Nine questions science fair judges ask, and how kids answer

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The nine questions science fair judges ask most, in a child's words, with a strong answer and a weak one for each, and a free way to practise at home.

Science fair judges ask some version of the same nine questions: why you chose your question, what you thought would happen, what you changed and measured, what you kept the same, how many times you tested, what you found, whether your hypothesis was right, what went wrong, and what you'd test next. The best answer to every one of them names the child's own project and points at their own numbers. "I kept the car and the floor the same" beats "I tried to keep it fair".

I wrote these in a child's words from the Alpine School District's published judging procedures (two judges, four to five minutes a project) and Scientific American's article on the five most common judge questions. Peabody's judge's practice asks all nine about the child's own kept project, with three answers to tap each.

The nine, with a strong and a weak answer

Here they are for one real project, Does a steeper ramp make a toy car go farther?

1. What made you want to ask this question? Strong: "I wanted to know if a steeper ramp makes my car go farther, because my brother says his does." Weak: "My mom found it."

2. What did you think would happen, and why? Strong: "I thought a higher ramp would make it go farther, because it'd be going faster at the bottom." Weak: "I thought it would be cool."

3. What did you change, and what did you measure? Strong: "I changed the height, one, two and three books, and measured how far it rolled in centimetres." Weak: "I changed lots of stuff."

4. What did you keep the same, and why does that matter? Strong: "The same car, the same floor, and I always let go without pushing. Otherwise I wouldn't know if it was the ramp." Weak: "I tried to keep it fair."

5. How many times did you test it? Strong: "Three times at every height, and I found the middle number." Weak: "Once."

6. What did you find out? Show me in your numbers. Strong: points at the table: "At one book it went 80 centimetres on average, and at three books it went 160." Weak: "It worked."

7. Was your hypothesis right? How do you know? Strong: "Mostly. It went farther every time I added a book, but not twice as far." Weak: "I was right, obviously."

8. Did anything go wrong, or surprise you? Strong: "Once the car hit a chair leg, so I did that try again and wrote it in my logbook." Weak: "Nothing."

9. If you did it again, what would you change or test next? Strong: "I'd try the same ramp on carpet to see if the floor matters." Weak: "I wouldn't."

(The numbers in the strong answers above are made up for the example.)

What the judge is really listening for

Under all nine is one question: does this child know what they did? A child who can name the one thing they changed, the thing they measured and two things they kept the same has understood the whole idea of a fair test. A child who points at their own table has the evidence. Judges tend to warm to a child who admits a test went wrong or a hypothesis was wrong, as long as they can say what the numbers showed.

How to practise without making it stressful

- Practise with the board in front of you. Every answer is on it. Pointing is allowed.
- Three questions, not nine. A judge rarely asks them all. Pick three, then three different ones tomorrow.
- Let them say "I don't know, but here's what I'd try." That's a fine answer.
- Use the logbook. It remembers what a nervous nine-year-old forgets.

Try tonight

Open the judge's practice. Peabody, in goggles, is the judge, reads each question aloud and offers three answers: one that tells, one that guesses and one that shrugs. A wrong tap says why and lets the child try again. If no project is kept on the device, it uses a sample project, so you can try it before you've picked one with Pick my project.

Questions grown-ups ask

How long does a judge spend at each project?

One district that publishes its procedures gives each project two judges and four to five minutes. Expect a short conversation, not an exam.

Should my child memorise a speech?

A short opening is fine ("My question was… I changed… I found…"), but judges ask follow-ups, so understanding beats a script.

What if my child freezes?

Teach one move: point at the board and read the question aloud. It buys a breath, and the answer is usually right there.

Peabody (peabody.kids) is free through the end of 2026, with no ads and no sign-up. The library has stories for the night after the fair.

Free at peabody.kids/blog/science-fair-judging-questions