

## Read to Be Ready plans for: Rosie Revere Engineer 2nd Grade

### ELA Standards:

- 2.FL.PWR.3 Know and apply grade-level phonics and word analysis skills when decoding isolated words and in connected text. e) Identify words with inconsistent but common spelling-sound correspondences.
- 2.FL.WC.4 Know and apply grade-level phonics and word analysis skills when encoding words; write legibly. a) Use conventional spelling for one-syllable words including position-based patterns, complex consonant blends, less common vowel teams for long vowels, vowel-r combinations, contractions, homophones, plurals, and possessives.
- 2.FL.F.5 Read with sufficient accuracy and fluency to support comprehension. a) Read grade-level text with purpose and understanding.
- 2.FL.SC.6 Demonstrate command of the conventions of standard English grammar and usage when speaking and conventions of standard English grammar and usage, including capitalization and punctuation, when writing. b) Form and use frequently occurring irregular plural nouns.
- 2.FL.VA.7a Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase.
- 2.FL.VA.7c Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe.
- 2.RL.KID.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- 2.RL.CS.5 Describe the overall structure of a story, including how the beginning introduces the story and the ending concludes the action.
- 2.RL.CS.6 Determine when characters have different points of view.
- 2. RI.CS.6 Identify the main purpose of a text, including what an author wants to answer, explain, or describe.
- 2.RI.IKI.7 Identify and explain how illustrations and words contribute to and clarify a text.
- 2.RI.IKI.8 Describe how reasons support specific points an author makes in a text.
- 2.SL.CC.1 Participate with varied peers and adults in collaborative conversations in small or large groups about appropriate 2nd grade topics and texts.
- 2.W.TTP.1 Write opinion pieces on topics or texts. a) Introduce topic or text. b) State an opinion c) Supply reasons to support the opinion d) Use linking words to connect the reasons to the opinion e) Provide a concluding statement or section.
- 2.W.TTP.2 Write informative/explanatory texts a) Introduce a topic. b) Use facts and definitions to provide information c) Provide a concluding statement or section.
- 2.W.PDW.4 With guidance and support, produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 2.W.PDW.6 With guidance and support from adults, and in collaboration with peers, use a variety of digital tools to produce and publish writing.
- 2.W.PDW.7 Participate in shared research and writing projects, such as exploring a number of books on a single topic or engaging in science experiments to produce a report.

### Science:

#### 2.ETS1: Engineering Design

- 1) Design a simple problem that can be solved through the development of a new or improved object or tool by asking questions, making observations, and gather accurate information about a situation people want to change.
- 2) Develop a simple sketch, drawing, or physical model that communicates solutions to others.
- 3) Recognize that to solve a problem, one may need to break the problem into parts, address each part, and then bring the parts back together.
- 4) Compare and contrast solutions to a design problem by using evidence to point out strengths and weaknesses of the design.

#### 2.ETS2: Links Among Engineering, Technology, Science, and Society

- 1) Use appropriate tools to make observations, record data, and refine design ideas.
- 2) Predict and explain how human life and the natural world would be different without current technologies.

**Comprehension skill:** cause and effect


**Phonics:** suffixes-ness, -less



**Grammar/Writing:** commas in a compound sentence

**Unit Focus:** Engineering Design

**Culminating Task:** Students will build their own design of a flying machine using recyclable/reusable materials.

	Read Aloud/Shared Reading	Vocabulary Focus	Discussion Questions	Written Response	Resources/Small group instruction ideas
<b>M O N D A Y</b>	<p>1st Read Aloud of <i>Rosie Revere, Engineer</i></p> <p>This title is also found in EPIC. Use the link above and the book can be displayed with projector.</p> <p><a href="https://tinyurl.com/y8vqhdaa">https://tinyurl.com/y8vqhdaa</a></p> <p>Read the book all the way through with few pauses along the way. We want the students to experience the entire story today.</p> <p>This book will be used throughout</p>	<ul style="list-style-type: none"> <li>• Engineer</li> <li>• Perplexed</li> <li>• baffled</li> <li>• Dismayed</li> <li>• Dynamo</li> <li>• Daring</li> <li>• Invention</li> <li>• Failure/flop</li> <li>• discovery</li> <li>• gizmo</li> <li>• gadget</li> </ul>	<p><i>Have you ever been embarrassed? What was the power of that embarrassment? How did it effect you?</i></p> <p><i>What does the cheese hat represent to Rosie? (embarrassment; a time when she thought she had failed)</i></p> <p><i>What was Rosie's initial expectation of the cheese-copter and how do you know? (she thought it would fail – "...just to see the ridiculous flop it might turn out to be.")</i></p> <p><i>Why did the author &amp; illustrator choose to have curved words on the page where she is flying the helicopter?</i></p>	<p>Describe the author's purpose for writing <i>Rosie Revere, Engineer</i>. What did the author want the reader to learn?</p>	<p><b>Homework: Ask students to bring in spare items from home to be used on Friday for creations. Here is a list of suggestions:</b></p> <ul style="list-style-type: none"> <li>• Toilet paper rolls</li> <li>• Paper towel rolls</li> <li>• Tape</li> <li>• Popsicle sticks</li> <li>• Empty boxes – cereal, tissue, shoe, etc.</li> <li>• Paper plates</li> <li>• Plastic cups</li> <li>• Beverage caps</li> </ul>

	the week as a way to encourage students in a discovery process of their ideas and the concept that failure is indeed a part of success.		<p><i>How was Aunt Rose's reaction to an invention by Rosie different from Zookeeper Fred's reaction?</i></p> <p><i>What does that tell you about their different viewpoints?</i></p> <p><i>Why was Aunt Rose excited?</i></p> <p><i>What must come before any great success?</i></p> <p><i>What was the author's purpose for writing this book?</i></p>	Example of a student creation related to supply list to send home:	<ul style="list-style-type: none"> <li>• Pipe cleaners</li> <li>• Aluminum foil</li> <li>• Clothespins</li> <li>• Large buttons</li> <li>• Thick string/cord</li> <li>• Straws</li> </ul>
T U E S D A Y	<p>Read Aloud: <i>Engineers Solve Problems</i> by Miller and Sikkens (in EPIC book collection)</p> <p>Project the text on large screen for all to see.</p> <p><b>Additional Resource:</b> YouTube video of a high school student talking about engineering through her own experiences: 2:21 <a href="https://tinyurl.com/y9nl6c48">https://tinyurl.com/y9nl6c48</a></p>	<ul style="list-style-type: none"> <li>• Technology</li> <li>• Improve</li> <li>• Design</li> <li>• Solution</li> <li>• Diagram</li> <li>• Engineering Design Process</li> </ul>	<p><i>Imagine a world without technology. What would it be like?</i></p> <p><i>What are the advantages of technology?</i></p> <p><i>What role do engineers play in new technology? (they followed the Engineering Design Process to come up with easier/better solutions to problems)</i></p> <p><b>**Teachers – Lead the class in creating a class anchor chart showing the steps in the Engineering Design Process (p. 12-13 of today's text, <i>Engineers Solve Problems</i>).</b></p>	<p>Create a flow chart in your journals showing the Engineering Design Process.</p> <p><b>Suggestion:</b> Print off to display/discuss the PDF of Rosie Revere, Engineer Guide to Engineers</p> 	<p><b>Suggestion:</b> PDF on Rosie Revere Extension Activities – many independent choice tasks for students to complete. Or you could select a few of the ideas to use in centers.</p>
W E D N E S D A Y	<p>1. Re-Read <i>Rosie Revere, Engineer</i>.</p> <p>2. YouTube video of the author, Andrea Beaty, talking about writing <i>Rosie Revere, Engineer</i>. 5:45 <a href="https://tinyurl.com/yd4z566v">https://tinyurl.com/yd4z566v</a></p> <p>3. Photos of children's creations using spare parts: <a href="https://tinyurl.com/y7sa9'hft">https://tinyurl.com/y7sa9'hft</a></p>		<p>1. <i>What is the common theme for the notations next to plane drawings? (all were related to women)</i></p> <p><i>*read historical note on final page of book</i></p> <p><i>What message is the author conveying to readers? (women can do anything; success is preceded by failures, etc.)</i></p> <p><i>Think of some amazing women you know. What were their goals and how did they achieve them? Share with a partner.</i></p> <p>2. <i>What is your impression of Andrea Beaty's character traits?</i></p> <p><i>What goals did she set and achieve in her life?</i></p> <p><i>Did she ever fail?</i></p> <p>3. After the writing prompt is completed, show students the photos of children's creations using items brought from home as a reminder of the project fun for Friday.</p>	The theme of the book, Rosie Revere, Engineer is.....	<p><b>Suggestion:</b> PDF of Crossword Puzzle using words from Rosie Revere for independent student work.</p>
T H U R S D A Y	<p>EPIC book titled: <i>How Do Helicopters Work?</i> by Boothroyd</p> <p>Display this EPIC book on large screen for shared reading, whole group. Pause only to point out the function of the blade and the importance of force in a helicopter's</p>	<ul style="list-style-type: none"> <li>• force</li> </ul>	<p><i>We learned about FORCE during our unit on natural disasters and erosion.</i></p> <p><i>There are 3 types of force mentioned in this book: lift, thrust, torque.</i></p> <p><i>Let's look at the glossary on page 30 to read the definitions and discuss the differences among the 3.</i></p>	Students will complete the Engineer's Notebook sheet.	<p>Supplies needed:</p> <ul style="list-style-type: none"> <li>• PDF of Rosie Copter template printed on cardstock – at least two copters per student/team</li> <li>• PDF of Rosie Revere</li> </ul>

	<p>design.</p> <p>Review the illustrations of Rosie's heli-o-cheese-copter from <a href="#">Rosie Revere, Engineer</a>.</p>		<p><i>So in each case, the force does what? (It causes the helicopter to move)</i></p> <p><b>*Teachers – “force” (meaning a push or a pull) is a major standard for 2<sup>nd</sup> grade.</b></p> <p><i>Today you will be trying to improve the design of a simple helicopter – trying to improve its motion, so keep “force” in mind.</i></p> <p><b>Teachers – put students in teams of two or assign the task individually.</b></p> <p><b>Explain the task as outlined by PDF handout with highlighted portions. “Rosie Revere Activity - Full packet”</b></p>		<p><b>Engineer's Notebook sheet</b> – one per student/team</p> <ul style="list-style-type: none"> <li>• scissors</li> <li>• rolls of clear tape</li> <li>• paper clips of same size</li> <li>• hole punchers to share</li> <li>• staplers to share</li> <li>• scrap paper</li> <li>• other design and craft supplies of your choosing</li> </ul>
<p><b>F</b></p> <p><b>R</b></p> <p><b>I</b></p> <p><b>D</b></p> <p><b>A</b></p> <p><b>Y</b></p>	<p>Re-read <a href="#">Rosie Revere, Engineer</a>, focusing on Aunt Rose's encouragement and why Rosie wanted to help her aunt.</p> <p>Photos of children's creations using spare parts: <a href="https://tinyurl.com/y7sa9'hft">https://tinyurl.com/y7sa9'hft</a></p>	<p>2 more examples of student-made creations:</p>  	<p><b>COPTER TIME (credit to <a href="#">Reading is Fundamental Extension Activities for Educators – Rosie Revere, Engineer</a>)</b></p> <p><i>Design and build your own flying machine for Rosie's Great-Great-Aunt Rose. How would you build it? What materials would you use? How would Great-Great-Aunt Rose fly it? Draw a picture of the machine and then build a model using materials found in your classroom.</i></p> <p><i>A flying machine could be like a helicopter, a plane, a jet, whatever can fly!</i></p> <p><i>You will first draw a sketch of your design, and then you will build your design.</i></p> <p><i>Remember, it may not work out as you planned the first time, so you may need to make adjustments along the way.</i></p> <p><i>If at first you don't succeed, try, try again!</i></p>	<p>Students will sketch their design in their writing journals.</p> <p>At the conclusion of their project ask students to answer the following prompt:</p> <p>As an engineer, what personality traits would you need? What educational goals would you need to pursue?</p> <p>*Teachers, look for students to write about the need for math &amp; reading skills, as well as the need to never give up, and know that there will be failures along the way.</p>	