Science fair projects for 1st graders: counting, not measuring

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Six science fair projects that fit 1st grade, where the answer is something to count or see: pennies in a foil boat, spoonfuls in a paper towel, a leaning plant.

The best 1st grade science fair projects ask one simple question and answer it by counting or looking: how many pennies a foil boat holds before it sinks, how many spoonfuls of water a paper towel soaks up, which plant leans toward the window. Six of the forty projects on Peabody fit 1st grade. Each takes an afternoon or less to test (one takes a few minutes a day for twelve days), costs nothing or about a dollar, and gives an answer a six-year-old can see for themselves.

I built the science fair pages on Peabody with the youngest scientists in mind: the steps can be read aloud, the hypothesis is a sentence your child says before the test, and the results table has room for numbers or pictures. Here's what a 1st grade fair is really asking for, and the six that fit.

What a 1st grade fair expects

A six- or seven-year-old can change one thing and notice what happens, but rulers and their little lines are still new. So the right 1st grade project has an answer you can count (pennies, spoonfuls) or see (which chalk mark is shortest, which cup still has ice, which plant bends). At this age a judge cares far more about the question and a drawing of what happened than about a tidy table.

What that means in practice:

- One thing changed, one thing counted or seen.
- Three tries at each level if you can. It's the habit that matters. One try is often fine at a first fair.
- A table with numbers or pictures. Drawing three boats with pennies beside them is a results table.
- A picture graph, or a simple bar for each thing tried.
- What happened, in your child's own words.

A grown-up does a lot of the reading and writing at this age, and holds the ruler. That's expected. The words on the board should still be your child's, even if you held the pen.

The six that fit

Two of the six are pure counting. The other four have an answer you can see at a glance, and a grown-up reads the number off the tape measure, ruler or timer for the table.

- Project: How does a shadow change through the day? · Grades: 1st–4th · Testing: 1 day · Count or see: see: chalk marks at 9, noon and 3 · Cost: free
- Project: Which floor makes a ball bounce highest? · Grades: 1st–5th · Testing: 1 day · Count or see: see: the ball against a tape on the wall · Cost: free
- Project: Which paper towel soaks up the most water? · Grades: 1st–5th · Testing: 1 day · Count or see: count: teaspoons of water · Cost: free
- Project: Which boat shape carries the most pennies? · Grades: 1st–5th · Testing: 1 day · Count or see: count: pennies · Cost: free
- Project: Which cup keeps an ice cube from melting longest? · Grades: 1st–7th · Testing: 1 day · Count or see: see: which cups still have ice · Cost: about $1
- Project: Do plants bend toward the window? · Grades: 1st–5th · Testing: 12 days · Count or see: see: which plants lean · Cost: free

The 1st grade page has the same six. Projects that start at 2nd grade ask for more measuring with a ruler; the easy projects page lists every one-day project that starts by 3rd grade, if your child wants a stretch.

Notes on each

- The shadow. Stand three bottles of water on a path on a sunny morning, draw round their bottoms with chalk, and mark the tip of each shadow at 9 o'clock, noon and 3 o'clock. The chalk marks are the graph. Never look at the sun: look at the shadow on the ground.
- The ball. Tape a tape measure up a wall, drop the ball from 100 cm (drop it, never throw it) and a helper watches how high it bounces. Carpet, a hard floor, a folded towel.
- The paper towel. Three kinds, labelled A, B and C. Drip water on a square one teaspoon at a time, counting, until it runs off. Counting spoonfuls is the whole measurement.
- The foil boat. Three squares of foil, folded into a raft, a box and a bowl. Add pennies one at a time until water comes in, and count them.
- The ice cubes. Paper, plastic, glass and foam cups, one ice cube in each. Every 10 minutes, look and say which still have ice. It takes a couple of hours, mostly waiting.
- The plants. Nine beans in cups; once they're about 5 cm tall (about five days), three stay on the windowsill, three get turned every day, three go in a shoebox with a hole cut by a grown-up. After seven more days, which ones lean?

How to run it with a 1st grader

1. Ask for the guess first. "Which boat do you think will hold the most pennies? Why?" Whatever your child says, write it down exactly. That sentence is their hypothesis.
2. Do three tries if they're still interested. Peabody's results table has three columns; if your child flags after one, that's fine at this age.
3. Let them do the counting. Pennies, spoonfuls, ice cubes left. You read the ruler when there is one.
4. Make the graph a picture. One bar or one drawing for each thing tried. The tallest bar is the answer.
5. Make the board together. The board plan has six sections in order: Question, Hypothesis, Materials, Steps, Results, Conclusion. Drawings count.

Nothing risky, checked in code

Every project on Peabody passes a check in the code before it reaches a child: no flames, no chemicals beyond the kitchen, no animals, no cultures, nothing off the fair's safe-list, and no hot water below 2nd grade at all. A step with anything sharp is a grown-up's step (in the plants project, a grown-up cuts the hole in the box). Your school's sheet wins, so check it too.

Try tonight

Tear three squares of foil, each 20 cm across. Fold one into a flat raft with its edges turned up a little, one into a square box and one into a round bowl. Float the raft in a tub of water and add pennies one at a time; when water comes in, count the pennies. Dry it, reshape it, and try twice more, then the box and the bowl. That's Which boat shape carries the most pennies?, and your child does every bit of the counting. If foil boats don't appeal, Pick my project asks four questions with three picture boxes each and hands over another.

Questions grown-ups ask

Does a 1st grader really need a hypothesis?

A 1st grade hypothesis is just what your child thinks will happen, said before the test. "The bowl will hold the most because it's round" is perfect. You write it down; it's still theirs.

What about kindergarten?

Peabody's projects start at 1st grade. If your kindergartener's school has a fair, Pick my project offers a 1st grade project as a stretch and says plainly to do it with a grown-up beside them. In the two counting ones, the foil boat and the paper towel, the answer is a number your child counts out loud.

Is it OK if I do most of the writing?

Yes. At this age a grown-up reads, writes down and holds the ruler. Judges at elementary fairs look for the child's own words and drawings, so write what your child says and let them draw the pictures.

Peabody (peabody.kids) is free through the end of 2026, with no ads and no sign-up, and nothing a child taps on the science fair pages is sent anywhere. The library has first books for new readers, for when the board is done.

Free at peabody.kids/blog/science-fair-projects-for-1st-graders