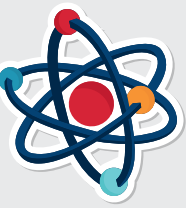




10 DIY SCIENCE EXPERIMENTS FOR KIDS

(AGES 7-9)

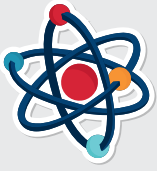


INTRODUCTION



Hands-on learning turns the living room into your child's STEM lab. DIY science experiments at home are among the most searched for learning activities for kids, because they combine fun with real learning: kids get to explore science, build critical thinking skills, and learn problem solving without screens. These experiences help children ages 7-9 understand how things work, develop scientific thinking, improve observation skills, and spark a lifelong love of discovery.





Moreover, at-home science isn't just about education –it's also about quality time. When parents and children work together on easy experiments, you build stronger parent-child bonding, communication, and confidence. You become a partner in their learning journey, guiding them, cheering them on, asking questions with them, and helping them succeed.

This guide sets out to give you 10 safe, fun, and powerful STEM experiments you can do at home.

Each activity is designed to:

- nurture curiosity and boost scientific thinking
- encourage problem solving and hands-on learning
- provide a break from screen time with engaging, creative activities
- strengthen your connection with your child through shared discovery and teamwork



1. VOLCANO ERUPTION (CLASSIC BAKING SODA & VINEGAR)

MATERIALS: BAKING SODA, VINEGAR, DISH SOAP, FOOD COLORING, SMALL CONTAINER.



Steps:

1. Place the container on a tray.
2. Add 2–3 tablespoons of baking soda.
3. Mix in a few drops of dish soap and food coloring.
4. Pour in vinegar and watch the foamy eruption.
5. Learning: Kids learn about chemical reactions (acid + base = carbon dioxide gas).



2. HOMEMADE LAVA LAMP

MATERIALS: CLEAR BOTTLE, WATER, VEGETABLE OIL, FOOD COLORING, ALKA-SELTZER TABLET.

1. Steps:
2. Fill 2/3 of the bottle with oil, then add water until almost full.
3. Drop in food coloring (it sinks).
4. Break an Alka-Seltzer tablet and drop it in.
5. Watch bubbles carry colored water up and down like a lava lamp.
6. Learning: Teaches density (oil vs. water) and gas release.

3. DANCING RAISINS

**MATERIALS: CLEAR SODA (SPRITE/7UP),
GLASS, RAISINS.**

1. Steps:
2. Fill a glass with soda.
3. Drop raisins inside.
4. Watch them sink, then rise as bubbles attach, then sink again.
5. Learning: Shows buoyancy and how carbon dioxide bubbles change density.



4. BALLOON ROCKET

***MATERIALS: BALLOON, STRING,
STRAW, TAPE.***

1. Steps:
2. Thread a straw onto a string and tie the string between two chairs.
3. Tape an inflated balloon (hold the end closed) to the straw.
4. Release the balloon and watch it zoom across.
5. Learning: Demonstrates Newton's Third Law of Motion (action & reaction).

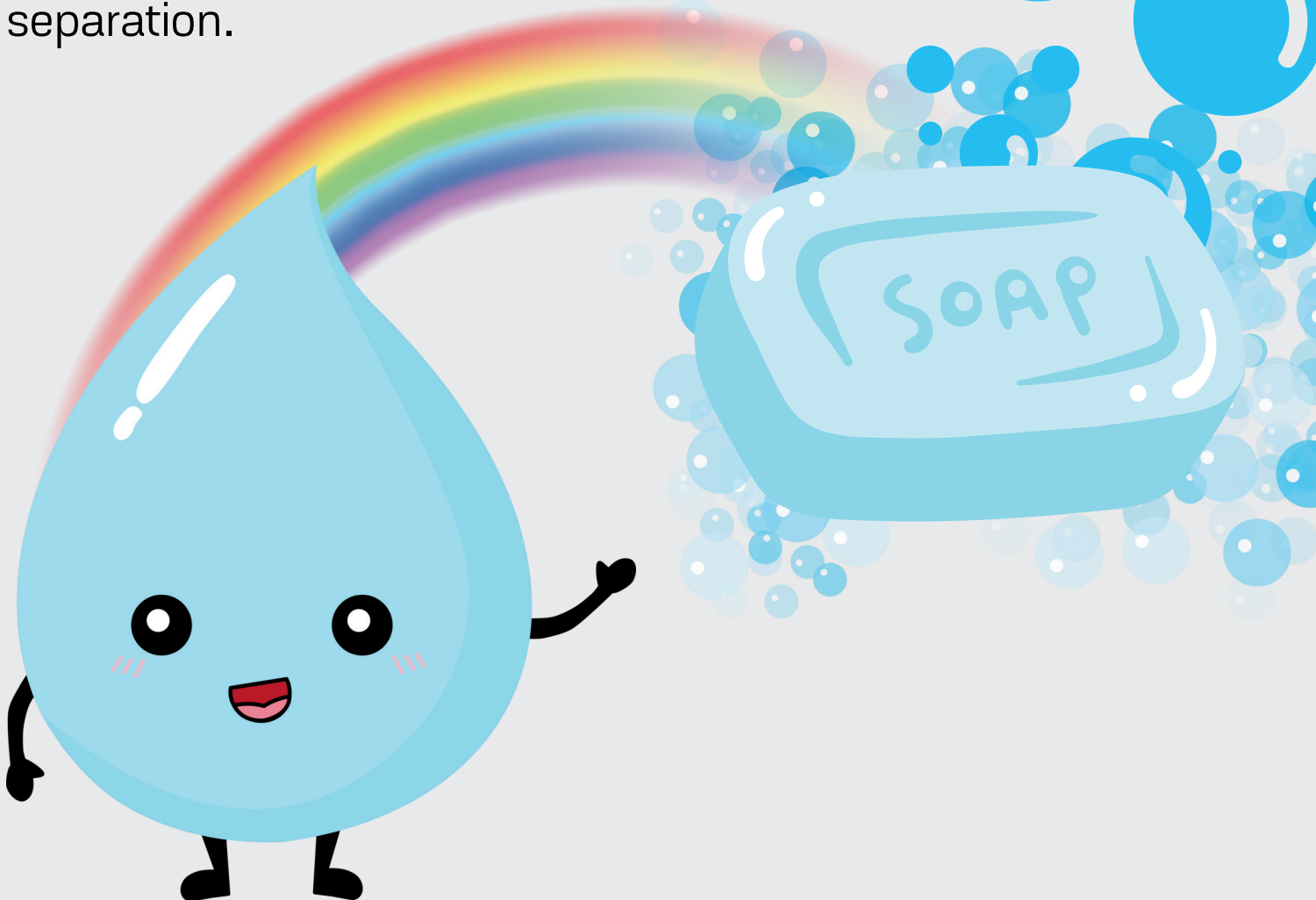


5. RAINBOW IN A JAR (LIQUID DENSITY LAYERS)

MATERIALS: HONEY, DISH SOAP, WATER (COLORED), OIL, RUBBING ALCOHOL (COLORED).

1. Steps:
2. Slowly pour each liquid into a tall glass in this order: honey, dish soap, colored water, oil, colored alcohol.

4. Be careful to pour gently down the side to avoid mixing.
5. A rainbow of layers will form.
6. Learning: Teaches density differences and liquid separation.





6. MAGIC MILK

MATERIALS: SHALLOW PLATE, MILK, FOOD COLORING, DISH SOAP, COTTON SWAB.

Steps:

Pour milk into the plate.

Add drops of different food colors.

Dip a cotton swab into dish soap and touch the milk's surface.

Colors will swirl like magic.

Learning: Kids learn about surface tension and how soap breaks it.

7. WALKING WATER EXPERIMENT

**MATERIALS: 3 CLEAR CUPS,
WATER, FOOD COLORING, PAPER
TOWELS.**

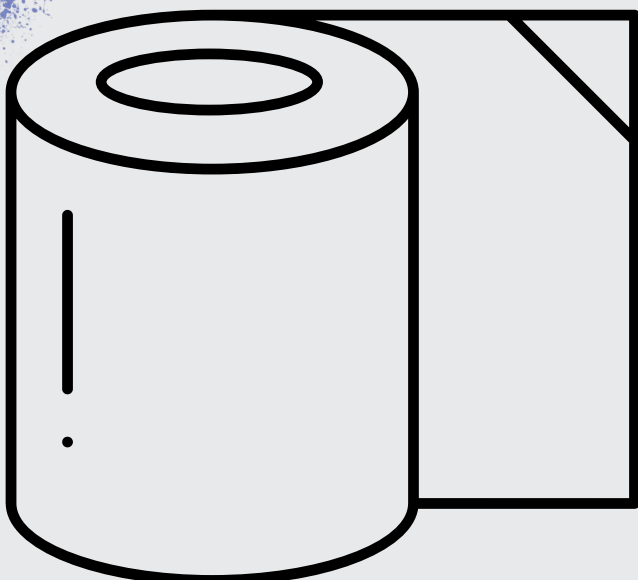
Steps:

Fill two cups with colored water (red, blue), leave the middle cup empty.

Roll paper towels into strips and connect the cups.

Wait and watch the colors travel and mix in the empty cup.

Learning: Shows capillary action and color mixing.



8. EGG IN A BOTTLE

MATERIALS: HARD-BOILED EGG (PEELED), GLASS BOTTLE WITH NARROW NECK, SMALL PIECE OF BURNING PAPER.

Steps:

Light a small piece of paper and drop it inside the bottle.

Quickly place the egg on top.

Watch as the egg gets sucked into the bottle.

Learning: Teaches air pressure and how hot air takes up space.



9. HOMEMADE SLIME

MATERIALS: WHITE GLUE, BAKING SODA, CONTACT LENS SOLUTION, OPTIONAL GLITTER/FOOD COLORING.

Steps:

Mix $\frac{1}{2}$ cup glue with $\frac{1}{2}$ teaspoon baking soda.

Add a few drops of food coloring.

Add 1 tablespoon contact lens solution and stir until slimy.

Learning: Explains polymers and how molecules bond.



10. STATIC ELECTRICITY BUTTERFLY

***MATERIALS: TISSUE PAPER,
CARDBOARD, BALLOON, TAPE.***

Steps:

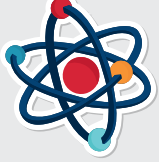
Cut tissue paper into a butterfly shape and tape it loosely to cardboard.

Inflate a balloon and rub it on your hair to build static.

Bring the balloon close to the butterfly — it will move and flap!

Learning: Kids see static electricity and how charged particles attract.





CONCLUSION

These DIY science experiments are just the beginning. With each simple project, you're engaging your child's brain, fostering creativity, and laying the foundation for confidence in learning. You're helping them think like a scientist—asking “why?”, testing ideas, learning from mistakes—and that makes a difference not just in school, but in life.



If you want more ideas beyond science, try expanding into creative arts (painting, building, music), storytelling, cooking projects (measuring, mixing, experimenting), outdoor nature walks, or engineering challenges with recycled materials.



There are many educational resources you can explore: websites like PBS Kids, National Geographic Kids, STEM education blogs, and kid-friendly science apps.

Thank you for investing time and energy into your child's growth. With curiosity, creativity, and consistent engagement, you are helping them become thinkers, problem solvers, and lifelong learners.





10 DIY SCIENCE EXPERIMENTS FOR KIDS

Spark curiosity. Build confidence. Create memories.

Are you looking for screen-free activities that teach real science while your child has fun? This guide gives you 10 hands-on STEM experiments designed for ages 7-9, with everyday materials you already have at home.

Perfect for busy parents who want to boost critical thinking, problem solving, and parent-child bonding. Turn the kitchen into a lab, make learning an adventure, and watch your child's curiosity grow!