



The Journey To Space



SESSION 1

Earth Science

Students will dig deep into different layers of our Earth atmosphere. The cause of sea level rise and Earth science, missions and climate change.



SESSION 2-3

Engineering Design Process

STEM curriculum provides and guides students to complete a series of experiential tasks in engineering design process, while Kolb's model is used to develop micro-activities in each task of engineering design



SESSION 4-6

Introduction to the world of design

Students will understand about basics of 2D and 3D designs, different tools and the process behind conversion the idea stage to real life products.



SESSION 7-10

Mission to Mars Unit

In this, students will learn about Mars, design a mission to explore the planet, build and test model spacecraft and components, and engage in scientific exploration. The unit takes students through seven stages, including learning about the planet, planning the mission, designing the spacecraft, launching, landing, surface operations and sample handling.



SESSION 11-12

"Pi In tha sky

This visual math problem set, students a chance to try using the mathematical constant pi on some of the real calculations space explorers use every day. a chance to see some of the exciting, real-world applications of the math they're learning in school."





SESSION 13-15

Rocketology

Students perform a simple science experiment to learn how a rocket works and demonstrate Newton's third law of motion. Students will predict the motion of a rocket, perform an experiment to verify and repeat the experiment to validate the results.

Kit Included - Rocket Launcher kit



SESSION 16 -18

Weather and Climate Introduction

Student will discuss the differences in scope between weather and climate. Students will gain a better understanding of the components of weather that are measured and how long-term weather measurement relates to climate change.



SESSION 19-21

Earth and Mars: An Atmospheric perspective

What makes the space suit work? How do astronauts survive with zero gravity inside space suits? We also explore a brief history of space walks.

Kit Included - Space Suit



SESSION 22-24

Life at the space station (ISS)

Having floating water droplets, fixing huge parts with space walks - there's so much to do at the ISS! We explore its design, structure and importance in supporting global missions. A surprise Math Puzzle awaits you at the end!



SESSION 25-27

Life at the ISS - Part II

The adventure continues.



SESSION 28-29

Space Debris

Student will learn more about what it takes to maintain a satellite's orbit, common Earth orbits, and the science behind calculating an orbit.





SESSION 30-32

Jet propulsion

Jet propulsion is the driving forward of a body by means of a jet of gas or fluid. The idea dates back to the 1st century ad when Hero of Alexandria built an engine called an aeolipile. He mounted a hollow metal globe with projecting tubes between two pipes so it could spin. Steam entered the globe through the pipes.

Kit Included - Jet Engine



SESSION 33-35

Get Right With The Satellite

It's the thing that makes possible the broadcast of signals from millions of miles away, and it always orbits around Earth! Explore how satellites help in tracking weather changes and in communication between spacecrafts.



SESSION 36-38

Hands On With A Satellite

Apply your basic learnings from the previous session to design and build your very own Satellite.

Kit Included - Mini Satellite



SESSION 39-40

IOST - Internet of Satellite Things

Learn how interconnected parts communicate with each other to make awesome stuff happen. It's all in the connection!



SESSION 41-44

Introduction to Python

Get whacking away on those keys and learn how to generate codes, program a satellite and make awesome mathematical models.



SESSION 45-47

Incoming: Satellite to PC

Now that you have developed models of satellites and basic codes, it's time to patch things up between the satellite and your PC. Let the talks begin!





SESSION 48-49

All about Electronics

Learn about electronic devices and equipments used in industrial machineries specially in space tech. Experiment and apply the learning on your builds.



SESSION 50-53

Wanna become Elon Musk !

Plan a new reusable rockets design company along with logo



SESSION 54-55

Space Mathematics

Students use an image from IRIS to examine the sizes and equivalent energy of bright spots in the solar transition region. Together we define terms like: percentage; proportion; scale; scientific notation; volume of a cylinder.



SESSION 56-57

Graphing Sea level trends

In this activity, students will use sea-level rise data to create models and compare short-term trends to long-term trends. They will then determine whether sea-level rise is occurring based on the data.



SESSION 58-60

Design your own mission

