

CHAIN REACTION

With popsicle sticks, patience, and a little science, you can create an exciting exploding popsicle stick chain reaction!

INSTRUCTIONS

STEP 1: Lay two popsicle sticks in a staggered X shape on a flat surface so the ends overlap.

STEP 2: Place a third stick over one leg of the X and under the other. Press down gently to bend the sticks and create tension.

STEP 3: Continue weaving additional sticks using the same over-under pattern.

STEP 4: Keep building until you have a chain at least 20–30 sticks long.

STEP 5: Gently release one end of the chain and watch the stored energy race through the weave.

STEP 6: Observe the chain reaction and discuss what happened.

THE SCIENCE

As the popsicle sticks are bent and woven together, they store elastic potential energy. This is similar to the energy stored in a stretched rubber band or compressed spring. The energy remains stored as long as the sticks stay woven together.

When one end of the chain is released, the stored potential energy changes into kinetic energy, the energy of motion. Each stick transfers energy to the next stick, creating a rapid chain reaction.

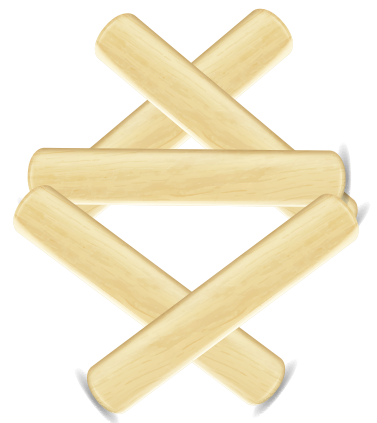
As each stick snaps upward, it transfers energy to the next stick in line. This continues until the entire chain has released its stored energy.

SUPPLIES

**Wide craft sticks
(at least 50)**

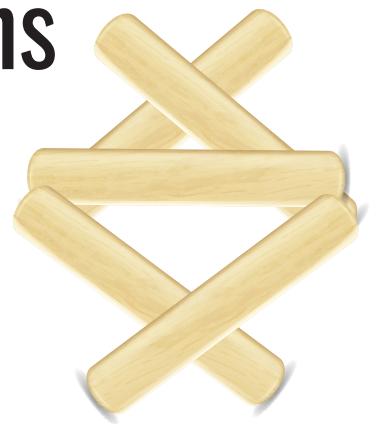
Safety goggles

**Flat surface:
table or hard floor**



Chain Reaction Observations

Use this worksheet to process and evaluate your work.



What do you notice about the tension in the chain as you add more sticks?

How does the chain change as it gets longer?

What do you think will happen when one end of the chain is released?

How fast do you predict the reaction will travel through the chain?

How did the movement travel through the chain?

