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Audience: 6th Grade ELA, Math, and Science

Title & Narrative:
STEM for ALL

To enable our students to see the importance of the space program, and why we want to study the world around us we have decided a concentrated approach will lead to more students being interested in the space program. It begins with a Language Arts component which teaches students about the importance of ALL people to the space program by means of a book study of the book, Hidden Figures. This book speaks of the first African American Females who helped in the beginning of the space program. They helped to send John Glenn into space.

The story continues in the student's Math course where the coordinate grid is used to show students how the astronauts (and all scientists/mathematicians) find their way to the places they need to reach. In their Science course, they will learn about the history of the space program and students will engage in a dialogue about their ability to change our future as they explore the further regions of our solar system. This exploration becomes hands on if a visit to (or from) a planetarium is included.

This kit is aimed at teachers in the 6th grade that are interested in providing a holistic curriculum. This kit is designed to assist students with a limited solar system view and have a narrow view of their impact in the Universe.

NASA Content, etc:

Specific NASA resources would be incorporated in each of our classes.

Mathematics Resources:

<http://spacemath.gsfc.nasa.gov/YOSS/YOSS.pdf>

<http://spacemath.gsfc.nasa.gov/Modules/6Module9.html>

STEM Career Links (used in LA discussions)

<https://pmm.pps.eosdis.nasa.gov/education/interactive/stem-careers-exploration>

Science Resources:

<http://amazingspace.org/resources/explorations/trading/game.htm?ssscssssscs>

<https://solarsystem.nasa.gov/galleries/video/what-is-a-planet>

<http://astroventure.arc.nasa.gov/teachers/pdf/AV-Astronolesson-Part1.pdf#page=28>

Student Engagement:

Students will learn about how minorities were initially included in the Space Program. Students will also learn about new ways they could contribute to the program. They will be learning the first essential lessons about how to find their way in the vastness of space. They will be learning about the different types of careers which are available through NASA. They will also be learning about the different ways they could contribute without going into space.

Goals:

The goals for this project are to introduce students to the ways minorities have contributed to the space program. Also, students will learn about how to find their way in space using the coordinate grid. Finally, students will learn about the different ways they can contribute to the advancement of science even if they never make it into space. Our students need to be exposed to the ways minority people have had an influence on the advancement of science. The roles of minorities have not been made broad public knowledge. When we did research, we could find no books about the Native American role in the exploration of space or the advancement of scientific knowledge. That is the purpose of our reading selection. We want our students to know that they can have an impact on the future of science and the space program.

Project resources and costs:

Item Description	Vendor or Supplier	Estimated Cost per item	#	Total	URL/link where item may be purchased at price indicated
Hidden Figures Young Readers' Edition	Amazon Prime	\$7.99	15	\$119.85	https://www.amazon.com/Hidden-Figures-Readers-Margot-Shetterly/dp/0062662376/ref=sr_1_1?s=books&ie=UTF8&qid=1475368310&sr=1-1&keywords=hidden+figures+young+readers%27+edition
Hidden Figures	Amazon Prime	\$17.70	20	\$354.00	https://www.amazon.com/Hidden-Figures-American-Untold-Mathematicians/dp/006236359X/ref=sr_1_1?s=books&ie=UTF8&qid=1475368395&sr=1-1&keywords=hidden+figures+the+story+of+the+african-american+women+who+helped+win+the+space+race
Dry Erase Board w/ Coordinate Grid	Amazon	\$11.45	30	\$343.50	https://www.amazon.com/Nasco-TB22066T-Dry-Erase-Coordinate-Double-Sided/dp/B00EJSMP84