



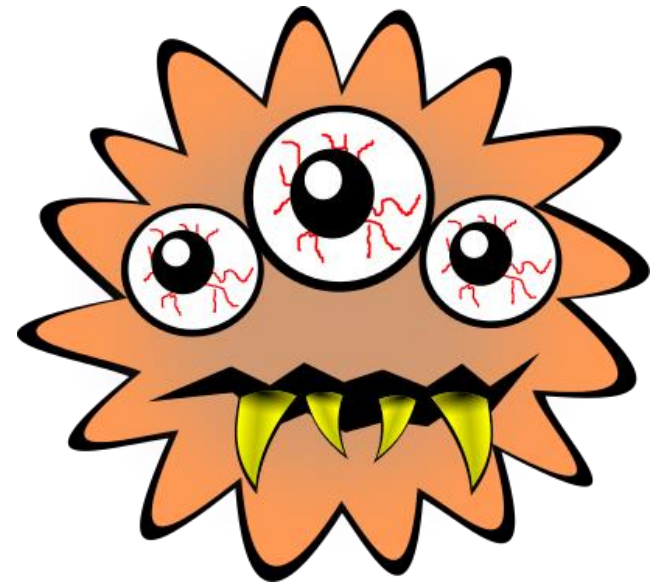
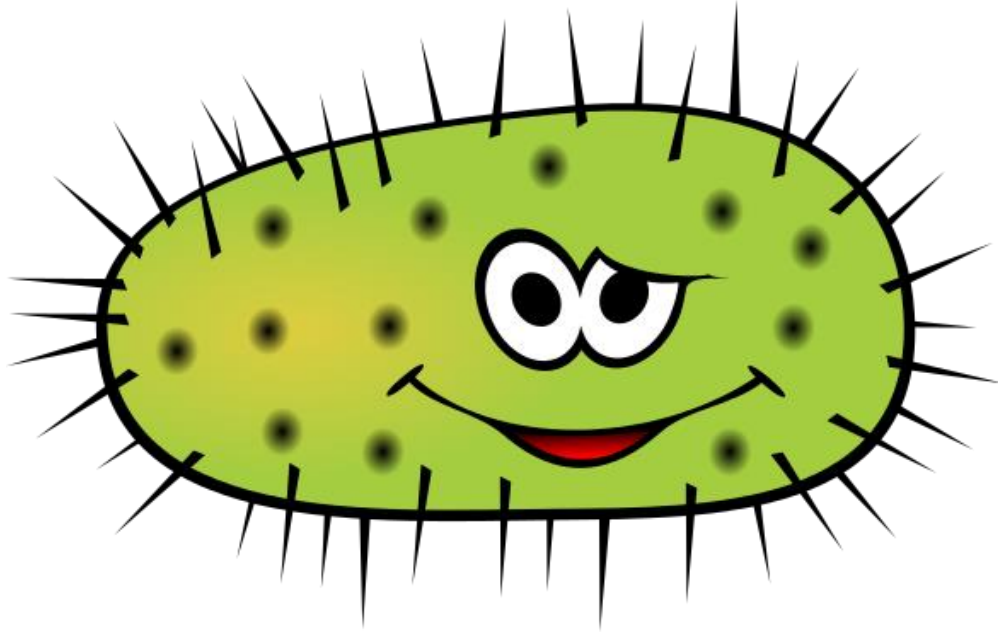
Microorganisms

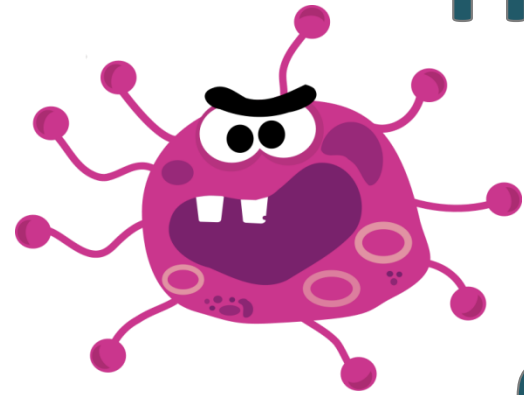
In this lesson we will be looking at microorganisms, and finding out how some can be helpful while others are harmful.



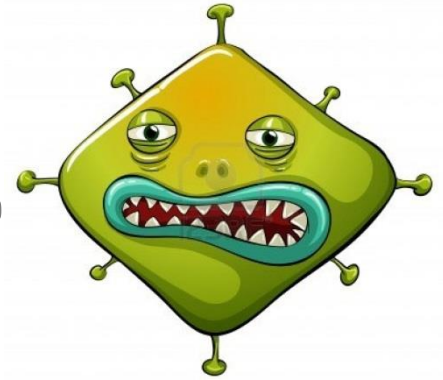
Microorganisms

Tiny but Mighty!

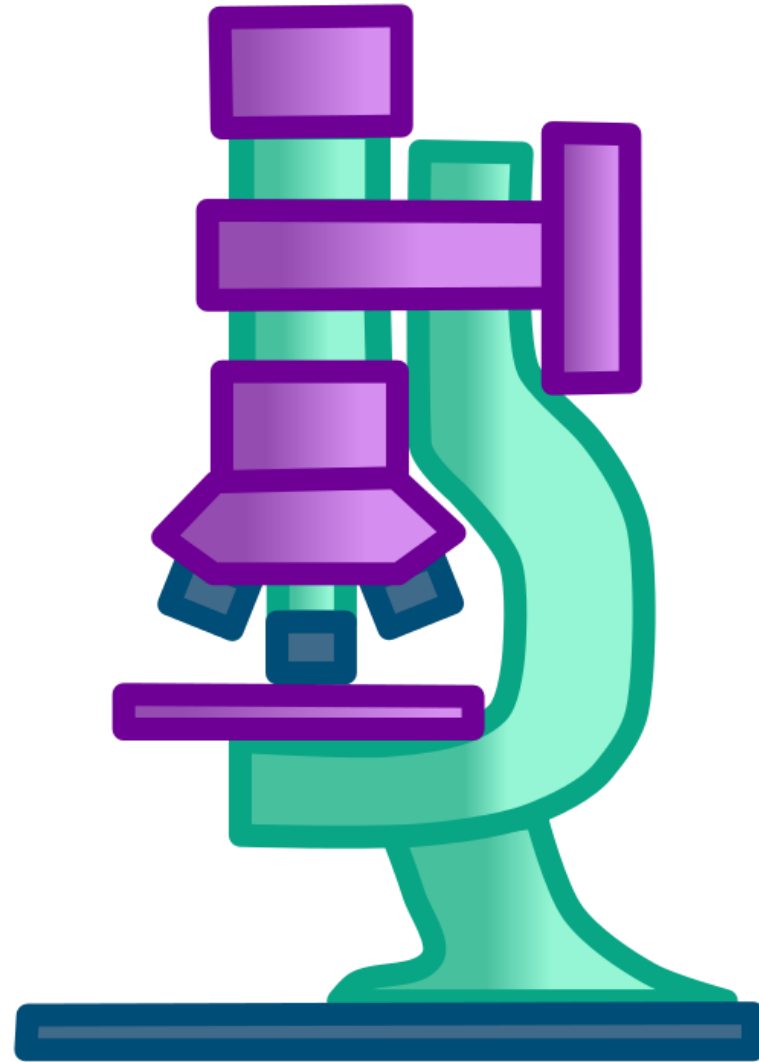
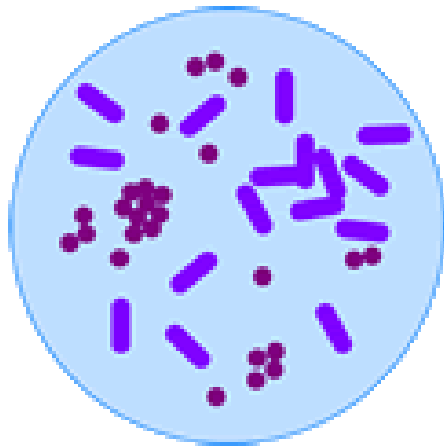




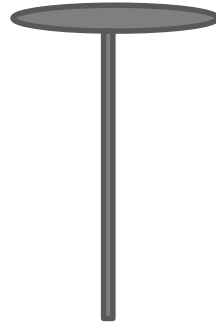
**There are trillions
of trillions
of trillions of
microorganisms
Around the Earth.
Maybe more!**







They are so small that you need
a microscope to see them.

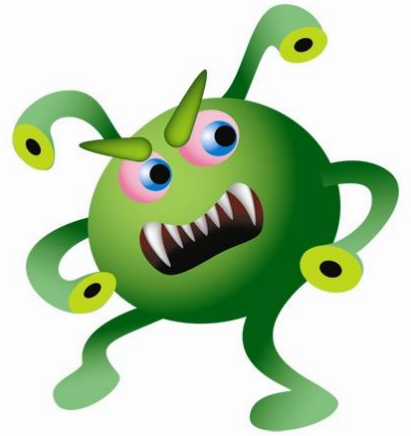
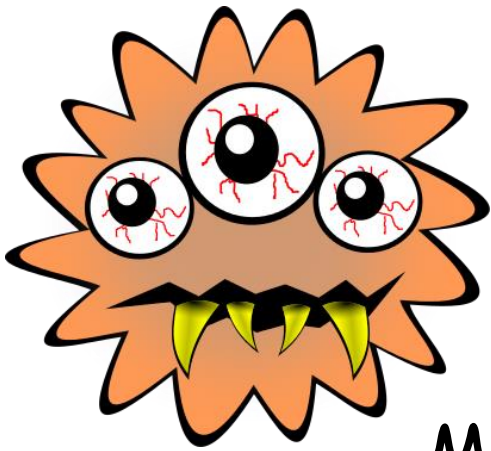


**It takes over one million
microorganisms
to cover a pinhead**

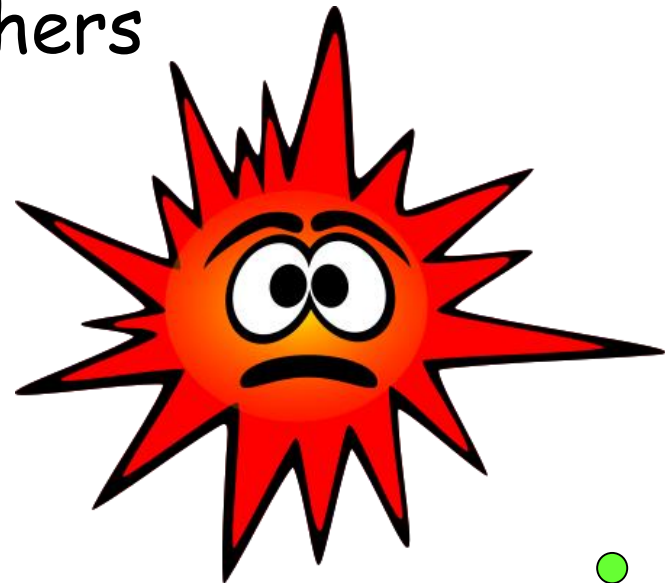
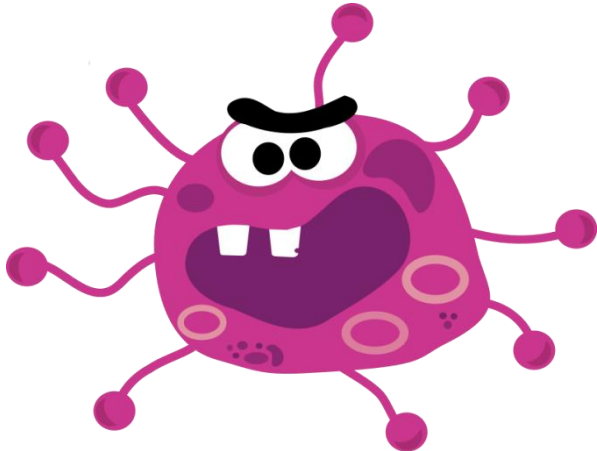
In the soil under your feet, there might be a million different types of microorganisms!



A gram of soil contains more than a billion microorganisms!



Microorganisms are all around us, in the air, in our bodies and in water. Some microorganisms are harmful to us, but others are helpful to us.



Helpful microorganisms

Yoghurt is made by boiling milk and adding special bacteria to it. The bacteria turns the sugar in the milk into acid. The acid thickens the milk and stops any harmful bacteria growing.



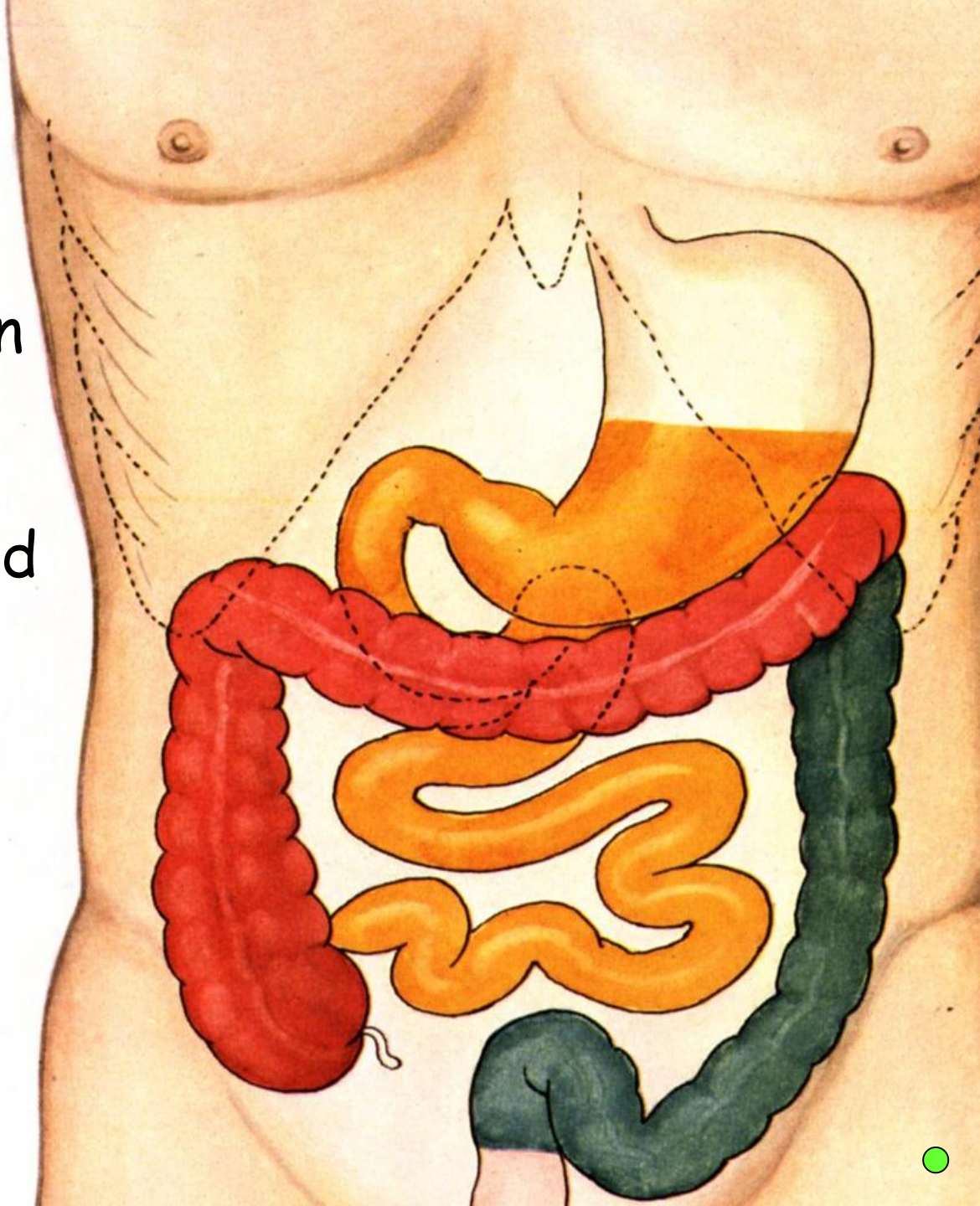
When bread is made, a microorganism called **yeast** is added to the dough to make the bread rise.



Inside any pile of dead leaves there are millions of tiny bacteria. These bacteria feed on the leaves and break them down into **nutrients**. The nutrients return to the soil where they can be used by plants.



Good bacteria live in our intestines and help us use the nutrients in the food we eat and make waste from what's left over.



Some bacteria are also used by scientists to make medicines and vaccines.



Microorganisms produce more than half of all the oxygen we breathe!



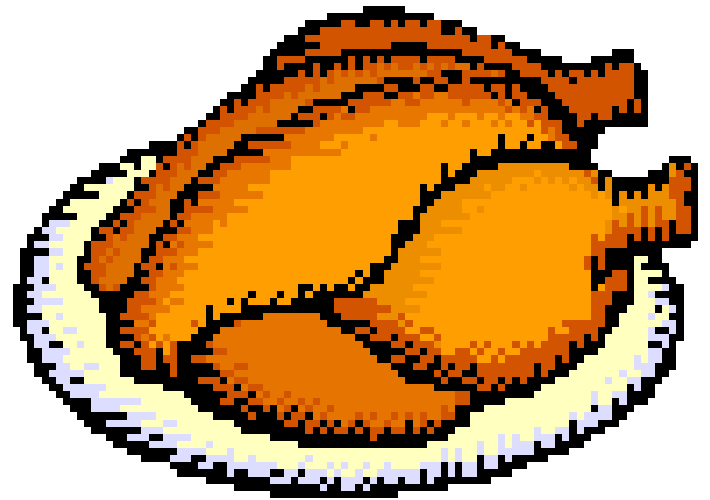
Harmful Microorganisms

Microorganisms that cause diseases are often called **germs**.

Some diseases, like chickenpox, are caused by **viruses**. Diseases caused by viruses usually spread easily from one person to another.



Uncooked foods (especially meat) can contain **bacteria**. The bacteria are killed when the food is cooked. If people eat food that has not been cooked properly, the bacteria may survive and make them feel very ill.



Once germs get inside our bodies, they settle in for a long stay. They gobble up nutrients and energy, and can produce toxins (a kind of poison). Those toxins cause symptoms like fevers, sniffles, rashes, coughing, vomiting, and diarrhoea.



Remember the two words germs fear:

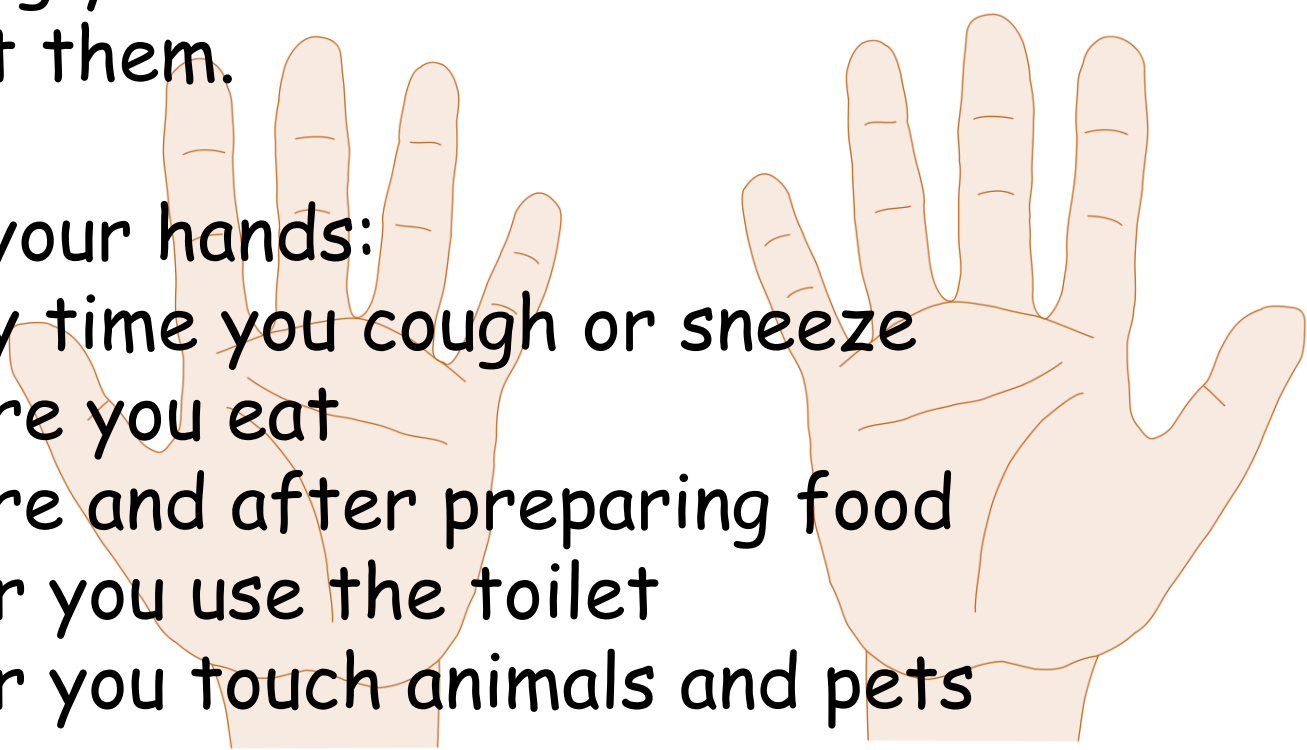
water

soap

Washing your hands well and often is the best way to beat them.

Wash your hands:

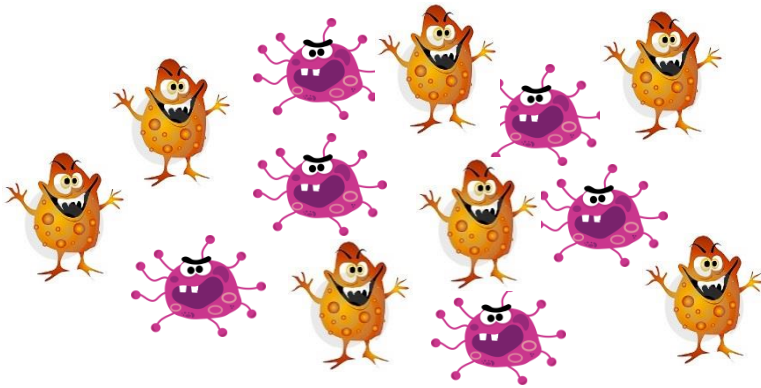
- Every time you cough or sneeze
- Before you eat
- Before and after preparing food
- After you use the toilet
- After you touch animals and pets



When you wash your hands use **warm water** and **soap** and rub your hands together for at least 20 seconds. That's about how long it takes to sing 'Happy Birthday.'

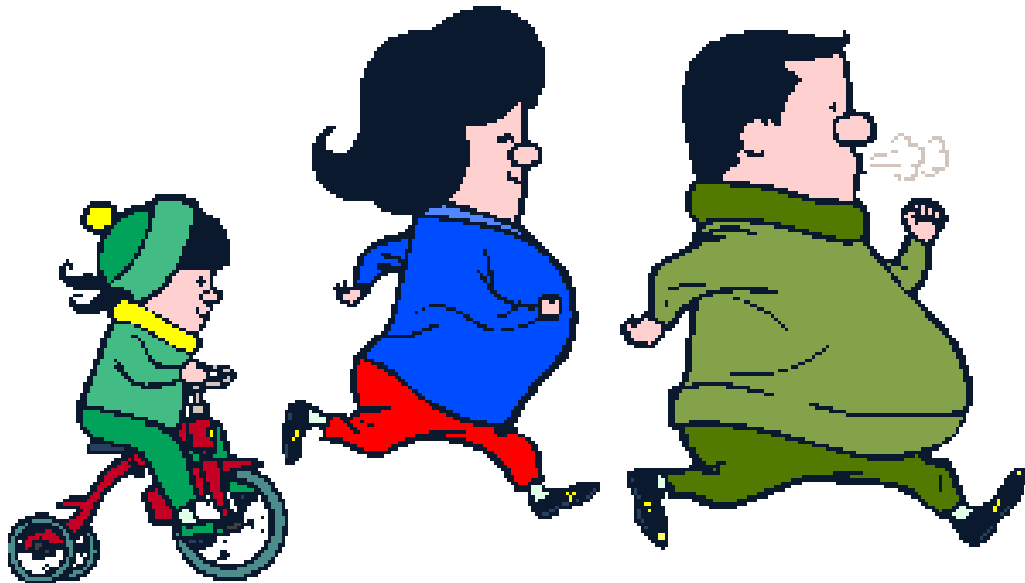


Disinfectants, such as bleach, are powerful chemicals used to kill microorganisms.



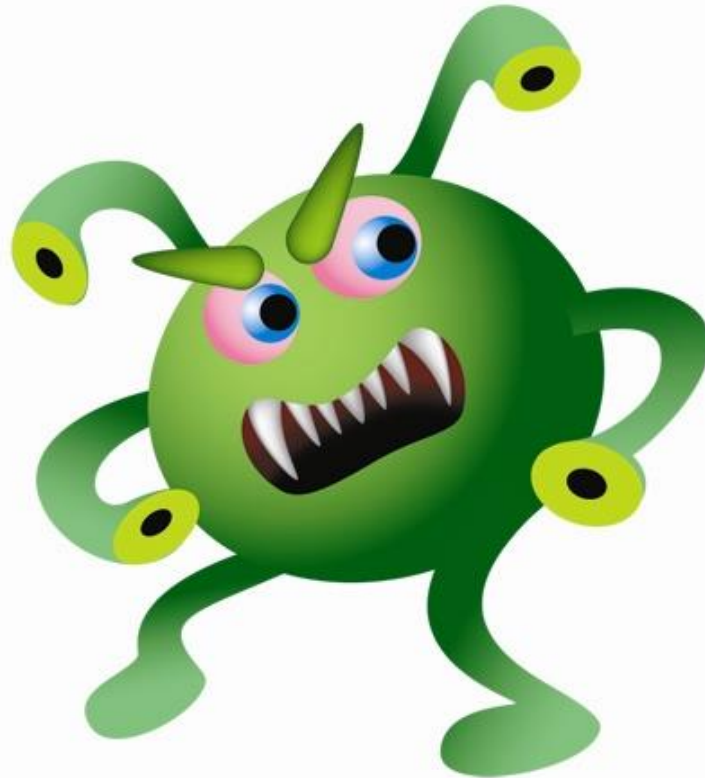
Antiseptics are weaker chemicals that we dab on wounds and sores to prevent micro-organisms from multiplying.

Vaccinations help keep your body prepared to battle germs that cause illness. Eating well, exercising regularly, and getting plenty of sleep will also keep your immune system strong and healthy.



Bacteria find it hard to grow if it is not warm enough for them. So remember to keep food in the fridge.

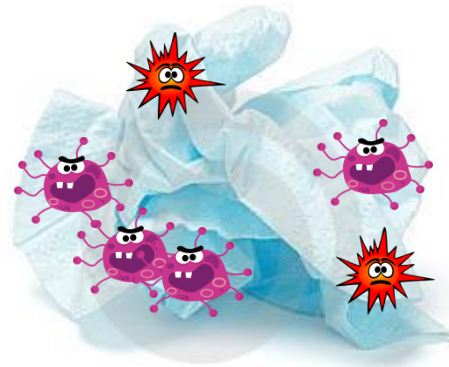
BRRRRR



Think of Others

Always cover your nose and mouth when you sneeze and cover your mouth when you cough to stop the spread of germs.

Never throw tissues on the floor to pick up later. Throw them in the bin and remember to wash your hands!



Thank you!

Glossary

- **trillion** - 1,000,000,000,000,000,000 (one million million million)
- **microscope** - magnifying instrument
- **Bacteria** - type of microorganism
- **Virus** - type of microorganism
- **Toxin** - poison
- **Vaccine** - injection to build resistance
- **Immune** - resistant to disease

