

# Getting Teens Interested in STEM

## **From “I’m not a math or science person...” to “Wait... I want to...”**

Our goal is to help kids become curious, confident problem-solvers who are willing to explore, experiment, and figure things out.

### **1. Give them ownership**

There’s a big difference between:

**“Follow these 12 steps and make this exact thing.”**

And **“Here’s the problem. What could you try?”**

Kids need instruction and background knowledge, but eventually the project needs to become theirs. Let them make choices, change direction, troubleshoot, and come up with a solution you didn’t expect.

### **2. Make room for curiosity**

Curiosity needs time and space.

If every minute is scheduled, assigned, and planned, there isn’t much room for:

- “What happens if I do this?”
- “Can I build one of those?”
- “Why does that happen?”
- “I have an idea...”

You don’t need hours every day. Even occasional open-ended time to build, investigate, take things apart, experiment, or follow an interest can make a difference.

### 3. Be the connector, not necessarily the expert

You don't have to know all the science, math, coding, or engineering yourself.

Sometimes your job is simply to connect your child with:

- a good book
- a video
- a museum
- a scientist or engineer
- more than you do
- a club
- a kit or set of simple materials
- a real-world problem
- someone who knows

One of the best STEM responses you can give is: **"I don't know. How could we find out?"**

### 4. Don't rescue them too quickly

Real STEM usually looks like:

**PLAN → TRY → OBSERVE → CHANGE SOMETHING → TRY AGAIN**

A bridge collapsing, a circuit not working, a program giving an error, or an experiment behaving unexpectedly does not mean the learning failed. Often that is when the real learning starts!

### 5. Interest and confidence are different

A child saying: **"I'm bad at math."**

doesn't necessarily mean: **"I'm not interested in how things work."**

Sometimes the curiosity is still there, but confidence has taken a hit. Protect the interest while you rebuild the confidence.

## 5 Things to Try This Week

### 1. Give them something interesting to wonder about

Instead of starting with: “*Today we’re learning Newton’s laws.*”

Try: “*Do you think you could pull this tablecloth out without moving the dishes?*”

(HINT: Start with the interesting question.)

### 2. Give them *just* enough knowledge to get started

Creativity does not mean starting from *nothing*. Show them examples. Watch a short video. Look at what real engineers or scientists have done. Give them enough background that they can start thinking: “**I have an idea.**”

### 3. WAIT a minute before helping!

When they get stuck, *don’t* immediately fix it. Ask:

- What have you tried?
- What do you notice?
- What do you think is going wrong?
- What could you change?
- What happened when you tried that?
- What could you try next?

### 4. Let the project become **THEIRS**

If their bridge, robot, experiment, drawing, rover, or solution doesn’t look like yours but it works, that’s a success. The goal is not: “*They made it correctly.*” The goal is: “**They figured something out that they didn’t know before.**”

## 5. Don't turn everything they love into an assignment

If your child suddenly becomes fascinated by black holes, engines, horses, weather, Minecraft, makeup chemistry, music, or airplanes, sometimes let it just be interesting. Sometimes curiosity needs somewhere to breathe.

| If they love... | Explore...                                |
|-----------------|-------------------------------------------|
| Horses          | biology, anatomy, biomechanics, nutrition |
| Cooking         | chemistry, ratios, heat transfer          |
| Music           | sound waves, acoustics, electronics       |
| Cars            | mechanics, energy, aerodynamics           |
| Art             | geometry, optics, materials, design       |
| Weather         | physics, Earth science, data              |
| Games           | coding, logic, probability, design        |
| Space           | physics, engineering, astronomy           |

### Main Takeaway: Your Challenge This Week

What is something you can easily do this week?

Examples:

- The next time your child gets stuck, wait a little longer before stepping in
- Ask one question instead of giving an answer

#### When Something Doesn't Work

Instead of: "Oh no, it didn't work."

Try: "Interesting. What did that tell you?"

Instead of: "Here, let me fix it."

Try: "What do you think is going wrong?"

Instead of: "You made a mistake."

Try: "What could you change next time?"