Phone Stand Prototype

SD-B118 / STRATEGISTS · AGES 10–12

Build and test a stand that holds a phone-sized object at an angle.

YOU NEED: Cardboard, tape, scissors (grown-up), a phone-sized object (a book is fine)

ANALYZE	A stand must hold something at a useful angle without falling. List three things it needs to do.
CHOOSE	Sketch two ideas: a fold, a prop or a slot. Choose the one you think is strongest.
TEST	Build it. Test with the phone-sized object: does it hold and stay steady when you tap near it?
REFLECT	Fix the weakest point. What did the test show that the sketch did not?

SKETCH TWO IDEAS

IDEA 1

IDEA 2

My three requirements

1. 2. 3.

Test result and fix

It held / failed because

I fixed it by

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A little help beside the learner. Read this page first; keep the answers here.

LEARNING GOAL
Practice designing to requirements, testing a prototype and improving it.

BEFORE YOU BEGIN
You need: Cardboard, tape, scissors (grown-up), a phone-sized object (a book is fine). Test with a book or phone-sized box first, not the real device.

HOW TO GUIDE
Use a book or box the size of a phone for testing, not a real device, until the design is proven. The grown-up handles scissors if needed. Let tests fail, and ask what the failure shows.

WHY IT MATTERS
Prototyping makes ideas testable. A first design that fails teaches more than a plan that was never built.

LOOK FOR THIS REASONING
Look for requirements written before building, a test that matches them, and a fix that answers what the test showed.

IF THEY GET STUCK
Ask what makes things fall over (a narrow base, a high center). Try making the base wider or adding a back support.

MAKE IT GENTLER
Build only one idea and test it.

ADD A LITTLE STRETCH
Add a rule: it must work at two different angles.

A USEFUL STOPPING POINT
Use the stand for a day and note whether it helps.