

# The Liver

- 1. Make a spot in your notebook to take notes on the functions, structures and the body systems that the liver is part of.**
- 2. Read the text below. Mark the text as indicated in class.**
- 3. Take notes in your notebook on the types of information.**

Your liver is the largest solid organ in your body. By the time you're grown up, it will be about the size of a football. The liver does many jobs, but here are three big ones:

1. It cleans your blood.
2. It produces an important digestive liquid called bile.
3. It stores energy in the form of a sugar called glycogen.

About one-quarter ( $\frac{1}{4}$ ) of your blood flows through the liver every minute. The liver helps you by taking toxins (substances in the body that are actually like poisons) out of your blood. Wait! Why do you have toxins in your blood in the first place? Sometimes your body produces them as part of its normal function, like breaking down protein, a component in foods such as meat and nuts.

The liver also cleans blood that has just been enriched with vitamins and minerals during digestion. After you've eaten something, the vitamins, minerals, and other nutrients from the food pass from the intestine into the blood. Before going out to the rest of the body, the nutrient-rich blood makes a stop at the liver. It moves through the portal vein.

The liver processes the good stuff into forms that the rest of the body can use. Waste or stuff your body doesn't need can be carried by bile back into the intestine and out of the body when you poop. Other waste processed by the liver goes through your blood to your kidneys and out in your pee.

And, if you ever accidentally ate something that was harmful, your liver would try to break it down and clear it out of your system. But don't put your liver to the test! Steer clear of poisons and other harmful stuff.

As you probably know, the digestive system does more than just move food through your body until it's time for a trip to the bathroom. During digestion, your body takes everything your body needs from the food you eat. Fat is one of the things the body gets from food.

Bile, a digestive juice produced by the liver, helps the body absorb fat into the bloodstream. You'll find this thick, yellow-green substance in the gallbladder, where it's stored until the body needs some to digest fats.

The liver also helps the body use carbohydrates (carbs), another important component in food. Carbohydrates are found in lots of foods, such as bread, fruit, and milk. The body breaks down most carbs into a type of sugar called glucose, which is the main source of fuel for our cells. Glucose stored in the liver is called glycogen.

Glycogen is like your backup fuel. When the body needs a quick energy boost or when a person's blood glucose level drops the liver breaks down glycogen and releases glucose into the bloodstream.

Your liver doesn't stop there. It has a hand in making cholesterol, which you might think of as bad, but your body needs some of it. And the liver helps with blood clotting, which is what helps you stop bleeding not long after you get a cut.

You should thank your liver next time you take some medicine, too. For example, when you take a pain reliever for a headache, the liver takes the active ingredient and breaks it down so your body can use it to make your headache go away!

# The Human Liver

