



How Your Body Fights Off Infections

KS4 BIOLOGY

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Your Body's Defence Team

Every day, your body faces attack from tiny invaders like **bacteria** and **viruses**. But don't worry—you have an amazing defence system called the **immune system** that works around the clock to protect you. It's so smart that most of the time you don't even notice it's working.

Your immune system is made up of special cells and organs that work together like a team of superheroes. The main players are **white blood cells**, which patrol your body looking for anything that doesn't belong, and your **lymph nodes**, which are small glands scattered throughout your body that help filter out germs.

Think of it like a castle with guards. Your skin is the castle wall, and your white blood cells are the guards walking around watching for invaders.

The First Line of Defence

Your **skin** is your body's first defence against infection. It acts like a waterproof shield that stops most germs from getting inside. But germs can also enter through your **mouth**, **nose**, and **eyes**. That's why your nose produces sticky mucus that traps bacteria, and your tears actually contain **chemicals** that kill germs.

Your **stomach acid** is another clever defence—it's so powerful that it destroys most germs you swallow with your food.

When Germs Get Inside

If a germ manages to get past your first defences, your white blood cells spring into action. There are different types of white blood cells with different jobs. Some, called **phagocytes**, are like tiny eating machines that surround and destroy germs. Others, called **lymphocytes**, remember germs they've fought before and can recognise them if they come back.

Think of it like a police force. Some officers chase and capture the bad guys (phagocytes), while others remember the faces of criminals they've caught before

(lymphocytes).

The Fever Response

Sometimes when you're fighting an infection, your body raises its temperature and you get a **fever**. This isn't a sign your immune system is failing—it's actually a clever strategy. Higher temperatures make it harder for germs to survive and help your white blood cells work faster.

Getting Better

Most of the time, your immune system wins the battle against germs without you needing any help. But sometimes you might need **antibiotics** to help kill **bacteria**, or you might need rest and fluids to support your body's natural healing process. Staying healthy with good sleep, exercise, and nutrition helps keep your immune system strong and ready to fight.