Science fair projects for 3rd graders from the kitchen drawer

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Twelve 3rd grade science fair projects made from salt, sugar, ice, vinegar, cups and spoons, with a results table, a bar graph and a board plan for each.

The kitchen is the best-stocked lab in most houses, and a 3rd grader can run a real science fair project from it: time an ice cube under salt, sugar or sand, float an egg in salt water, measure how high baking soda foam climbs, or count spoonfuls into a paper towel. Thirty-three of the forty projects on Peabody fit 3rd grade, and thirteen of those are kitchen projects. Each one has three tries at every level, a results table, a bar or line graph and a board plan, which is the full set a 3rd grade fair asks for.

I built the science fair pages on Peabody so each project comes with every sheet: the question, the If-Then-Because hypothesis, what to gather, the steps, the results table and the board plan, all ready to print. Here's what a 3rd grade fair expects, twelve projects from the kitchen, and how to run one.

What a 3rd grade fair expects

Third grade is usually the first year a fair wants every part of a project on the board: question, hypothesis, materials, steps, results and conclusion. With a grown-up checking, a 3rd grader can manage nearly all of it. What's new is the graph, and a hand-drawn bar graph on squared paper is all it needs to be: one bar per thing tried, as tall as the middle number of its three tries.

In short, at 3rd grade:

- One thing changed, one thing measured or counted. What's sprinkled on the ice; how long it takes to melt.
- Three tries at every level.
- A results table with the levels down the side and the tries across.
- A bar graph, or a line when the thing changed is a number that goes up (2, 4, 6, 8 tablespoons of salt).
- A conclusion in your child's own words, saying whether the guess was right.

Eight-year-olds tend to want something dramatic, and that's fine if it still measures something: the fizz test and the egg in salt water both look exciting and both produce real numbers. The trap is a project that shows something happening without changing and measuring anything. A volcano that just erupts is a demonstration; change the amount of baking soda and measure the foam, and it's a project.

Twelve from the kitchen

All twelve fit 3rd grade and use kitchen things. The kitchen things page lists every kitchen project for every grade.

- Project: Which paper towel soaks up the most water? · Grades: 1st–5th · Testing: 1 day · Cost: free
- Project: Which boat shape carries the most pennies? · Grades: 1st–5th · Testing: 1 day · Cost: free
- Project: Which cup keeps an ice cube from melting longest? · Grades: 1st–7th · Testing: 1 day · Cost: about $1
- Project: Does sugar dissolve faster in warm water? · Grades: 2nd–6th · Testing: 1 day · Cost: free
- Project: Does food colouring spread faster in hot water? · Grades: 2nd–8th · Testing: 1 day · Cost: free
- Project: What melts ice fastest: salt, sugar or sand? · Grades: 2nd–6th · Testing: 1 day · Cost: free
- Project: What keeps a cut apple from going brown? · Grades: 2nd–6th · Testing: 1 day · Cost: about $1
- Project: Do leaves help celery pull up coloured water? · Grades: 3rd–8th · Testing: 1 day · Cost: about $2
- Project: How much salt does it take to float an egg? · Grades: 3rd–7th · Testing: 1 day · Cost: free
- Project: Does more baking soda make a bigger fizz? · Grades: 3rd–8th · Testing: 1 day · Cost: free
- Project: Does hotter water make a bigger cloud in a jar? · Grades: 3rd–8th · Testing: 1 day · Cost: free
- Project: Does dish soap stop oil and water from separating? · Grades: 3rd–8th · Testing: 1 day · Cost: free

The thirteenth kitchen project for 3rd grade is Which padding keeps a dropped egg from cracking?, which needs a dozen raw eggs (about $3). The other twenty that fit 3rd grade use paper, tape and toys (twelve) or the outdoors and some seeds (eight); the 3rd grade page has all thirty-three.

Kitchen rules worth knowing

- Vinegar and baking soda are the strongest things used, and both are food.
- Hot water appears in three kitchen projects (the food colouring, the cloud in a jar and the salt and sugar crystals), and a grown-up pours it every time.
- A sharp knife is a grown-up's job. The apple and celery projects each have a step marked for a grown-up to cut.

- Test food isn't for eating. The egg, the apple slices and the celery stalks each carry the line "Test food is not for eating" on their project pages.
- The fizz test wears goggles, and goes on a tray.

How to run it with a 3rd grader

1. Write the guess first. The hypothesis sheet has the frame "If I change ___, then ___ will ___, because ___" with the first two blanks filled in from the project. Your child writes the because.
2. Do three tries at every level, and write each number in the results table as soon as it's measured.
3. Draw a bar for each thing tried, using the middle number of the three. The mean column starts at 4th grade on Peabody's sheets, so a 3rd grader doesn't need one.
4. Write the conclusion. Was the guess right, partly right or not? Which bar shows it?
5. Lay out the board. The board plan is a 36 × 48 inch tri-fold with six sections in order: Question, Hypothesis, Materials, Steps, Results and Conclusion, each with its size in inches. Bring photos or drawings of the test, not the test itself: some fair rule sets ban liquids on the display table.

The safety check is code, not a promise

Every project on Peabody is checked in code before it can be shown. It refuses anything off the fair's safe-list of materials, any flame, any chemical beyond the kitchen, any animal, any culture grown on purpose and any project that tests people. Your school's sheet wins: if it says something stricter, go with that.

Try tonight

Put four plates side by side and label them: nothing, salt, sugar, sand. Put one ice cube from the same tray on each, sprinkle a teaspoon of salt, sugar or sand on the right cube, and start a timer. Check every 5 minutes, and write down the time each cube is all water. Do the whole test three times (it takes about an hour and a half). That's What melts ice fastest: salt, sugar or sand?, and the graph is four bars. If your child wants something else, Pick my project asks four questions and hands over one.

Questions grown-ups ask

Is the baking soda volcano allowed?

Usually, as long as it's a test. The elementary rule sets I read allow safe kitchen things like baking soda and vinegar. What a judging rubric scores lowest is a demonstration with nothing tested, and a volcano that only erupts is exactly that. Peabody's version changes the amount of baking soda (1, 2 and 3 teaspoons) and measures how high the foam climbs, three times

each.

Can we use the kitchen while it's going on?

Most of these take about an hour or less and use a tray, a few cups and the counter. The longest sittings are the ice cubes in different cups (about two and a half hours) and the ice under salt, sugar and sand and the apple slices (about an hour and a half each), and those are mostly waiting while you check now and then.

Do we need to buy anything?

Nine of the twelve cost nothing. The apple, the cups and the celery cost about a dollar or two for what most kitchens lack.

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 3rd grade stories for after the board's done.

Free at peabody.kids/blog/science-fair-projects-for-3rd-graders