

Anatomy and Physiology

FOR ENGLISH LANGUAGE LEARNERS

Chapter 1: Introduction to Anatomy and Physiology

Building blocks of the body

Teach molecules, cells, tissues, organs and organ systems by making an overhead transparency of the figure 1.1 or by drawing shapes on the board in smaller to larger fashion. Have students turn to a partner and repeat the building blocks from memory, from smallest to largest and then from largest to smallest. Have students make labeled pictures of the five building blocks of the body in order of size, largest to smallest or smallest to largest.

Name some things: sugar, stomach, digestive system, brain, etc., and have students tell you which level of organization these things are. For example, sugar is a molecule. Continue asking students to identify the level of structure of things throughout this text. For example, when you introduce skin in the next unit, ask them whether it's a tissue or organ. Challenge students to tell you why they think it's an organ or a tissue.

Homeostasis—how the body controls conditions

Use an image of a two-sided scale to illustrate the concept of balance. Explain that maintaining the body in balance is very important to stay healthy. Ask the students what happens if a person gets too hot. Tell them that sweating is an example of homeostasis, or keeping in balance. Ask students to think of things in the body that have to be kept constant, for example, water levels, temperature, heart rate, breathing rate, blood pressure, and sugar levels. Speculate on what happens if these things aren't kept constant. For example, if a person's blood sugar is low, they will feel weak and dizzy.

Maintaining Homeostasis: Negative Feedback and Reflexes

Acting out reflex pathways is extremely helpful. Sit on a chair in front of the students and ask one of them to tap your leg just below the knee. Ask them why your leg kicks outward in response. Write down the word reflex on the board. Next, light a candle (if you can), and put your finger near it and pull your finger away. Ask students if they can think of other reflexes and write them on one side of the board, for example, gag reflex, shivering reflex and blink reflex.

After students understand the 5-steps in a reflex, have students choose a reflex that is on the board and turn to a partner and recount a true story which incorporates the 5 reflex steps. For example, *Yesterday when I was cooking, I accidentally touched the stove, sensory receptors felt heat, then....* The more they practice the 5 reflex steps now, the easier it will be for them to recall what a reflex is in later chapters.