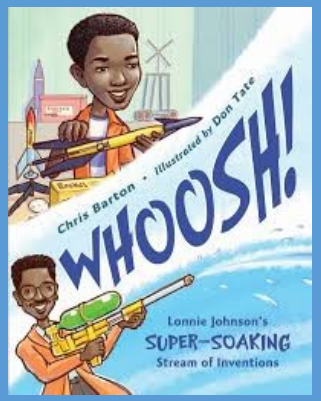

Author: Chris Barton

Illustrator: Don Tate
Publisher: Charlesbridge
Copyright: 2016
# of pages: 32
AR level: 4.7
Lexile: 820

Curriculum Connections: Biography, creativity, problem solving, inventions, engineering, persistence, learning styles, space, science fairs, entrepreneurism, school integration, African-American history.

Best lends itself for instruction of: *Whoosh* is superb for instruction on problem solving, ties easily to any STEM work, and can be used to demonstrate the connection between learning fundamental skills and applying them creatively.

Biography of inventor Lonnie Johnson, who started as a curious rocket and robot building child, then studied engineering and worked at NASA, and found his entrepreneurial success when he invented the Super Soaker water gun.

Text Features:

Color illustrations, diagrams, author's note

Common Core Standards

Primary:

CSS.ELA-Literacy.RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
CCSS.ELA-Literacy.RL.2.7 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.
CCSS.ELA-Literacy.W.2.3 Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide closure.
CCSS.RL.3.3: Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events .

Intermediate:

CCSS.ELA-Literacy.RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
CCSS.ELA-Literacy.RI.4.3
Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
CCSS.ELA-Literacy.RI.4.6 Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.
CCSS.ELA-Literacy.RI.4.9 Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

Lesson Ideas

Primary:

Illustration explanation — Ask students to choose their favorite picture of Lonnie in the book. Students pair up and tell each other how they think Lonnie is feeling in this picture. Explain what the illustration shows about Lonnie and how this was part of his journey to becoming an inventor. CCSS.ELA-Literacy.RL.2.7 CCSS.RL.3.3:

Write a letter as a class — Imagining they are Lonnie attending the science fair with his robot, students should write a letter telling a friend about their big day. CCSS.ELA-Literacy.W.2.3

Make an invention notebook. Each student can contribute one idea to a class book, or each student can start their own notebook and keep it to work on all year (or over summer). Each entry should include both a description and a labeled diagram.

Intermediate:

As a class, create a chart comparing what we learn about Lonnie's experience at the science fair in *Whoosh,* with what he says in the *Forbes & BBC* interviews. CCSS.ELA-Literacy.RI.4.6

Continue the comparison by discussing explicit vs implicit knowledge. Ask each student to write a paragraph supporting two of the differences in the chart by giving examples from each text and identifying them as explicit or implicit. CCSS.ELA-Literacy.RI.4.1

Class discussion: if you were the Toy Company, and Lonnie came to ask you to invest in his invention, what kinds of questions would you ask? Who in the story believes in Lonnie and who doesn't? Why do you think that might be? CCSS.ELA-Literacy.RI.5.3

Give every student, or groups of students, the same pieces of equipment from one of the projects in The Gadget Inventor Handbook or the Craft Stick Harmonica project from Frugal Fun. Challenge them to make something that does X. After 10 minutes, have them turn & share with someone nearby for 5 minutes. Then allow 10 minutes for partners to work together to re-engineer using the engineering design process. Partners present and share with class what they learned and how this relates to Lonnie's experience as an inventor using examples from the text. CCSS.ELA-Literacy.RI.4.3

Text Set Options

Don Tate (Illustrator) video interview

Papa's Mechanical Fish by Candace Fleming
Margaret Ferguson Books, 2013 AR 2.1

Ada Twist Scientist by Andrea Beaty and David Roberts
Abrams Books 2016 AR 3.4

The Marvelous Thing That Came From A Spring: The Accidental Invention of the Toy That Swept the Nation by Gilbert Ford 2016 AR 4.2

Who Invented the Ferris Wheel? George Ferris by Sara L Latta
Enslow Elementary 2012 AR 2.4

125 Cool Inventions
National Geographic Kids 2015 Lexile 1050

If You Were a Kid During the Civil Rights Movement byGwendolyn Hooks
Children's Press 2017 AR 4.8

The Boy Who Harnessed the Wind byWilliam Kamkwamba
Dial Books 2015 AR 5.3

The Gadget Inventor Handbook by Mike Warren
Sterling Children's Books 2017 AR 8.3

Inventions and Inventors by Darren Sechrist
Crabtree Pub. 2009 AR 4.0

Forbes Q & A interview with Lonnie Johnson

BBC interview with Lonnie Johnson

Frugal Fun for Boys & Girls, Craft Stick Harmonica project

How Water Blasters Work article & diagram

Science Buddies Engineering Design Process