



MAKING A MODEL OF THE IMMUNE SYSTEM RESPONSE



You will build a simple model to show how the body detects a germ, responds to it, and remembers it.



QUESTION

How does the immune system detect a germ, respond to it, and remember it?



HYPOTHESIS

If the body detects a germ, then the immune system will respond to destroy it and remember it, so it can respond faster next time.



MATERIALS

- Green pom-poms or beads (germs)
- White pom-poms (white blood cells)
- Blue beads or buttons (antibodies)
- Small bowl or container (body)
- Labels or sticky notes
- Paper and pencil



BACKGROUND

The immune system protects your body from harmful germs like bacteria and viruses. When germs enter the body, white blood cells find and attack them. B cells make antibodies that stick to germs and help destroy them. The immune system also remembers germs it has seen before so it can fight them faster next time.



PROCEDURE

- 1 Set up the body:** Use the bowl or container to represent the body.
- 2 Add germs:** Place several green pom-poms (germs) into the body. These are invading the body.
- 3 Detect the germs:** Add white pom-poms (white blood cells) to the body. Move them around to find the germs.
- 4 Attack the germs:** Have the white blood cells surround and remove the green germs from the body.
- 5 Make antibodies:** Add blue beads or buttons (antibodies). Place them on any remaining germs to help destroy them.
- 6 Build memory:** Remove all germs. Keep some blue antibodies in the body to show memory. Next time the same germ enters, the antibodies will help fight it faster.

MODEL KEY

Germ



Invading germ

White Blood Cell



Finds and attacks germs

Antibody



Helps destroy germs

Memory



Remembers germs for faster response



OBSERVATIONS

Draw or describe what happened in each step of your model.

1

Germs Enter the Body

2

White Blood Cells Detect Germs

3

White Blood Cells Attack Germs

4

Antibodies Help Destroy Germs

5

Germs Are Removed

6

Memory Remains for Next Time



CONCLUSION

What did you learn from this activity?



THINK MORE

How does the immune system's memory help protect you?