Knot Test

SD-B121 / STRATEGISTS · AGES 10–12

Compare three knots and find which holds the most before slipping.

YOU NEED: About 2 meters of cord, a small bag, weights (books or cans), a grown-up

ANALYZE	Choose three knots to compare (for example overhand, figure-eight, a simple loop). Predict which holds best.
CHOOSE	Tie each knot in a cord looped around a bag. Add weight a little at a time.
TEST	Record the weight when each knot slips or comes undone. Use the same cord and the same steps each time.
REFLECT	Which knot held the most? Was your prediction right?

RESULTS

Knot	Weight when it slipped	Rank

My prediction

I predict ___ will hold best because

What I learned

The strongest knot was

One thing that might change the result:

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

LEARNING GOAL
Practice making a prediction, running a fair test and ranking results.

BEFORE YOU BEGIN
You need: About 2 meters of cord, a small bag, weights (books or cans), a grown-up. Use light weights over a soft surface; keep fingers and faces clear of tight cords.

HOW TO GUIDE
Weights must be small and the floor soft. A grown-up should supervise. The test is fair only if the cord, the loop and the way weight is added stay the same for each knot. Repeat a knot twice if time allows.

WHY IT MATTERS
A fair test changes one thing and keeps everything else the same. Knots make that visible and hands-on.

LOOK FOR THIS REASONING
Look for the same cord and loop every time, results written down, and a conclusion that matches the numbers.

IF THEY GET STUCK
Ask: what could be different between the tests besides the knot? Make a list and fix each one.

MAKE IT GENTLER
Test just two knots.

ADD A LITTLE STRETCH
Repeat each knot twice and average the weights.

A USEFUL STOPPING POINT
Use the best knot to tie something at home with a grown-up.