



# LET'S TALK ABOUT THE LIVER

## DID YOU KNOW?

Did you know that the liver is the largest organ inside your body? A living donor can donate a part of their liver to someone in need, and the liver will regenerate — or grow back — just like a lizard's tail!

## MATERIALS:

- 1 A scale to weigh objects of up to four pounds.
- 2 1-2 coffee filters or paper towels.
- 3 A rubber band.
- 4 A small, clear container that a coffee filter can cover.
- 5 A large cup or pitcher of water.
- 6 Cooking oil spray.
- 7 A variety of seasonings, such as parsley or oregano.

## BACKGROUND INFORMATION:

The liver is the largest organ inside the body and weighs about four pounds. The liver is located beneath the heart and has two parts – the right lobe and the left lobe.

The liver has about 500 different functions, so we will only discuss some of its main jobs. First, it is like a giant warehouse because it stores and releases iron, vitamins, minerals and sugar for use when you need it later. It also is like a factory because it makes bile to help digest food, protein and blood-clotting factors. Additionally, the liver is like a cleaning service because it filters out bad things that a person might put into their bodies, like alcohol and drugs. It also filters out poisons like exhaust, smoke and chemicals that can enter the body accidentally through the air we breathe.

The liver is also a security service that helps protect your body by attacking germs, but there are still certain infections, diseases and even birth defects that can cause the liver to no longer function properly. One primary reason a person could need a liver transplant is due to cirrhosis. This is the scarring of the liver because many of the healthy cells on the liver have died; it could be due to drinking alcohol excessively, but can also be caused by other factors.



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We cannot always determine why the liver stops functioning properly, but some things we can do to help keep the liver healthy are:

- 1 Exercise and maintain a healthy weight.
- 2 Eat a variety of healthy foods and avoid foods with lots of unhealthy fats.
- 3 Don't drink alcohol.
- 4 Don't take illegal/street drugs.
- 5 Be careful with all medicines — follow the directions and check with your doctor or pharmacist.
- 6 Be cautious of poisons you might breathe in or that might get on your skin, such as aerosol sprays, bug killers, paints, etc.

## HOME ACTIVITY:

- 1 How heavy is an average liver? Take a scavenger hunt around your house and see if you can identify items that weigh around four pounds.
- 2 Once you have a few items, take them to the scale and weigh them.
- 3 Did any of the items weigh close to four pounds? These would be the approximate weight of an adult liver.

## CHALLENGE:

- 1 Fasten a clean coffee filter over a clear container and secure with a rubber band. The coffee filter represents the filtering work done by the liver.
- 2 Fill a cup or pitcher with water and begin slowly pouring a little water through the filter.
- 3 Do you see how easily it is filtered and passes through? This is what happens when you have a healthy liver.
- 4 Now, place the filter and spray lots of cooking oil on top; this represents aerosol sprays. Next, pour some dried seasoning flakes (to represent tobacco/smoke) on the filter, and you can also add some candy pieces or buttons (to represent other toxins) onto the filter.
- 5 Lastly, slowly repour water on the filter. How well does the coffee filter — which represents the liver — work now?