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Healthy living

Staying healthy is important for all animals. A sick or weak animal is more likely to be caught by a predator. Animals that are fit and healthy are more likely to breed and better able to look after their offspring. Like all other animals, humans need to look after their bodies to remain as fit and healthy as possible. To do this we need to understand a bit more about our bodies and what we can do to make sure that everything works properly.

The human body is like a clever, complicated machine. It is made up from a series of different working parts called organs. All the organs work together and are controlled by the **brain**. Each of these organs needs materials and energy to carry out its particular function. The raw materials for growth and repair and the fuel needed to keep our bodies running smoothly are provided by the food we eat.

➡ Nutrients

You have already learnt about the different **nutrients** that we can obtain from our food. These nutrients fall into three groups: those that provide energy, those that provide materials for growth and repair and those that keep the whole system healthy and working properly.

Nutrients for energy

We get most of our energy from foods containing **carbohydrates**. You may remember that there are two types of carbohydrate (starch and sugars) and these are found in foods such as cereals, bread, rice and fruit. Both types of carbohydrate provide a lot of energy when they are broken down in our body to form **glucose** and then transported to the cells. Starch takes longer to break down than sugars and so the energy from starchy foods is released over a longer period. Can you remember any reasons why we should obtain most of our energy from starchy foods rather than sugary ones?

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Another source of energy are **fats**, which we can obtain from eating fatty foods, such as cheese, meat, fish and nuts, or from foods cooked in fat, such as chips. Fats are easily stored by the body and this is useful for two reasons. The layer of fat under our skin acts as insulation (see Chapter 5), helping us to keep warm. It is also a store of energy that we can use if we are unable to eat for a while. This was vital to our existence tens of thousands of years ago when people were hunter-gatherers and the food supply was not reliable. Nowadays most people can go to the supermarket and buy food whenever they want, so that fat store is not so important. In fact, because we are no longer using it up so much, we need to be careful not to store too much fat in our bodies.



3

Nutrients for growth and repair

Your body is constantly making new cells. This is partly because you are still growing, but even fully-grown adults need to make new cells to replace ones that have become damaged or have died, or maybe to build up new muscles. In order to do this we need the biological building blocks of cells, called **proteins**. Since proteins are the building blocks of our bodies, it makes sense that we can get them by eating animal materials, such as meat and fish. Plants also use proteins to build their bodies so plant foods such as nuts, beans and grains can also be a good source of protein in the diet.

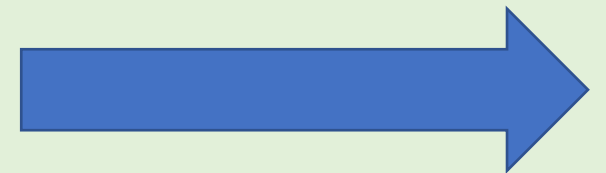
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Nutrients for health

The nutrients that keep everything working healthily are the **vitamins** and **minerals**. There are lots of these and we only need tiny amounts of each to stay healthy. The examples that you have probably heard of are vitamin C, calcium and iron. Vitamin C helps our immune system to fight off disease, and you probably remember from Year 3 that people who do not have enough vitamin C in their diet may suffer from scurvy. Calcium has many jobs to do but the main one is to help keep our bones strong. Iron is needed to make red blood cells and we will learn a bit more about this later in this chapter.

Another nutrient that helps us to remain healthy is **fibre**. Fibre is the material that gives plants their strength. We are not able to digest fibre very well in our bodies so most of it passes straight through. However, it does a really useful job on the way, keeping our digestive system healthy.

The last, but probably the most important nutrient is **water**. Every process that goes on in your body requires water in some way. It is really important that we make sure that we keep our bodies hydrated by drinking enough water during the day.



Activity

Nutrient	Needed For...	Foods rich in this nutrient
Starchy carbohydrates		
Sugary carbohydrates		
Proteins		
Fats		
Vitamin C		
Calcium		
Iron		
Fiber		
Water		

1. Copy out the table in your home learning books.
2. Research how each nutrient is used within the body and what exactly it is needed for and fill in the middle column.
3. Research which foods are very rich in these nutrients and fill in the right hand column.