

Thrust

5 E's Lesson Plan

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Objective:

- Participants will:
- Observe how unequal pressure creates power
- Explain that air power can help airplanes fly
- Construct a working model of an air engine
- Build a simple rocket and explain how it is related to Newton's Third Law.

Standards: Science as Inquiry, Science and Technology, Physical Science
Position and Motion of Objects

ENGAGE	Participants will view and interact with the Exploring Aeronautics CD-Rom which offers an introduction to aeronautics and the fundamentals of flight.
EXPLORE	The education specialist will model a simple air engine by inflating a balloon and ask participants of their observations about what happened to the balloon. Participants will then assemble a model of an air engine and determine the distance that the air engine traveled with different sizes and shapes of balloons
EXPLAIN	Education Specialist will explain about Newton's third law and how it relates to thrust. Explain that thrust in an airplane can be generated by propellers, jet engines, or rocket engine.
ELABORATE	Education Specialist will model a simple rocket using a film canister and effervescing antacid tablets. Explain how the thrust is produced.
EVALUATE	Participants will make a drawing of their air engines, and tell how they worked. Participants will then build a simple rocket to using a film canister, water, and an effervescing antacid tablet. Participants will wear safety glasses. Participants will then explain how Newton's third laws relate to thrust in a written paragraph.