From fireflies to superbugs narration

Inside just about every cell of every living body there's a complicated chemical called DNA.

Different bits of DNA are called genes and they decide what kind of bodies we have.

We get our genes from our parents. Change the genes and you change the body.

It is possible to move genes from one species to another using science instead of sex.

Take fireflies for example, they have a very useful gene. It's the gene for producing light. Fireflies flash to attract the opposite sex, sometimes for love and sometimes for dinner.

Scientists like me, take the bioluminescence gene from the firefly and put it into other creatures, making them glow and they only glow when they are alive. That means if we put the gene into nasty bacteria, we can see how well medicines work because if the bacteria are killed then the lights go out.

Even better light travels through flesh and skin. You can see this if you put your hand over the top of a torch. Special cameras can pick up the light from bioluminescence bacteria inside a living mouse. So we can see if an antibiotic is working without having to kill the mouse.

These experiments are important because new medicines that work in test tubes often don't work in people, or they have unexpected side effects.

Mice and people are more alike than you might think. If a medicine works in a mouse it's much more likely to work in a person.

The world desperately needs new medicines. Take the lung disease tuberculosis which can be caught by breathing in as few as 5 bacteria. 1 in every 3 people in the world has the TB bacteria in their lungs.

About 2 million people die from TB every year. That's over four and half thousand people every day,

6 people in the time you have been watching this.

Better antibiotics could save millions of lives, all thanks to some clever science, laboratory mice and the amorous fire fly.