Workshop 5 Rocket Science

Core STEM: TECHNOLOGY ENGINEERING SCIENCE MATHS

Core Subjects: SCIENCE, ASTRONOMY, ENGINEERING, CHEMISTRY, PHYSICS, MATHS

Activity: Rocket Science.

General description: Building on previos workshop about engineering and design principles, students will develop their own paper rockets to be launched using an air pressure rocket launcher. Students will the STEM skills developed during previous workshops to make improvements and compete for the highest or longest time-of-flight rocket. The activity will culminate with the launch of a solid fuel rocket.

Parts:

PART 1) Students will explore the parts of a rocket and the importance of rockets in space exploration. Types of fuels for rockets will be discussed (and maybe tested) to understand the physics of propulsion.

PART 2) Students will design, construct and decorate their own paper rockets. Worksing sistemattically, they will experiment and explore how changing the fin design and the weight distribution affects the rocket flight path.

PART 3) Students will test their final creations in rocket launching contest, where they will gather their observations and plot the the flight data of each rocket to select the winner. The activity will culminate with the launching of solid fuil model rockets.

Space Theme Rationale: Rocket Science and rocket propulsion are fundamental to space exploration. Understanding how rockets work will allow the explorer to better understand all teh science surrounding them, and will prepare the explorer for the future to come.

Core Concepts: Forces. Properties of Materials. Materials and change. Science and the Environment. Materials and Change.

Core Skills: Designing and Making, Working Scientifically
Strands: Materials , Energy and Foreces, Environmental Awareness