



Catapult Challenge

FORCE, MOTION + ENGINEERING DESIGN

What Students Do

Students **build a working craft-stick catapult**, complete repeated baseline tests, measure performance, change one engineering variable, and retest. They compare an AI recommendation or prediction with real-world evidence to decide whether the redesign actually improved performance.

24

STUDENTS

90

MINUTES

3-6

GRADES

1

SHARED AI DEVICE



KNT Classroom Pack Includes

- Teacher Guide and facilitator resources
- Student Engineering Data Sheets and performance rubric
- Craft sticks, rubber bands, and launch cup/spoon materials
- Soft pom-pom projectiles and approved adhesive/tape
- AI Prediction backup card for blocked/no-internet settings
- Classroom measuring tools and launch-zone tape are site-supplied

Students Learn To

- Build and safely operate a simple lever-based catapult
- Explain potential energy and kinetic energy
- Conduct repeated tests and record performance data
- Change one variable and compare baseline vs. redesign results
- Use evidence to explain whether performance improved
- Verify an AI recommendation or prediction through real testing

How It Works

- 1 BUILD**
Assemble the craft-stick catapult and establish a safe launch zone.
- 2 TEST**
Complete three baseline launches and record results.
- 3 REDESIGN**
Choose one approved variable to change and make a prediction.
- 4 VERIFY**
Retest, compare evidence, and decide whether the change worked.

AI Can Predict. Engineers Test. Evidence Decides.

The physical engineering build stays at the center of the lesson. AI is used as a facilitator-controlled source of a recommendation or prediction, while students build, observe, measure, test, verify, and make the final engineering decision.

Pairs with KNT curriculum, classroom kits, 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

kidsntechnology.net/contact