



MAKING A MODEL OF THE IMMUNE SYSTEM'S MEMORY CELLS

Explore how the immune system remembers germs so it can protect us faster next time.

Name: _____

Date: _____

Age: _____

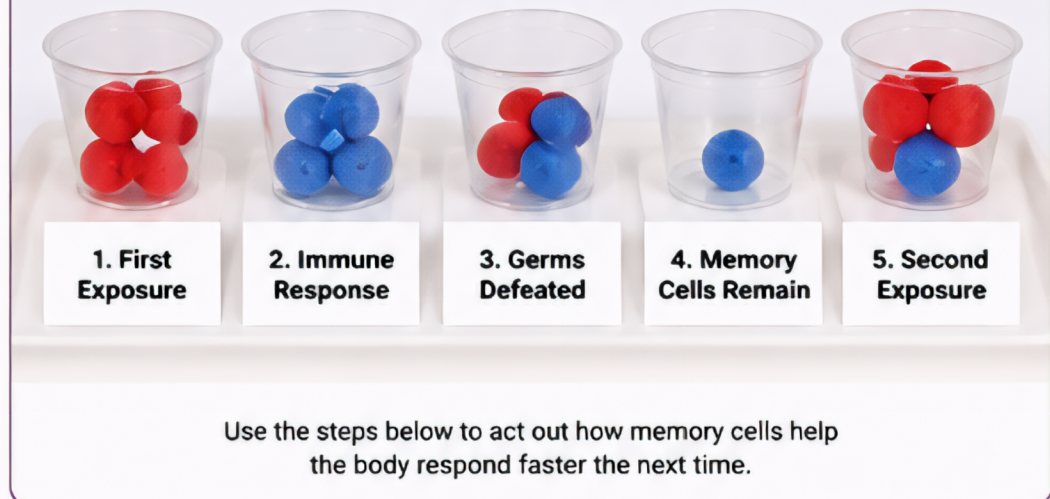
MATERIALS

- 5 cups or small containers
- Pom-poms (2 colors – e.g., red = germs, blue = immune cells)
- Small stickers or labels
- Index cards or paper
- Marker
- Tray or table space

KEY

- Red pom-pom = Germ
- Blue pom-pom = Immune Cell

YOUR MODEL SETUP



PROCEDURE

- 1 First Exposure:** Place several red pom-poms (germs) in Cup 1. These germs have entered the body for the first time.
- 2 Immune Response:** Move blue pom-poms (immune cells) from Cup 2 to Cup 3 to "attack" the red germs. Some blue cells may be used up in the fight.
- 3 Germs Defeated:** Remove the red pom-poms from Cup 3. The germs are gone!
- 4 Memory Cells Remain:** Leave one blue pom-pom in Cup 4. This represents a memory cell that stays behind.
- 5 Second Exposure:** Add several red pom-poms to Cup 5. Then add the memory cell (blue pom-pom) from Cup 4. Watch how quickly the blue cell "remembers" and helps defeat the germs.



WHAT'S HAPPENING?

During the first exposure, the immune system learns about the germ and fights it off.

Memory cells stay in the body after the germ is gone.

If the same germ returns, memory cells help the immune system respond much faster and stop it quickly.

THINK & REFLECT



- 1** Why do you think memory cells are important? _____
- 2** What might happen if the body did not have memory cells? _____
- 3** Can you think of a real-life example where memory cells help protect us? _____



FURTHER EXPLORATION: Research vaccines and how they help the body create memory cells without making us sick.

