INTRODUCING YOUR CHILD TO STEM

Science, Technology, Engineering and Mathematics (STEM) education provides young adults with the opportunity to participate in many themed hands-on activities, including those with connections to sports, history, and other subjects.

Activities involving the VEX Explorers construction toys by Hexbug help individuals learn more about science and engineering by engaging in activities that are useful and enjoyable while providing them with hands-on experiences in those key areas.

This activity with the VEX Explorers provides a fun, interesting, and creative way for students to learn more about space exploration.

GENERAL SOLUTIONS

ACTIVITY ONE

Your child should be as creative as they'd like in their story, but they should include items constructed from the VEX Explorers kit. Additionally, they can use extra paper to expand upon their story, reenact, and/or record their story. The goal is to inspire within them a desire to learn more and to become innovative, creative individuals.

ACTIVITY TWO

Guide your child as they build their landing capsule by gathering all of the objects that floated. Help them test each item separately to see if the astronaut figurine balances on the object. Discuss which items could be connected to build the safest capsule (objects can be fastened together using foil, string, or rubber bands). There are multiple ways to solve this challenge. However, a simple solution is to create a flat surface with aluminum foil, place cork around the edges, and wrap the foil over the cork.

EXTEND YOUR LEARNING

DISCUSS

Ask your child questions about what they found most interesting about space exploration or any other aspects of the activities. Discuss the importance of historical event(s) and the great women and men who have impacted and influenced outer space exploration.

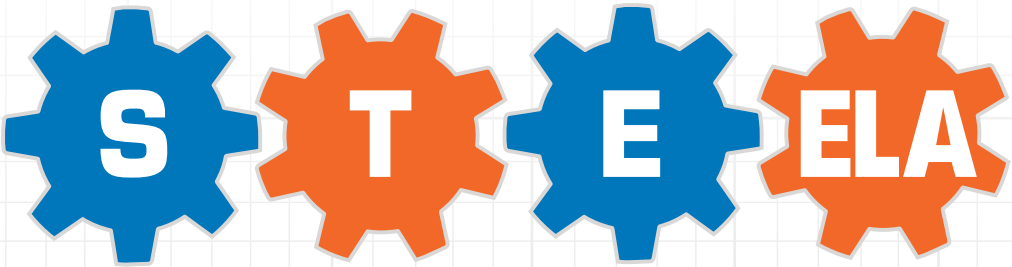
APPLY

To shed more light on space exploration, find movies, books, or local events about ideas or topics that your child found interesting while playing with their explorer kit. Movies and books are a fun way for kids to learn about historical events and the unique experiences of space exploration. Also, find local events or museums to take your child to in order to help your child participate in real-life, interactive learning experiences. They can also recreate or make adaptations to movie scenes using their VEX Explorers kit.

EXPLORE

You can explore additional VEX Hexbug investigations, builds, and more here: https://www.hexbug.com/vex

STANDARDS ADDRESSED



S

HE-ETS1-2
Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

2-PS1-2
Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

HS-ETS1-3
Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

T

ISTE1.1B
Students build networks and customize their learning environments in ways that support the learning process.

ISTE3.3D
Students build knowledge by actively exploring real world issues and problems, developing ideas and theories while pursuing answers and solutions.

ISTE4.4D
Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

ISTE6.6A
Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

ISTE6.6C
Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

E

K-2-ETS1-1
Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2
Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

3-5-ETS1-1
Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2
Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

ELA

CCSS.ELA-LITERACY.RL.1.7
Use illustrations and details in a story to describe its characters, setting, or events.

CCSS.ELA-LITERACY.W.3.3.A
Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.

CCSS.ELA-LITERACY.W.3.3-4.B
Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.

CCSS.ELA-LITERACY.W.4.3.D
Use concrete words and phrases and sensory details to convey experiences and events precisely.

STANDARDS REFERENCED

TECHNOLOGY
International Society for Technology in Education
http://www.iste.org/standards

SCIENCE & ENGINEERING
Next Generation Science Standards
http://www.nextgenscience.org/

ENGLISH & LANGUAGE ARTS
Common Core State Standards
for English Language Arts
http://www.corestandards.org/ELA-Literacy/