

TECH:Model Rocketry - Air Powered (Trans)

Summary

Through the experience of flying a rocket, the student will appreciate the importance of fin alignment, how the laws of physics affect the flight of a rocket and the elements of aerodynamics that are displayed in rocket flight. They will also utilize basic Trigonometry to calculate rocket altitude.

Time Frame

3 class periods of 45 minutes each

Group Size

Large Groups

Life Skills

Thinking & Reasoning

Materials

- 1- 1/2" x 6" cardboard tube
- 2- 11/4" x 8" card stock (fins)
- 3- 1/2" x 1/2" dowel
- 4- 8xxx cork
- 5- 1" brad nail
- 6- 1" drinking straw
- 7- Air Launch Apparatus

Background for Teachers

Resources for materials:

- 1- Rocket tubes.....CARAUSTAR industrial and consumer products group
2585 South 2570 West
S.L.C. UT. 84119
801-972-1476
- 2- Corks, straws, dowel...PITSCO
P.O. Box 1707
y, Kansas 66762-1707
1-800-362-4308

Intended Learning Outcomes

- 1- The Student will describe the evolution of rocketry and the impacts of aerospace technology.
- 2- The Student will explain the basic principles of flight and basic physics of motion.
- 3- The Student will design, construct, and launch a small rocket.

Instructional Procedures

Before begin the actual creation of the rocket: Student will read the related information in rocketry unit, know the key words and definitions, complete the rocketry unit worksheet.

Steps for designing and creating rocket:

- 1- Draw a sketch of the parts of a rocket
- 2- glue dowel piece onto the big end of cork to make nose cone

- 3- Trace and cut out three fins
- 4- Make a fold on the root edge of fin
- 5- Mark and draw fin alignment lines on rocket tube
- 6- Glue fins on rocket (glue folded tab onto body tube)
- 7- Glue nose cone on rocket tube
- 8- Glue straw segment next to fin along the rocket tube
- 9- Launch the rocket.
- 10- Student will collect launch and flight data in order to determine altitude of rocket flight.

Authors

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