

Physiology Class 1: Introduction, Organization of the Body, Homeostasis

Activities

These activities are designed to be done at home. There is no grade given for these and they do not have to be turned in. The answer key has been emailed to your grown up.

Be a detective!

Keep track for one day:

- When you felt hot or cold
- When you got hungry or thirsty
- When your heart beat faster (exercise, excitement, etc.)

Then explain how you think your body fixed each one.

Answers (in their own words)

What students track	Expected student answer (varies by situation)	What the body did (homeostasis explanation)
Feeling hot (outside, exercise, warm room)	"I felt hot when I was running outside."	Sweating helps cool the body, and blood vessels widen to let heat escape.
Feeling cold (outside, air conditioning, no jacket)	"I felt cold waiting for the bus."	Shivering makes muscles move to warm the body, and blood vessels tighten to keep heat in.
Feeling hungry (before meals, long time without eating)	"I felt hungry before dinner."	The stomach and brain send signals (hormones + nerves) to remind you to eat and get energy.
Feeling thirsty (after sweating, dry mouth, not drinking for a while)	"I felt thirsty after playing soccer."	The brain tells you to drink , and the kidneys save water until you do.
Heart beating faster (exercise, excitement, fear)	"My heart beat fast when I was running."	The heart beats faster to pump more oxygen to muscles, and breathing speeds up too.

Pre-Assessment Quiz: Physiology Introduction, Organization of the Body and Homeostasis

1. What does physiology mean?

- A. What our body looks like
- B. How our body works**
- C. A kind of exercise
- D. A type of plant

2. What are cells?

- A. Something you use to call someone
- B. Tiny building blocks that make up living things**
- C. A kind of food
- D. A tool used in science class

3. Which list shows the body levels in the correct order?

- A. Organs → Cells → Systems → Tissues
- B. Systems → Cells → Tissues → You
- C. Cells → Tissues → Organs → Systems → You**
- D. You → Systems → Organs → Cells

4. What are tissues?

- A. Paper you blow your nose with
- B. Muscles that help you run
- C. Groups of cells that work together**
- D. The air inside your lungs

5. Which of these is an organ?

- A. Hair
- B. Bone
- C. Heart**
- D. Muscle cell

6. Which body system includes the brain and nerves?

- A. Digestive system
- B. Nervous system**
- C. Respiratory system
- D. Muscular system

7. Which system helps your body breathe?

- A. Nervous system
- B. Respiratory system**

- C. Muscular system
- D. Digestive system

8. What is homeostasis?

- A. Cleaning your house
- B. Your body keeping things just right on the inside**
- C. Eating dinner
- D. Growing taller

9. When you get too hot, what does your body do?

- A. Makes you shiver
- B. Makes you sneeze
- C. You sweat to cool down**
- D. You fall asleep

10. When you run and your body needs more oxygen, what happens?

- A. Your skin turns green
- B. You breathe faster**
- C. Your hair grows
- D. You stop breathing