Rocketry Activity Pack

AIR-POWERED ROCKET DESIGN LAB

What Students Do

Students design and build an air-powered paper rocket, test how the nose cone, fins, weight, and launch angle affect flight, then measure results and improve the design. They explore Newton's Third Law and the forces of thrust, drag, lift, and gravity while using evidence from repeated launches to explain which changes improve performance.

24	60-90	3-8	1
STUDENTS	MINUTES	GRADES	SITE LAUNCHER

KNT Activity Pack Includes

- Teacher Guide and facilitator resources
- Student Activity Book, Rocket Design Sheets, and Launch Logs
- Rocket body, nose-cone, and fin templates
- Step-by-step build instructions and challenge prompts
- Printed materials may be packaged as a ready-to-use classroom set for up to 24 students
- Site supplies common classroom materials plus the KNT-approved air-powered launcher and rocket-forming tool

Students Learn To

- Identify the body/fuselage, nose cone, and fins and explain their functions
- Explain how thrust, drag, lift, and gravity affect rocket flight
- Describe Newton's Third Law in the context of an air-powered launch
- Test how one design variable changes distance, height, stability, or direction
- Measure and record launch results
- Use evidence to redesign and improve a prototype

How It Works

1. **DESIGN** — Choose a rocket body, nose-cone, fin shape, and one variable to investigate.
2. **BUILD** — Roll and seal the paper body, add the nose cone and fins, and prepare the rocket for launch.
3. **LAUNCH** — A facilitator places the rocket on the air-powered launcher and operates the launch while students remain clear.
4. **IMPROVE** — Record results, change one design feature, and launch again to compare performance.

Build. Launch. Measure. Improve.

The Activity Pack supplies KNT-developed curriculum, templates, design sheets, and student resources. The site provides the air-powered launcher, rocket-forming tool, and common classroom supplies. For safety, the facilitator operates the launcher.

Pairs with KNT curriculum, classroom resources, staff training, and expanded-learning implementation.

Kids N Technology

Hands-on AI + STEM learning for schools, afterschool, summer, and youth-serving programs.

Discuss Curriculum + Kits

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