Population Growth

Micro-organisms and antibiotics

When you have an infection which needs treatment by antibiotics, you have to take regular doses of antibiotics for several days. Why?

Use the micro-organisms and antibiotics animation to see how antibiotics affect how bacteria, a type of micro-organism, divide and grow when you take antibiotics.

To make counting easy, a grid is provided that will let you estimate the total number of microbes present.

First see how bacteria grow when no antibiotics are given. You can change the person's body temperature and how much food and moisture the bacteria have. The game allows you to change the body temperature from below 34^{o}C to above 40^{o}C, in reality the person would die if their temperature got this high or low!

- Why do you think people often get a fever when you have an ear infection? Why does the area of skin where you have a cut or graze often become red and feels hot? (Hint – skin and ear infections are usually caused by bacteria?)

Then add different doses of antibiotics, and see what difference that makes.

- How big a dose of antibiotics do you need to treat the infection?
- How many days does it take for the number of bacteria to stop increasing when you take a high dose of antibiotics?
- For how many days do you need to take a high dose of antibiotics for it to kill all the bacteria?
- If you are given a prescription for an antibiotic, suggest why you are told to take the medicine for at least 5 days, or to go on taking the medicine until it is all finished.