Your Urinary System

Pee is one of the first body fluids a kid learns about. You probably learned about pee (also called urine) when you were little and started using the toilet instead of diapers. Now that you're older, you can understand much more about the amazing yellow stuff called pee.

Parts of the Urinary Tract

You drink, you pee. But urine is more than just that drink you had a few hours ago. The body produces urine as a way to get rid of waste and extra water that it doesn't need. Before leaving your body, urine travels through the urinary tract.

The urinary tract is a pathway that includes the:

- **kidneys:** two bean-shaped organs that filter waste from the blood and produce urine
- **ureters:** two thin tubes that take pee from the kidney to the bladder
- **bladder:** a sac that holds pee until it's time to go to the bathroom
- **urethra:** the tube that carries urine from the bladder out of the body when you pee

The kidneys are key players in the urinary tract. They do two important jobs — filter waste from the blood and produce pee to get rid of it. If they didn't do this, toxins would quickly build up in your body and make you sick. That's why you hear about people getting kidney transplants sometimes. You need at least one working kidney to be healthy.

You might wonder how your body ends up with waste it needs to get rid of. Body processes such as digestion and metabolism (when the body turns food into energy) produce wastes, or byproducts. The body takes what it needs, but the waste has to go somewhere. Thanks to the kidneys and pee, it has a way to get out.

When you're asked to give a urine sample during a doctor's visit, the results reveal how well your two kidneys are working. For example, white blood cells in the urine can be a sign of an infection.

Pee also is a way for your body to keep the right amount of water. Did you ever notice that if you drink a lot, you pee more and the pee is pale yellow? That's because your body is getting rid of extra water and your pee has more water in it than usual.

What's Pee Made Of?

Let's talk more about how the kidneys filter blood. When blood goes through the kidneys, water and some of the other stuff that is in blood (like protein, glucose, and other nutrients) go back into the bloodstream, while the waste and excess stuff is taken out. Urine is what is left behind. But what is it exactly?

Urine contains:

- water
- urea, a waste product that forms when proteins are broken down
- urochrome, a pigmented blood product that gives urine its yellowish color
- salts

- creatinine, a waste product that forms with the normal breakdown of muscle
- byproducts of bile from the liver
- ammonia

You've Got to Go!

Once pee is produced, it travels from the kidney to the bladder, where it's stored until you need to go to the bathroom. The bladder expands as it fills; when it's full, nerve endings in the bladder wall send a message to the brain that you need to pee.

When you're in the bathroom, ready to go, the bladder walls contract and the sphincter (a ringlike muscle that guards the exit from the bladder to the urethra) relaxes. The urine then flows from the bladder and out of the body through the urethra.

Urinary Tract Health

You might not think much about peeing or your urinary tract, but here's how you can help keep everything flowing as it should:

- Drink enough fluids. There's no magic amount, but be sure to drink plenty of water, especially when it's warm out or you're exercising.
- For girls: Wipe from front to back, especially after going poop. Because of where the urethra is for girls, and, because the urethra is relatively short for girls, it's easy for bacteria from poop to get in that area. If some of those bacteria end up in the urinary tract, you could get an infection known as a UTI (urinary tract infection).
- Go to the bathroom when you need to go. Holding too long isn't good for your urinary tract.

<u>Assignment</u> ☺ Please answer in complete sentences, including body organs involved, and lots of details.

1. What is the purpose of urine?
2. What is the purpose of feces?
3. All of a sudden, *POOF*, you are water. You have just been swallowed by a healthy, thirsty, person. Where will you go on your journey out of the body?
4. You are still water. But now, you are swallowed by a not so healthy person with diarrhea. Where will you go on your journey out of the body?
5. How are the two journeys above similar?
6. How are the two journeys different?