transparent, translucent or opaque.</p>	<p><b>Take-away Main Ideas for Light</b></p> <p>Light is needed for living beings to see and requires the use of eyes, the brain and light; light travels in straight lines; the surface of objects (e.g., rough, shiny) partially determines how much light is reflected; shadows are created when light shines on opaque objects; white light is made up of seven colors, which can often be seen when a rainbow appears; rainbows are formed when light from the sun hits raindrops in the sky and the light scatters into all the colors of the rainbow; in science texts, readers encounter “types” of things, or categories.</p> <p><b>Highlighted Content or Academic Vocabulary (definitions)</b></p> <p>Light, source, reflects, shadow, opaque, transparent, translucent, frosted, scatter, prisms</p>	<p><b>Summary</b></p> <p>Students are reminded that titles and headings often reflect the main ideas of a scientific article, and that they can be used to build a precise summary. In addition, students are encouraged to use signal words/phrases, such as “types of,” to categorize important information. Lastly, students are reminded that summaries are short and are meant to capture the main ideas, only.</p>



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<p><b>Book Eight: Sounds (SL4)</b></p>	<p><b>Cause/Effect</b></p> <p>Students will understand that science is all about figuring out cause/effect relationships. They will also learn several of the cause/effect signal words, such as “so,” “as a result” and “since.”</p>	<p><b>Outline Concepts</b></p> <p><b>Movie 1:</b> How sounds are made and how they travel, from dogs barking, musical notes, bicycle horns, to alarm clocks; for sounds to travel, air is required; how sounds are heard via the human ear</p> <p><b>Movie 2:</b> Why sounds are important and the concepts of pitch and volume</p> <p><b>Interactive:</b> Students match sounds to their source</p>	<p><b>Take-away Main Ideas for Sounds</b></p> <p>Sounds are everywhere; they are made by rippling waves that cause matter to move; moving matter, like air particles, funnel into our ears; moving matter can be high or low (pitch); sound waves can travel through solids, liquids, and gases; the volume of sound can be high or low; sound waves move from our ears to our brain through a series of cause/effect reactions</p> <p><b>Highlighted Content or Academic Vocabulary (definitions)</b></p> <p>Clap, vibrate, matter, pitch, vibrations, volume, ear drums, transmitter</p>	<p><b>Summary</b></p> <p>Students will build on the knowledge they used to write a summary for Book One though Seven, but in addition they will recognize when they’ve added their own opinion to a summary and will know it must be revised. Opinions of the author are fine, but not the summary writer.</p>	
<p><b>Book Nine: Forces (SL2)</b></p>	<p><b>The Use of Titles and Headings to Guide Comprehension</b></p> <p>Students will know that the title of a book is its main topic and that if there are headings, they will most likely say something about each main idea. They will understand that reviewing a text in this way before, or during, reading aids understanding.</p>	<p><b>Outline Concepts</b></p> <p><b>Movie 1:</b> Scientists have questions, produce hypotheses; and do research and experiments to find answers to their questions; the use of tools and machines to affect/ease the forces on objects, like gravity and its hold on the ability to build pyramids;</p>	<p><b>Take-away Main Ideas for Forces</b></p> <p>Pushing and pulling are forces, as is friction. Friction can make things hard to move; Egyptians used forces to build pyramids, and to make things easier they often pushed and pulled stones over rounded logs, which reduced friction; Egyptians</p>	<p><b>Summary</b></p> <p>Students recognize that summaries must have a title, tell the big ideas in order, sometimes use pictures and captions to inform their summary. They also are reminded to look for headings and for words that are repeated multiple times when wanting to capture the</p>	





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**Movie 2:** An explanation of how to reduce friction so that moving objects becomes an easier task; the positive aspects of friction; a few thoughts on the nature of revision in both science and writing

**Interactive:** A review of how friction gets reduced through grease, incline, logs, pulleys, short incline, magnet, and the importance of choosing the right tool for the right purpose

also used ramps, so less force would be need to move and stack the stones; today, as in ancient times, nothing moves without a force of some kind.

**Highlighted Content or Academic Vocabulary (definitions)**

Forces, friction, pyramids, ramps, inclined plane

main ideas. Additionally they will understand that summaries often close with an idea that relates to the topic of the entire text.