



**STEP-UP**

**DIGESTION: FUELING THE BODY**  
**Grades 1-2: 2 hours**

**Students will explore the gastrointestinal track and see where food is broken down. They will learn about the foods we eat and investigate what plant parts contain the most starch (carbohydrate).**

**CSE Educators will need...**

- Students wearing name tags with **BOLD** first name
- Students working with a partner

**Teachers can prepare students by...**

- Reviewing the parts of the digestive track and the parts of a plant.
- Reading grade-appropriate books about digestion to the class.
- Making a vocabulary list using any of the underlined words below.

**Please be advised...**

- Students will be handling a pig's stomach and intestines. Vinyl gloves and goggles are provided.
- Chemicals used: tincture of iodine

**Teacher Background:**

Students often hear “you are what you eat” without understanding what the phrase means. There are three types of food that we all need for energy and building our bodies.

Proteins, which are made of amino acids, are needed for building our bones, muscle, skin, organs, etc. There are 20 amino acids, although 9 are termed “essential” because our bodies cannot make them alone—we need to eat food that contains these amino acids!

Carbohydrates are made of glucose molecules (a simple sugar). Starch is a more complex carbohydrate that is made up of many simple sugars put together. We get our carbohydrates from plants and they are needed for generating energy for our body.

Lipids, or fats, are made from fatty acids and glycerol and are used for energy. They are important structural parts of cells.

Other things we need in our diet include vitamins, minerals, and fiber. Fiber, also from plants, is indigestible by humans, although it is necessary for us to function. It helps to push the rest of our food through the gastrointestinal track (digestive track).

The huge molecules of proteins, carbohydrates, and lipids are too large to pass through the lining of the intestines to become absorbed into our body. So, digestion in the mouth, stomach, and small intestine breaks these down into their building blocks so they can leave the intestines and be transported to each cell in our body. Undigested food and wastes move through the large intestine, where water and minerals are absorbed and recycled by the body.

**Session Description:**

Students begin by taking a walk through the digestive track. They learn about proteins, carbohydrates, and lipids. Students look at a real pig stomach and intestine to help explain how food is broken down in the stomach and the needed building blocks, vitamins, and minerals are absorbed in the long track of the small intestine. They learn how acid in the stomach aids in digestion and where your burps come from! Students will test foods for fat and carbohydrate content. Can they predict which foods are high in fats? They will be challenged to find what plant parts contain the most starch.

**Session Outline:**

- A walk through the digestive track.....Twists and turns
- Proteins, Carbohydrates, and Lipids.....Our body's fuel
- A Pig Intestine.....How many meters?
- The Burping Stomach.....Mixing it up
- Testing foods for fat.....Making predictions
- Starch Sleuths.....Where does the plant store its food?
- Closure and assessment.....What have you learned?

**Wisconsin's Model Academic Standards**

This session focuses on the following performance standards, but may touch on other standards not listed:

**Science**

- A.4.2 Use previous evidence, models to understand what is happening now
- C.4.2 Questioning, planning, observing, predicting
- C.4.4 Use simple science equipment
- C.4.5 Use data to develop explanations
- C.4.6 Use charts, graphs, drawings
- F.4.1 How organisms meet needs

**Math**

- A.4.1 Reasoning abilities
- A.4.2 Communicate math ideas with charts, graphs, etc.
- A.4.3 Connect math learning with other areas
- B.4.2 Determine the number of things in a set
- D.4.4 Determine measurements directly using tools