

TRANSMITTED DISEASES

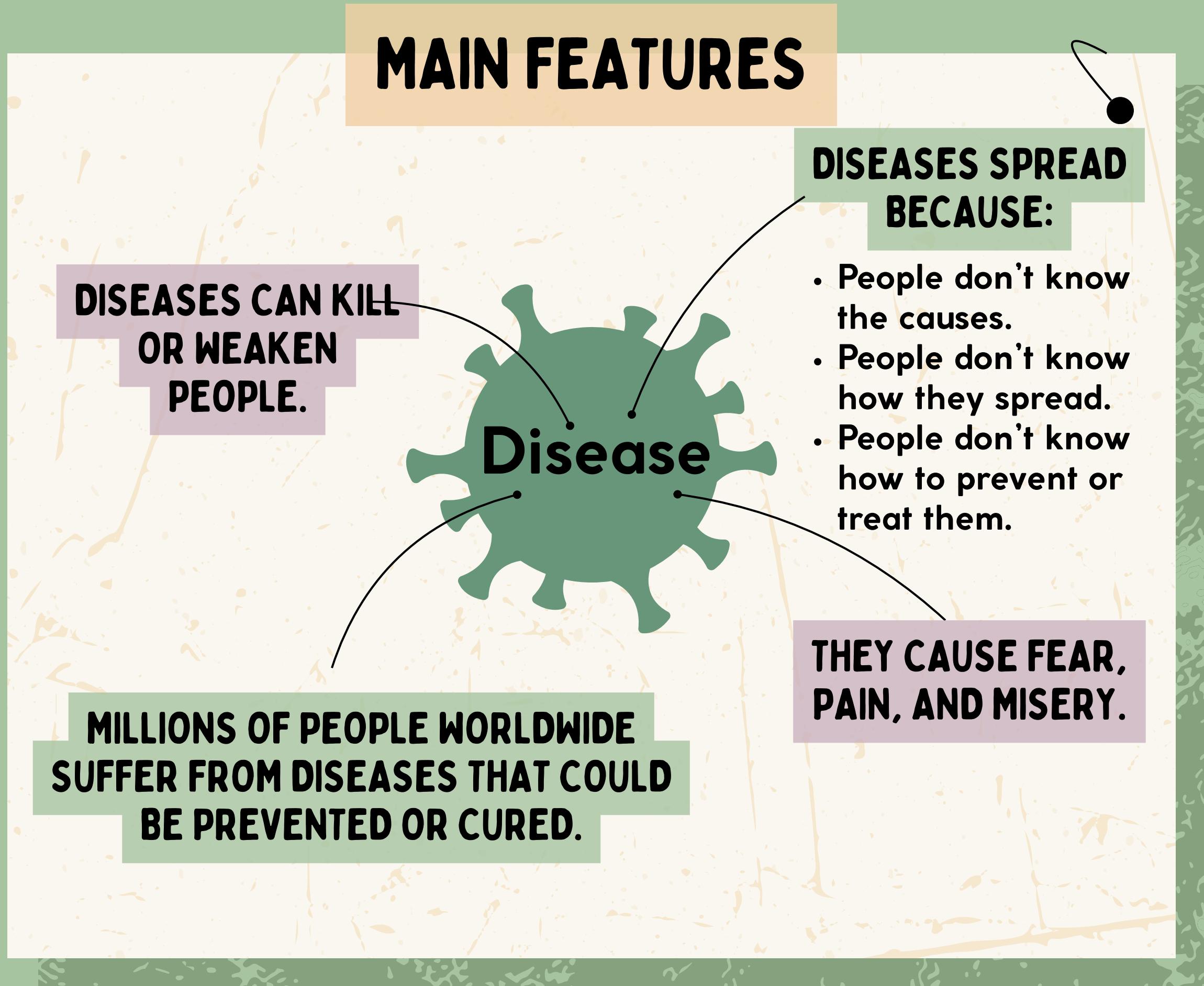
- UNDERSTANDING HOW DISEASES SPREAD AND AFFECT PEOPLE.



WHAT IS A DISEASE?

A disease is when the body or mind does not work normally.

MAIN FEATURES



COMMUNICABLE DISEASES

Diseases that
spread from one
person to another.



Also called:

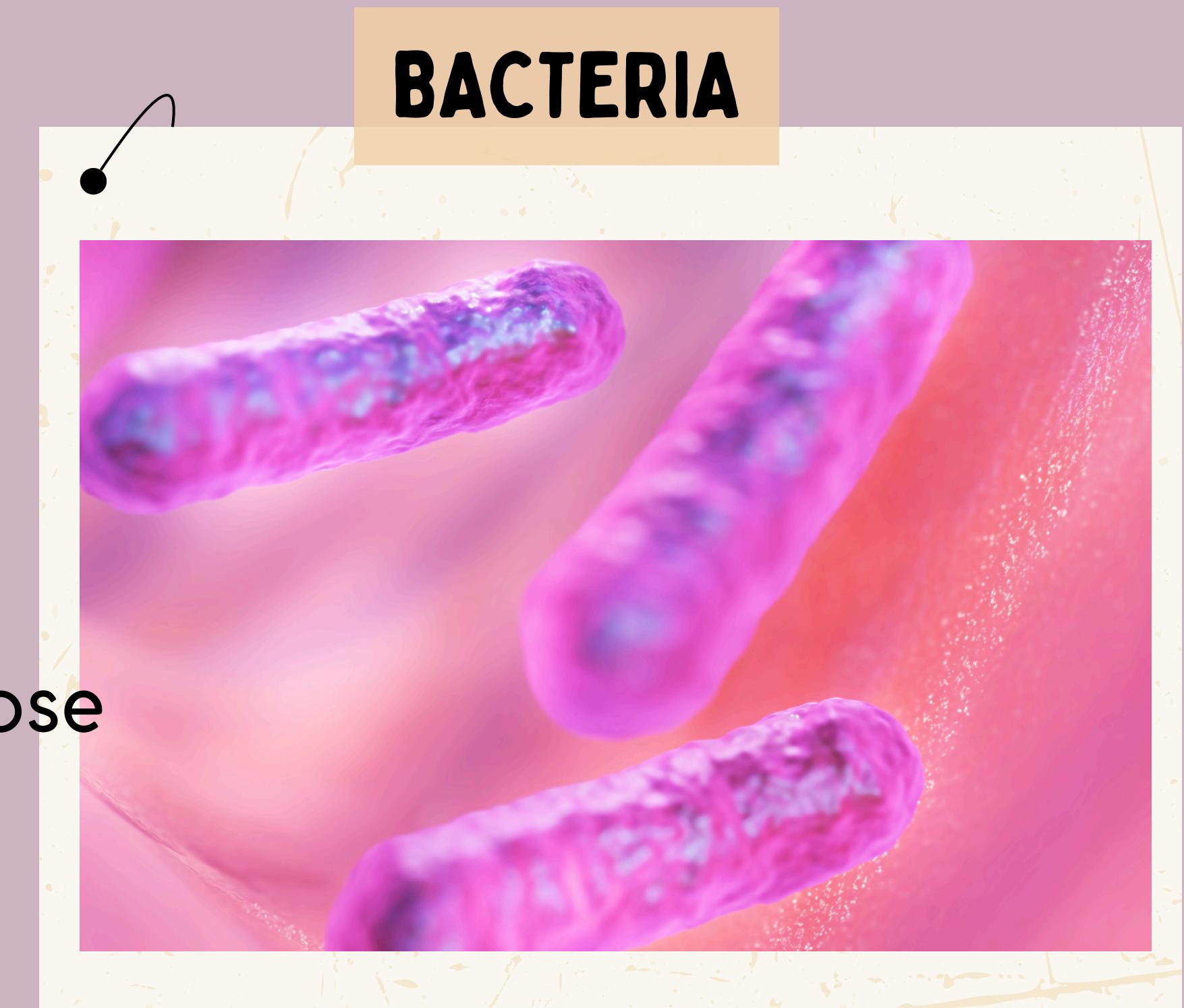
- Infectious diseases
- Communicable diseases

Mainly caused by germs:

- Bacteria
- Viruses
- Parasites (e.g., giardia, amoeba, ancylostoma, ascaris)

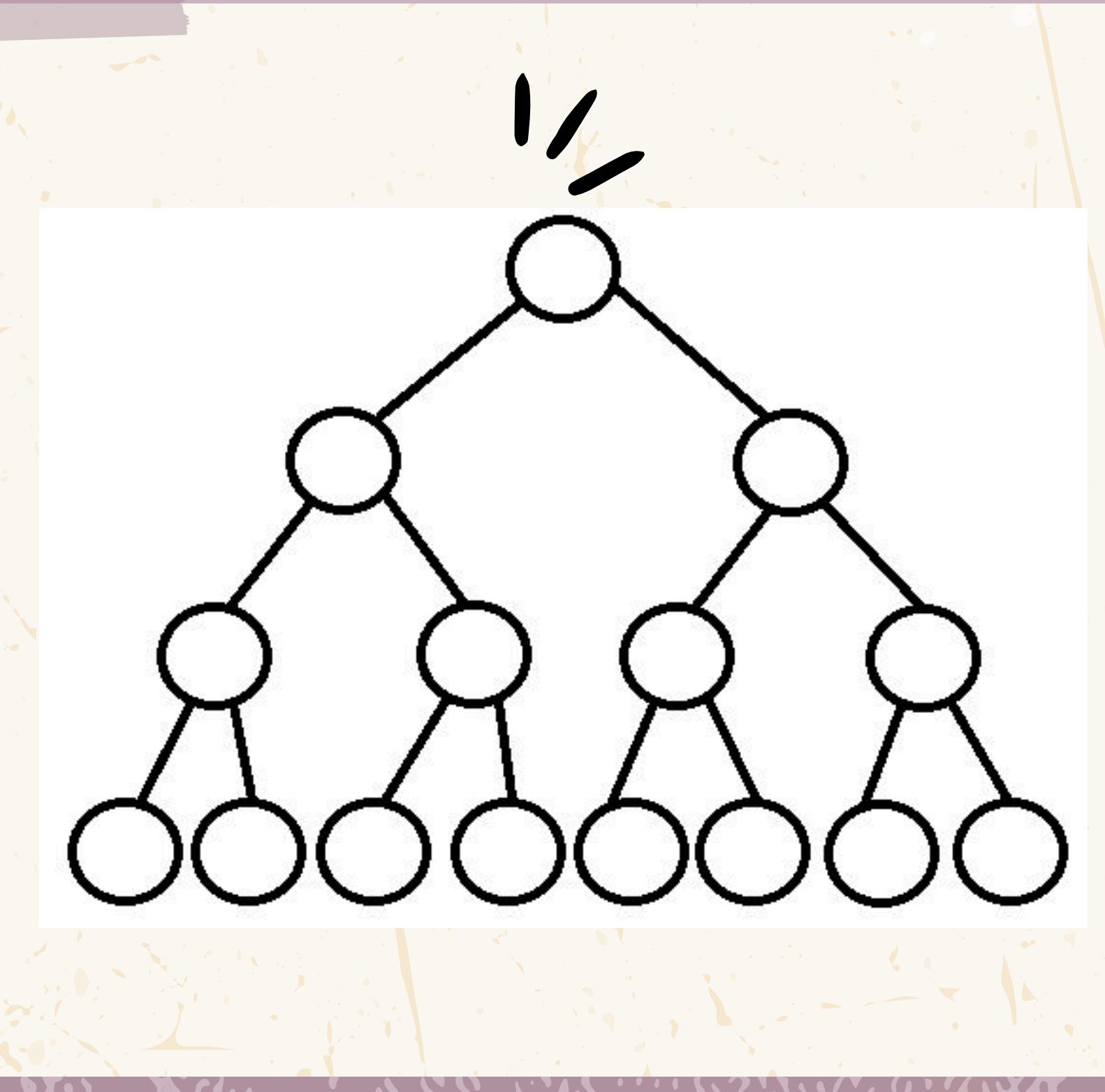
BACTERIA (DEFINITION & LOCATION)

- Very small living organisms.
- 1 million bacteria can fit on a pin head.
- Found in:
- Intestines, lungs, mouth, nose
- Animals and their waste
- Dust, soil, water, air
- Fact: No place is free of bacteria.



REPRODUCTION OF BACTERIA

- Reproduce asexually by binary fission.
- One bacterium → splits into 2 new bacteria.
- Very rapid in warm & moist places.
- Can double in 20 minutes.



MATH OF BACTERIA REPRODUCTION

Example 1 (starting with 1 bacterium)

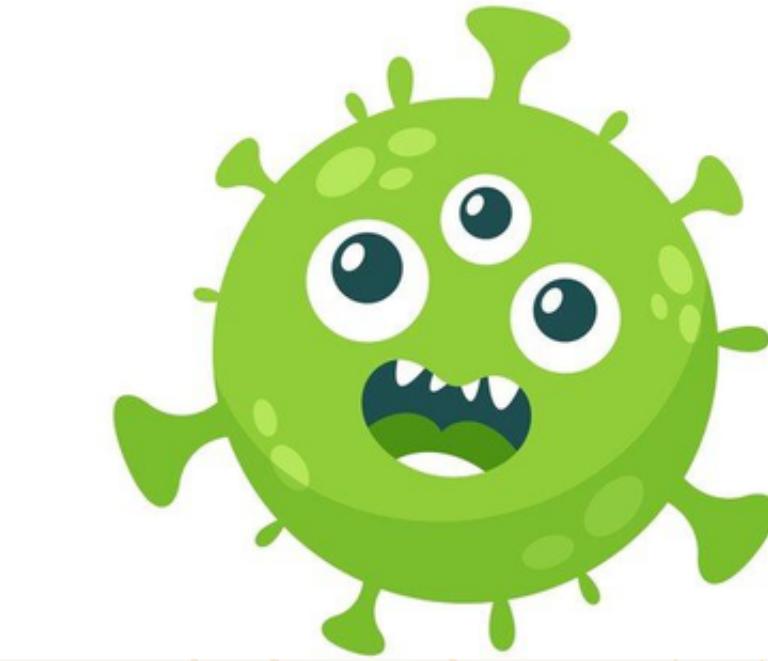
- After 20 minutes → $2^1 = 2$ bacteria
- After 40 minutes → $2^2 = 4$
- After 1 hour (60 min) → $2^3 = 8$
- After 2 hours (120 min) → $2^6 = 64$

HARMFUL VS HARMLESS BACTERIA



Harmful bacteria:

- Cause diseases like diphtheria, tetanus, food poisoning.
- Produce poisons (toxins).

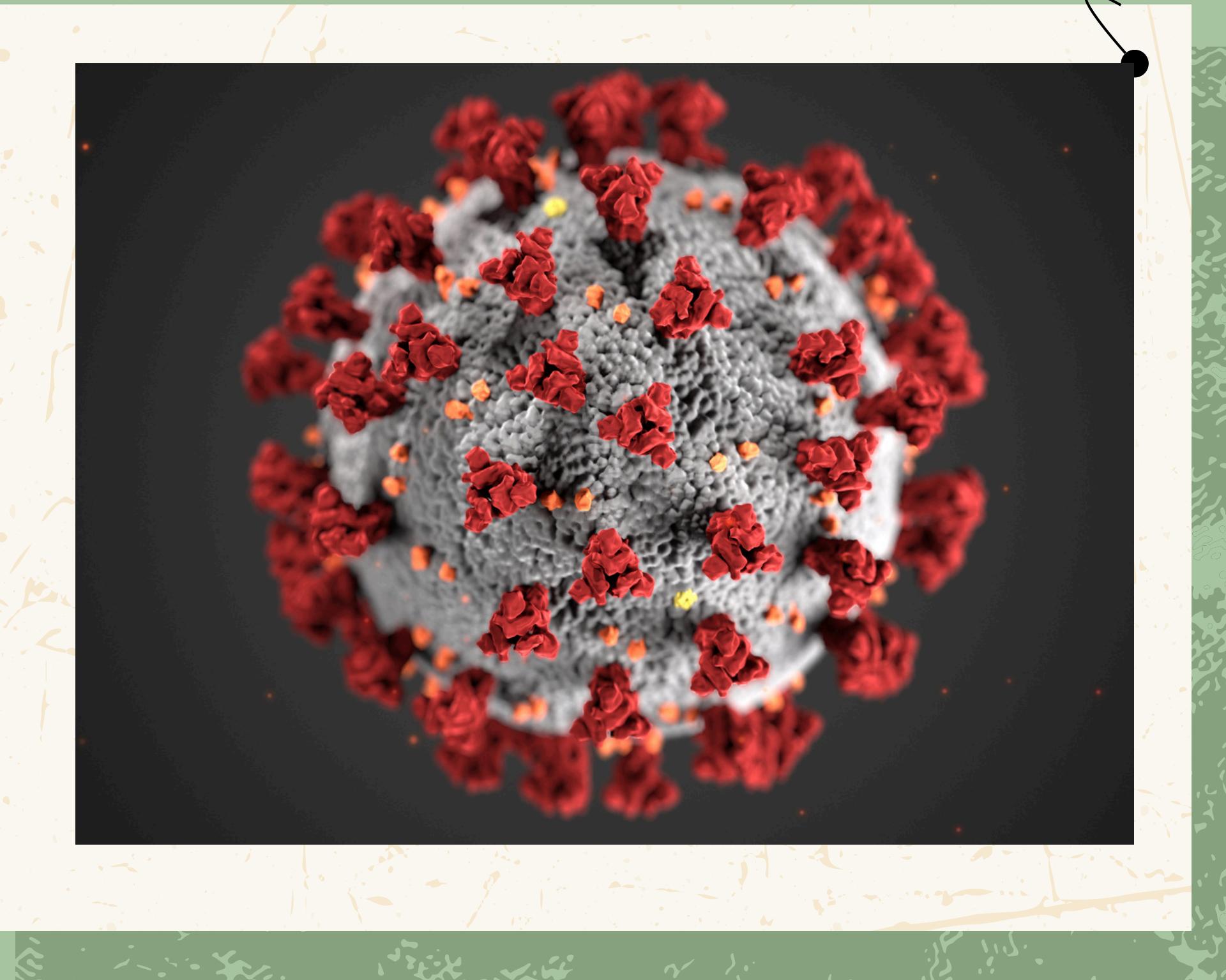


Harmless / Useful bacteria:

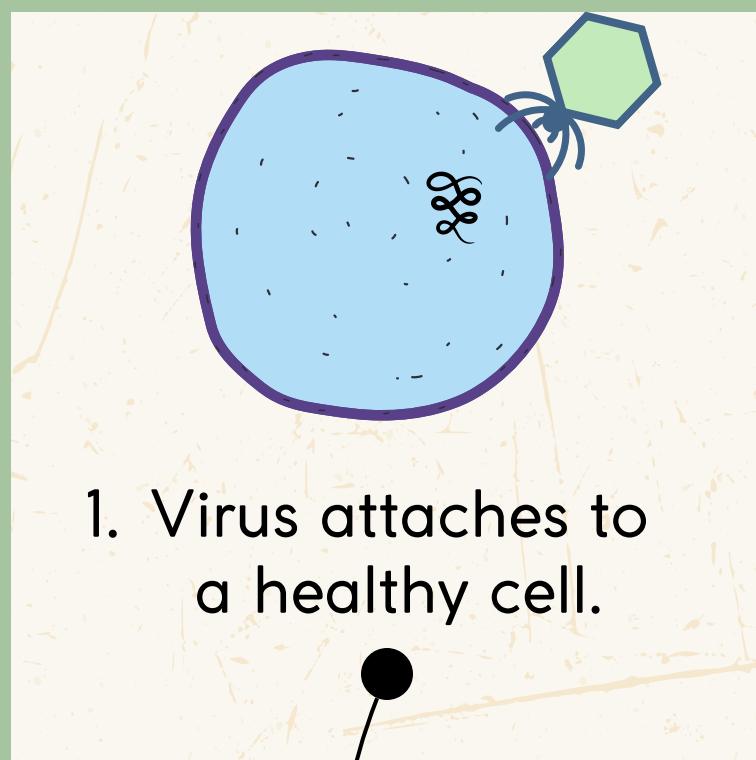
- Sour milk (used in food).
- Decompose dead plants and animals.
- Some produce antibiotics.
- ! Misuse of antibiotics → resistance in bacteria.

VIRUSES (DEFINITION)

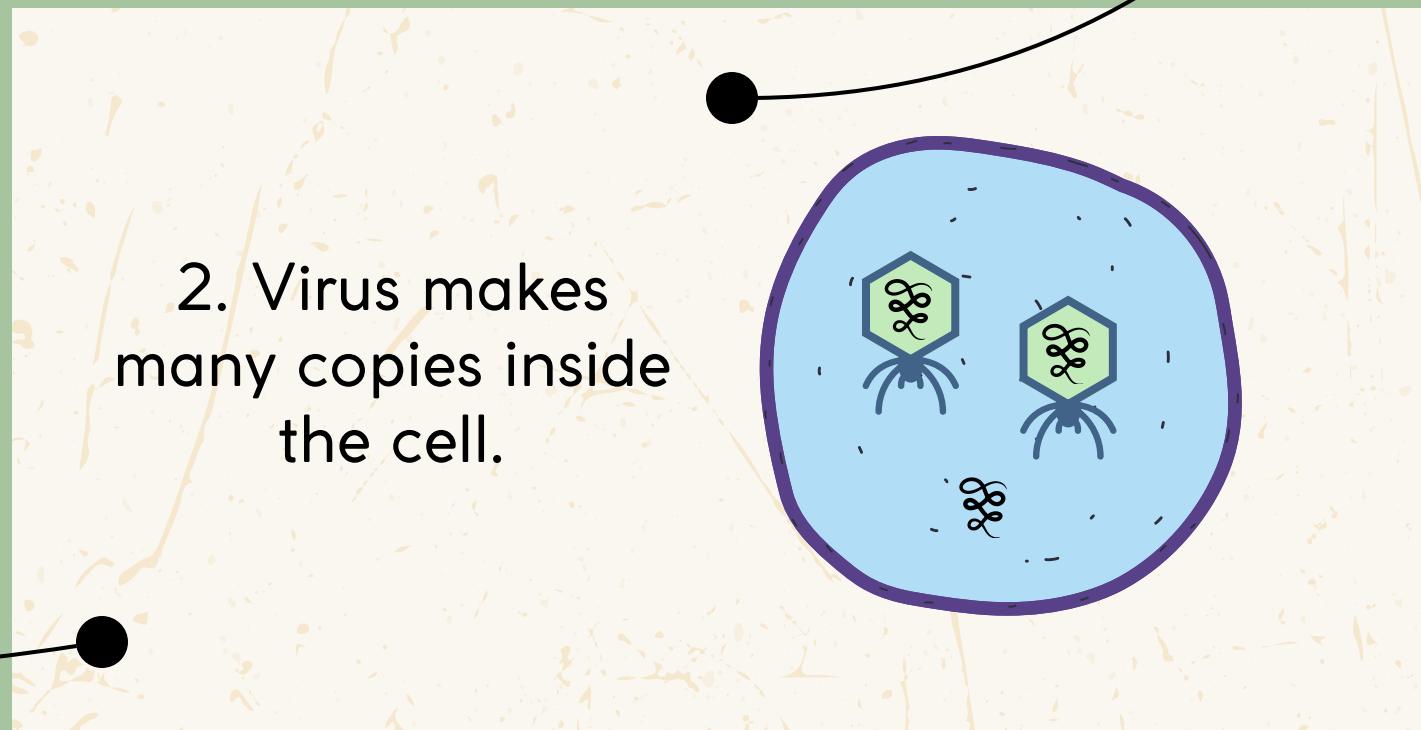
- Infectious agents, smaller than bacteria.
- An enormous of viruses can **fit inside one bacterium**.
- Cannot be seen with **normal microscopes**.
- Cannot be cultured (grown) like bacteria in labs.
- Reproduce only inside living cells.



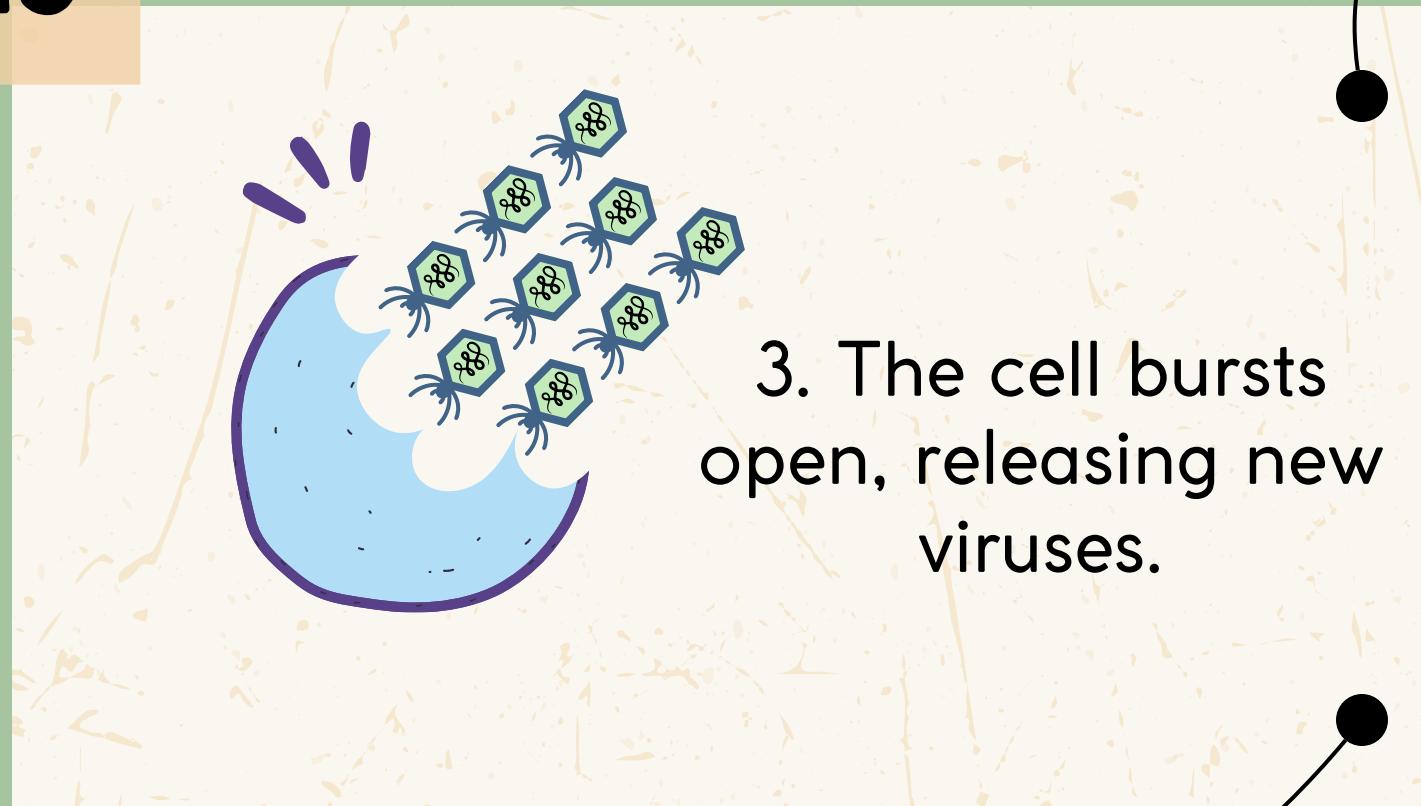
HOW VIRUSES WORK



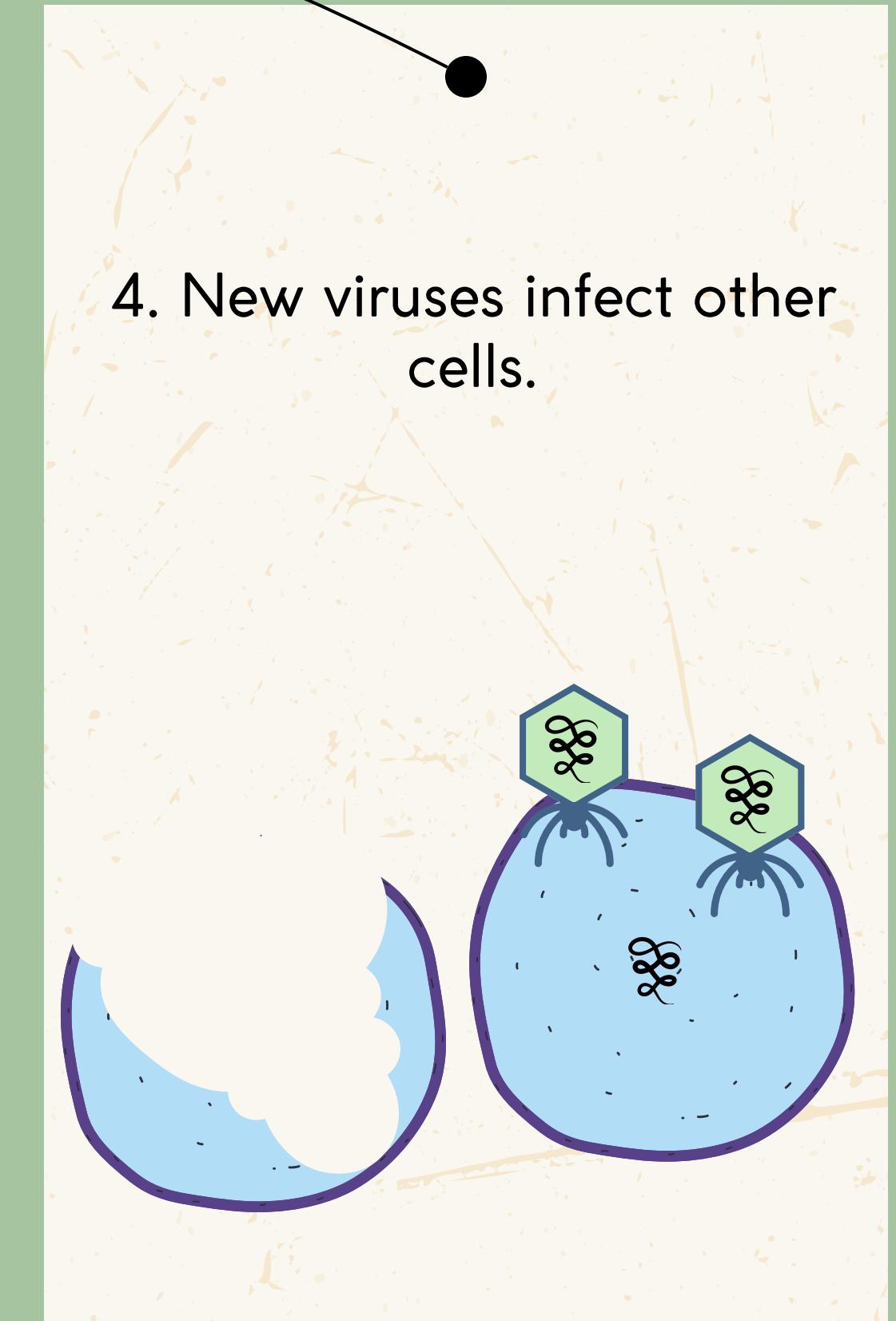
1. Virus attaches to a healthy cell.



2. Virus makes many copies inside the cell.



3. The cell bursts open, releasing new viruses.



4. New viruses infect other cells.

KEY TAKEAWAYS

- **Diseases** = body/mind not working normally.
- **Communicable diseases** spread through germs.
- **Bacteria**: everywhere, some harmful, some useful.
- **Viruses**: smaller, need living cells, spread fast.
- **Prevention**: hygiene, vaccines, correct medicine use.





THANK YOU!

