



## Mousetrap Fission Model

When an atom is split in a nuclear reaction, it releases not only energy, but a few neutrons as well. Those neutrons speed along until some of them hit the nuclei of other atoms, which in turn release more neutrons, which then hit other nuclei, which continue in a chain reaction. Each released neutron can trigger the release of several more neutrons, so that the bombardment of atoms grows exponentially!

### Objective

Observe a model designed to demonstrate what a nuclear chain reaction is like.

### Materials

NOTE: This demonstration should not be attempted by students.

- ping-pong balls
- a clear container a little larger than a square meter
- mouse traps with springs that snap shut when motion is sensed.

**Safety Notice:** All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

### Procedure

1. An adult should set each mouse trap and place them inside the clear container.
2. An adult should carefully place a ping-pong ball on the spring of each trap.
3. Toss in a ping-pong ball to start the chain reaction.
4. Draw a diagram of what happens when the reaction starts.

## Conclusions

- Was it possible to control the chain reaction in the container? Why or why not?

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- Do you think nuclear energy should be used to replace fossil fuels? Why or why not?

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