What are kidneys?

Your kidneys are two of the most important organs in your body. They filter your blood and help get rid of waste products from your body.

Each kidney is about the size of a mobile phone. They have an unusual shape - kidney beans are named after them because they have the same shape.

They are found just under your back ribs, but you can't feel them with your hands.

Here is a diagram of a kidney to help you understand how it all works.

Inside each kidney there are about a million nephrons (say nef-ronz). They are tiny filters catching all the stuff that your body doesn't need and sending it out as waste.

What kidneys do

The kidneys do several important jobs which help to keep your body working well.

- They get rid of waste products carried in the blood.
  The kidneys are part of the waste disposal team. They check out the minerals, vitamins and other nutrients that you get from your food and send off into urine anything that is not needed. They make urine (wee), send it down to the bladder through tubes called the ureters, and when the bladder feels full enough the brain sends you off to the toilet to get rid of the urine. Have a look at 'Your waste disposal system' if you would like to know more about this.

- They balance the volume of fluid in the body.
  Adults have around 7 to 8 litres of blood in their body (kids have a smaller amount, depending on how big they are). All of this gets filtered through the kidneys many times a day. If the volume of fluid in your body goes down (maybe you are sweating out a lot of fluid through your skin or maybe you are not drinking enough water), the kidneys will not make much urine until the amount of fluid in your body goes up.
They can change blood pressure. The kidneys make a hormone that can constrict (make narrower) the arteries in the body. This causes blood pressure to rise when a higher pressure is needed to make sure that blood gets to all parts of your body.

They help in making red blood cells. The kidneys make a hormone that tells the body when to make more red blood cells.

They produce active vitamin D. Vitamin D helps the body to absorb calcium from dairy products and some other foods that you eat. Calcium is needed to make strong bones and teeth.

Looking after your kidneys

You can look after your kidneys by:

> drinking 6 - 8 glasses of water or other drinks (such as milk drinks or fruit juice) each day
> eating a healthy diet so that you get all the minerals and vitamins that your body needs
> staying away from drugs like tobacco and alcohol - these make the kidneys' job more difficult.

When kidneys don't work well

> Your body can still work quite well with only one kidney, so long as that kidney is healthy.
> Some people don't have healthy kidneys, and sometimes their kidneys stop working.
> Some people need to go on a special machine that acts like a kidney to wash and clean the blood. This is called dialysis (say di-a-li-siss).
> These machines are very expensive and it takes several hours a day for about 3 days a week. This makes it difficult for those people to live their lives.
> Sometimes people may be lucky enough to have a dialysis machine at home.
> Sometimes people can have a kidney transplant, which means that they get a kidney from some other person, often someone in the family, and the doctors put it into their body.

Some interesting facts about kidneys

Healthy kidneys stop red blood cells from going into urine. If you ever see blood in your wee, tell whoever looks after you.

Renal is a word that means 'to do with the kidney'.

Kidney stones can form in the kidney.

Homeostasis (say hom-ee-oh-stay-sis) is what doctors call the work that the kidney does to balance your body's fluids.

Want to see more about how kidneys work? Go to: http://www.kidney.org.au/flash/kidney_animation/kidneys.html#intro
Dr Kate says:

If your friend has kidney problems, maybe you can help by keeping her company sometimes when she is on dialysis. Kids who have any kinds of problems are still kids like you. They need friends, they need to have fun, they can do things, they can learn and they can be good friends too.

Kidneys raise and lower blood pressure
I have healthy kidneys
Dialysis
Never smoke, and drink plenty of water
Each kidney produces vitamin D
Your kidneys balance your fluid.

Chloe