

Papa's Mechanical Fish

AUTHOR: Candace Fleming

ILLUSTRATOR: Boris Kulikov

PUBLISHER: Farrar Strauss Giroux

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ART MEDIUM:

GENRE: Historical Fiction, Mystery/Suspense

LIFE SKILLS: Personal Best, Cooperation, Curiosity, Perseverance, Problem Solving

SYNOPSIS:

During a trip to Lake Michigan in 1851, a little girl named Virena Phillips asked her daddy if he ever wondered what it would be like to be a fish. Inventor Lodner Phillips took it upon himself to answer his daughter's question. With perseverance and help from his family, he designed a submarine to take everyone on a trip to the bottom of Lake Michigan.

BOOKTALK:

During a trip to Lake Michigan in 1851, a little girl named Virena Phillips asked her daddy if he ever wondered what it would be like to be a fish. Inventor Lodner Phillips took it upon himself to answer his daughter's question. With perseverance and help from his family, he designed a submarine to take everyone on a trip to the bottom of Lake Michigan.

AUTHOR: Candace Fleming

Candace Fleming has been writing for as long as she can remember. She filled notebook after notebook with stories, plays, and poems. Once she had children of her own, she read to them all of the time and discovered that she could write children's books and do all of the things she loves - storytelling, musical language, history, and reading. She currently lives in Chicago with her family.

Other books written by the author:

Tippy Tippy Tippy Splash

Bulldozer's Big Day

Oh No!

Tippy Tippy Tippy Hide

Muncha, Muncha, Muncha

ILLUSTRATOR: Boris Kulikov

Boris Kulikov studied art at The Institute of Theatre, Music, and Cinema in St. Petersburg, Russia. His books have been featured in the “Best Books of the Year” lists for *School Library Journal*, *Publishers Weekly*, *Child Magazine*, and *Time Magazine*. He currently lives in Brooklyn, New York, and works as an illustrator.

Other books illustrated by the illustrator:

Albert Einstein

Franklin Big Dreams

Max's Words

The Boy Who Cried Wolf

CHALLENGING WORDS:

mechanical

tinkering

clankety-bang

thump-whir

collapsible

edible

twiddles

racks his brain

troop out

clatters

whirls

sand dunes

vessel

salmon

trout

bobs

surface

life preserver

levers

waterproof

copper

chugs

buoy

oars

barricades

air-cooling

air-compression

air-purifying

steam boiler
portholes

DISCUSSION QUESTIONS:

1. Why didn't Papa give up his submarine invention when it didn't work the first few times?
2. Usually inventions are made to solve problems. What would you invent to solve a problem?
3. What things did Papa need to make a submarine?
4. What invention is Papa inspired to make at the end of the book? How do you know?

ACTIVITIES WITH STANDARDS:

Science:

- Make a list of the things that Mama brings with her on the fishing trips (poles, towels, oars, life preserver, etc.). Discuss the uses of the objects in the story and how they helped Papa finish his invention. Students pick an object and draw another use for the object. Students share their pictures with each other.

K.1.2 Identify and explain possible uses for an object based on its properties and compare these uses with other students' ideas.

- Discuss with students how the invention of the submarine has affected human life - in positive and negative ways. Using *World Book Online* or another online encyclopedia, students research other simple inventions. They can draw a picture of the invention and explain its uses.

2.4.2 Identify technologies developed by humans to meet human needs. Investigate the limitations of technologies and how they have improved quality of life.

- Using a STEM challenge planning sheet ([see graphic organizer](#)), students work in partners to find a need that they have at school or at home and then design an invention to solve the problem.

2.4.3 Identify a need and design a simple tool to meet that need.

3.4.2 Define the uses and types of simple machines and utilize simple machines in the solution to a —real world problem.

RELATED INTERNET SITES:

Information and images related to Lodner Phillips

[http://www.therebreathersite.nl/12 Atmospheric%20Diving%20Suits/1856 Phillips/1856 Phillips.htm](http://www.therebreathersite.nl/12_Atmospheric%20Diving%20Suits/1856_Phillips/1856_Phillips.htm)

Library Sparks Magazine - book activities

http://librarysparks.com/pdf/librarysparks/2014/lsp_ll_onomatopoeia_apr14.pdf

Submarine Facts for Kids

<http://www.sciencekids.co.nz/sciencefacts/vehicles/submarines.html>

PBS Design Squad

http://pbskids.org/designsquad/parentseducators/guides/invent_guide.html

STEM Ideas on Pinterest

<https://www.pinterest.com/clweems/stem-ideas/>

Author Website

<http://www.candacefleming.com/>

Illustrator Website

<http://www.boriskulikov.com/>