

Unscramble these key words:

- cormbie
- sediaes
- ptsmmyo
- fctiinone
- microbe
- disease
- symptom
- infection

Name 5 diseases

Discuss with your partner

KNOWLEDGE CHECK

1. HOW MANY LIFE STAGES ARE THERE?
2. NAME 4 FINE MOTOR SKILLS?
3. NAME 4 GROSS MOTOR SKILLS?
4. IN WHICH LIFE STAGE DO YOU BECOME MORE LARTHEGIC?
5. IN ADOLESCENSE NAME 4 CHANGES IN MALE AND FEMALE

Infectious Diseases

Learning Objectives:

- Understand that infectious diseases are spread by microbes.
- Know that there are three main types of microbes.
- Explain the causes of disease.

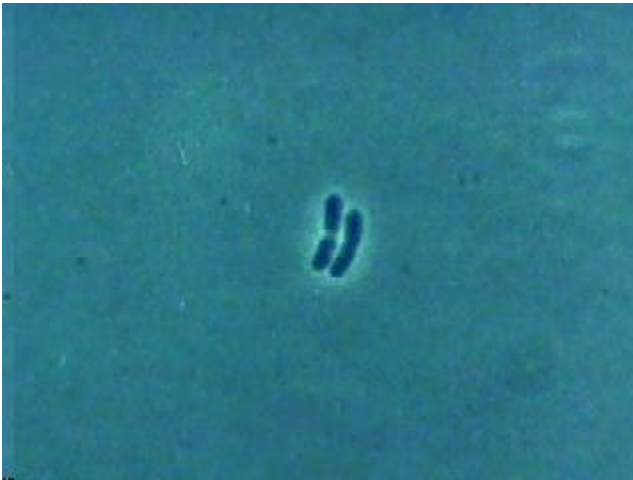
What causes diseases?

- Infectious diseases are caused by microorganisms:
 - **Viruses** e.g. flu, smallpox, measles, mumps, HIV.
 - **Bacteria** e.g. tuberculosis, meningitis, legionella, cholera, tetanus.
 - **Fungi** e.g. yeast infection, tinea.

Disease

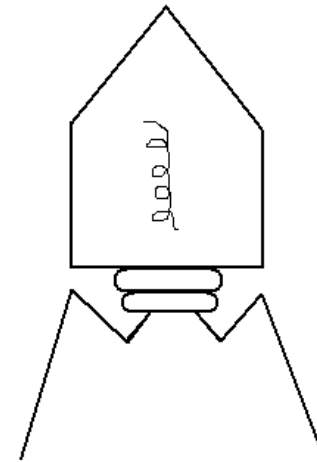
A disease is any condition where the body isn't working as it should. This could be caused by a malfunction in the body (as with diabetes), or it could be caused by the two types of MICROBE:

Bacteria



- $1/1000^{\text{th}}$ mm big
- Living cells (some are harmless)
- Grow very quickly
- Affected by antibiotics
- Examples: food poisoning, tetanus, sore throats

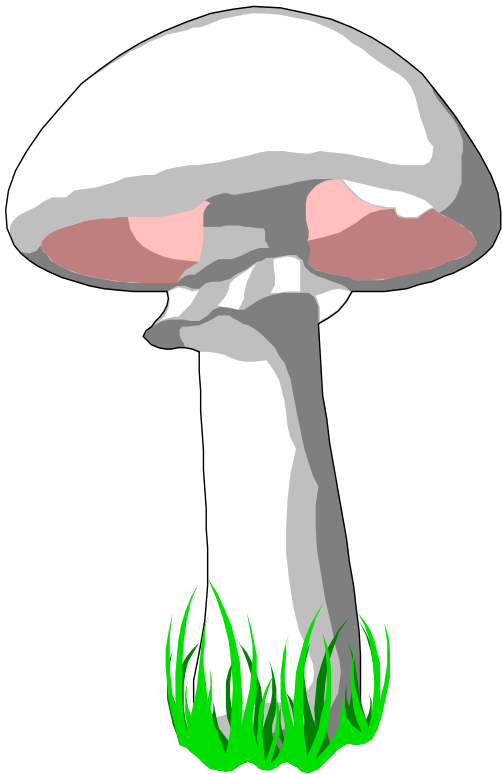
Viruses

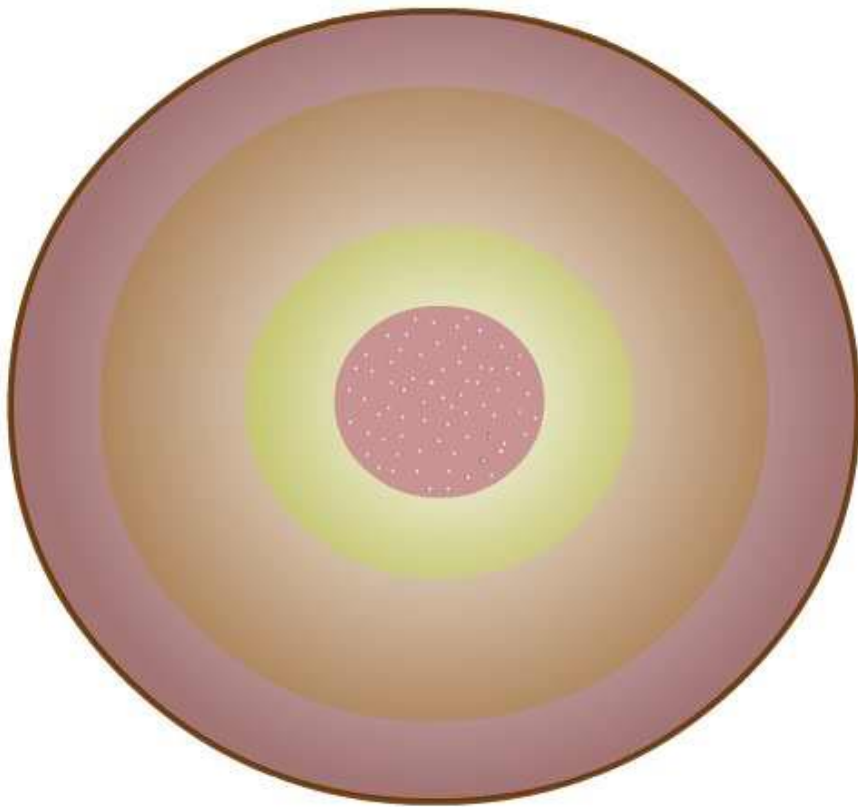


- $1/1,000,000^{\text{th}}$ mm big
- Genetic info inside a protein coat
- Not affected by antibiotics
- Release poisons
- Examples: colds, flu, polio, chicken pox

Fungi

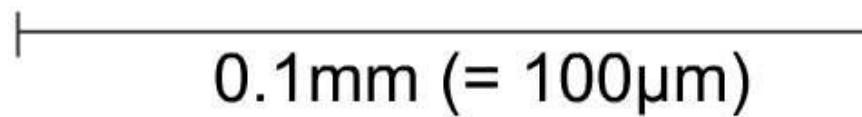
Fungi are another form of microbe. There are many different varieties ranging from bread mould to mushrooms.

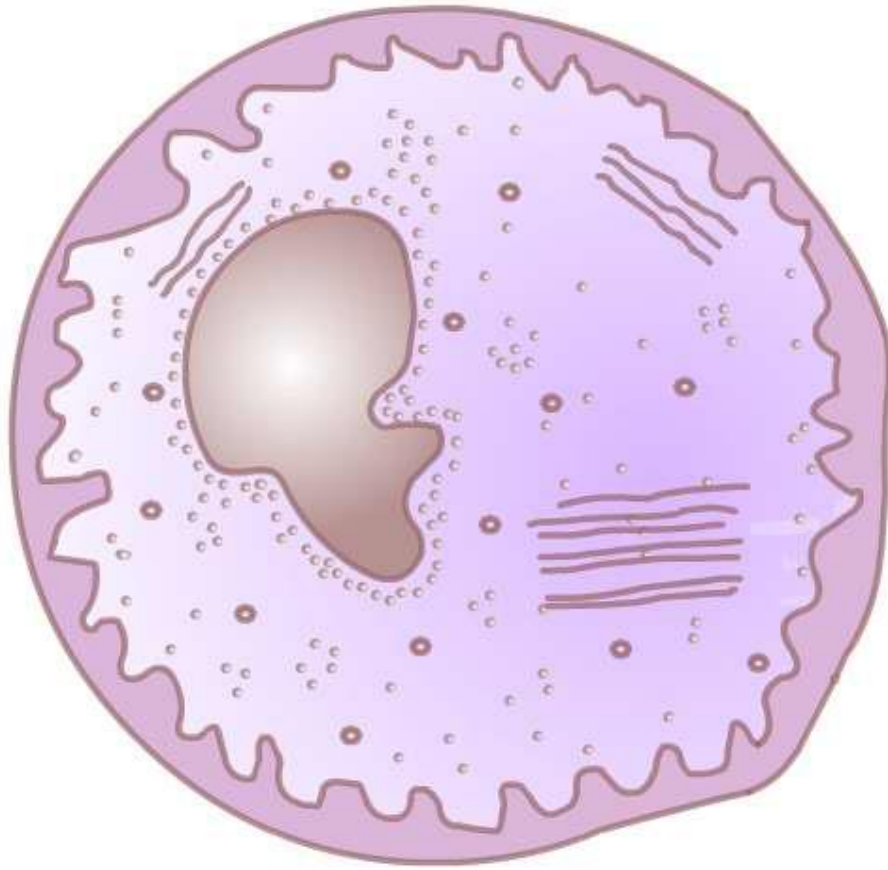




cross-section of human hair
(100 μ m diameter)

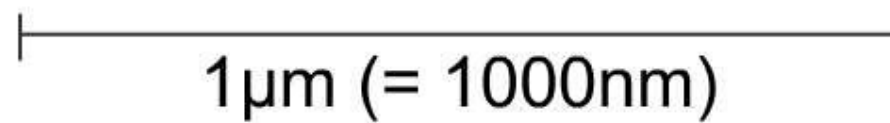
small bacterium
(1 μ m diameter)



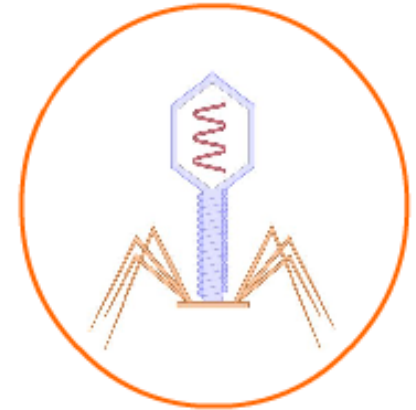
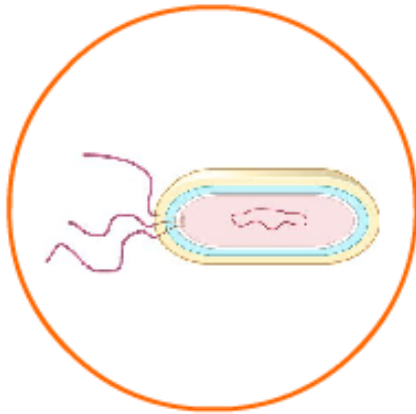


small bacterium
(1 μ m diameter)

small virus
(10nm diameter)



Name that microbe!



start



How are diseases spread?

- Malaria is caused by any one of four species of one-celled parasites, called *Plasmodium*.
- The parasite is spread to people by the female *Anopheles* mosquito, which feeds on human blood.



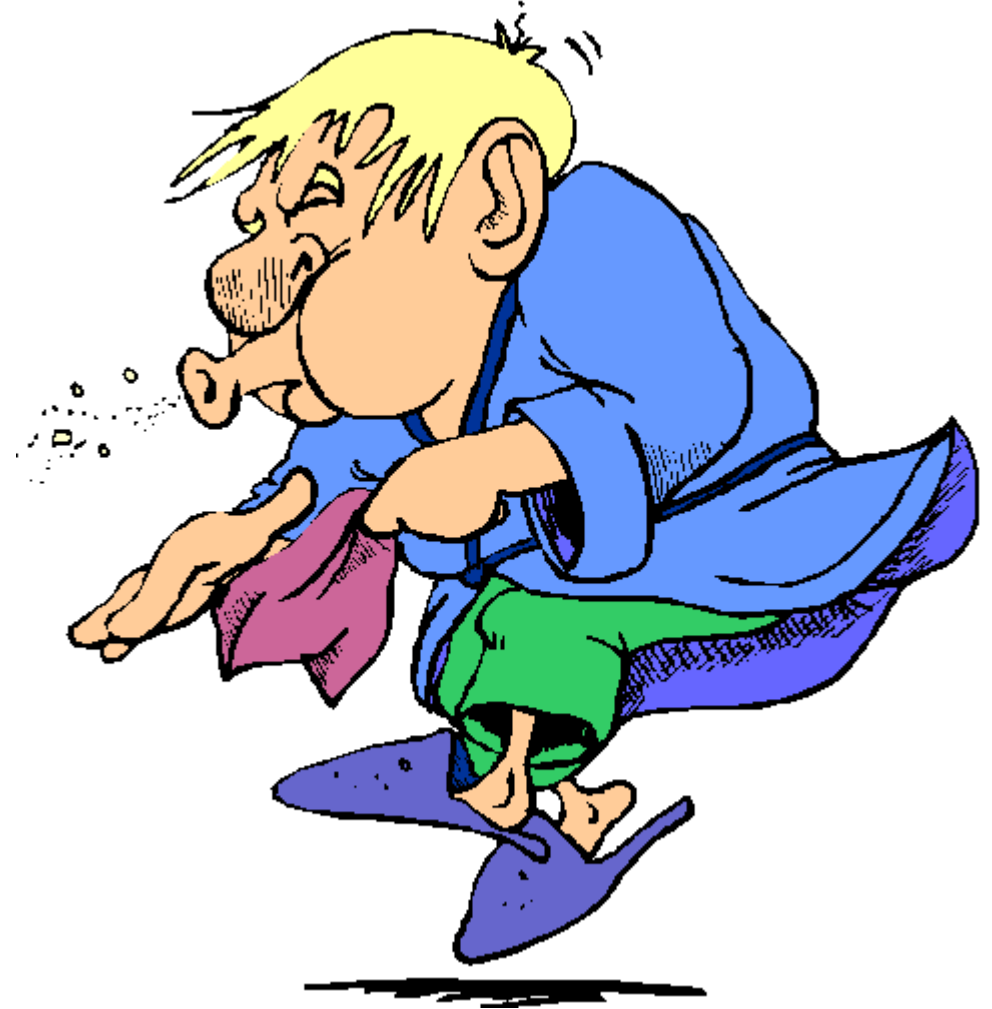
How are diseases spread?

- Athlete's foot is a fungal infection. It can lead to intense itching, cracked, blistered or peeling areas of skin, redness and scaling.
- Spreads easily, typically communal areas such as pools, showers and changing rooms or anywhere where you may walk around barefooted



Think of another infection

- Describe how it is spread - write it in your book.

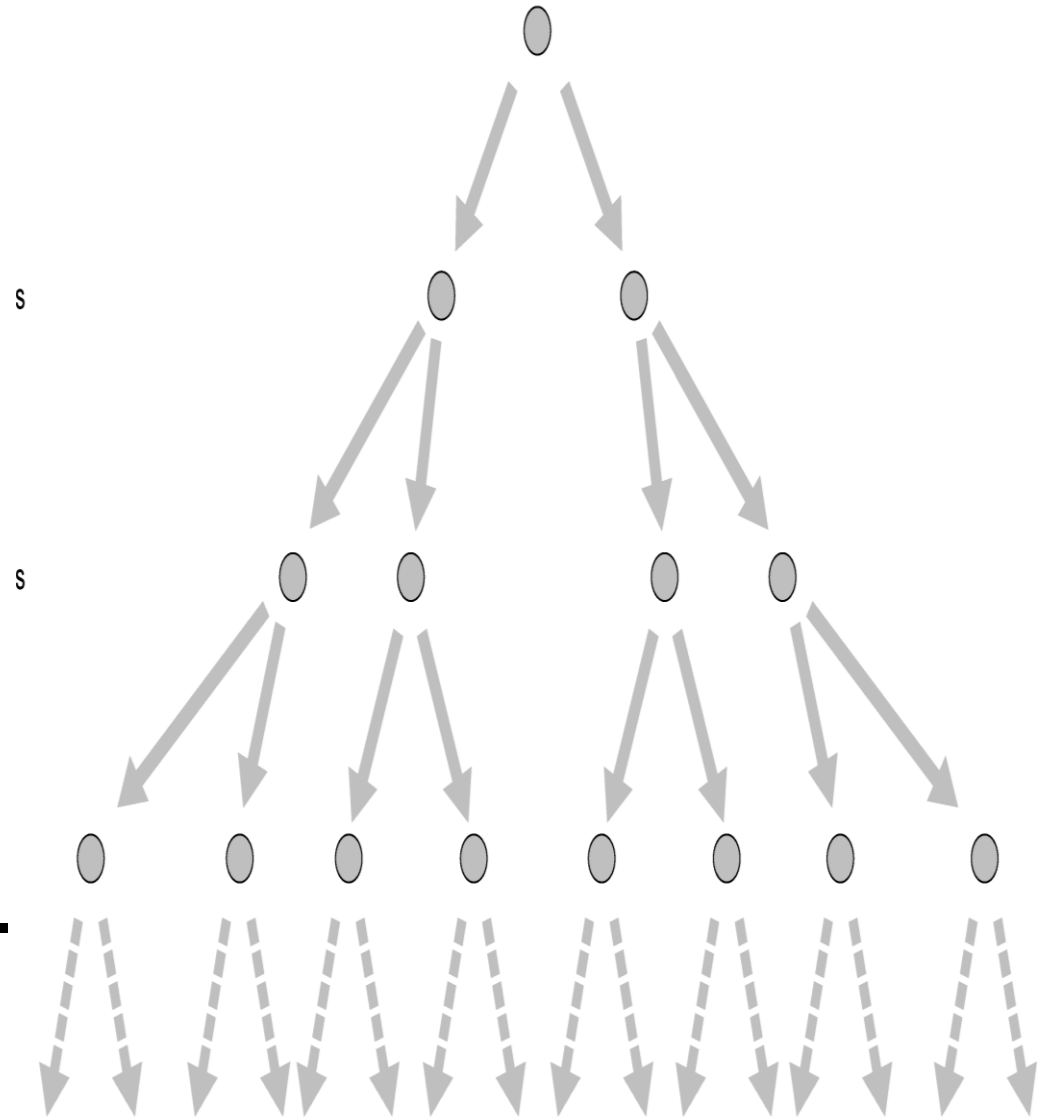


Growing Microorganisms

- What do microorganisms need to be able to grow and replicate?
 - Food
 - Water
 - Warmth

Doubling every time

- If you start with just one microorganism
- In ideal conditions bacteria reproduce about every 20 minutes.
- Work out how many bacteria could be made in a school day.



Match each sentence with the correct ending:

- | | |
|--|---------------------------------------|
| 1 Chicken pox can be spread by... | C...touch. |
| 2 Salmonella can be spread by... | D...eating contaminated food. |
| 3 Hepatitis and HIV can be spread by... | A...blood transfer. |
| 4 Colds and flu can be spread by... | F... droplets from a cough or sneeze. |
| 5 Typhoid and gastro-enteritis can be spread by... | E...drinking contaminated water. |
| 6 Syphilis and HIV can be spread by... | B...sexual intercourse. |

True or False?

- 1.** All bacteria cause illness. **FALSE**
- 2.** Viruses can only reproduce inside living cells. **TRUE**
- 3.** We can eat some fungi. **TRUE**
- 4.** Live yoghurt contains living bacteria. **TRUE**
- 5.** Antibiotics can destroy viruses. **FALSE**

True or False?

1. Viruses are bigger than bacteria. **FALSE**
2. We can see some fungi with the naked eye. **TRUE**
3. Viruses inject their genetic material into living cells. **TRUE**
4. Microbes grow easily in raw or cooked food left in a warm place. **TRUE**
5. Micro means 'causes disease'. **FALSE**

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