

Maya's Breath



Figure 1: A teenage girl in athletic clothes sits on a park bench after running, catching her breath

Maya sat on the bench, gasping after her run. Her heart hammered fast, pumping blood through her arteries to deliver oxygen everywhere her muscles needed it. She could feel her lungs working, pulling air in, pushing carbon dioxide out. Her body was a system, she thought, and right now every part was talking to every other part. Her friend Kai jogged over. "You okay?" Kai asked. "Yeah," Maya said, still breathing hard. "Just thinking about how my body responds. My heart's racing because I pushed it. Once I rest, everything will slow down again." Kai nodded. "It's like your cells know what to do. They just react to what your body needs." Maya smiled. "Right—when I exercise, my muscle cells need more oxygen, so my lungs breathe faster and my heart pumps harder to deliver it. And my cells release carbon dioxide as waste, which I breathe out. Everything's connected."

Words to know

- **system:** a group of connected parts that work together to do a job

- **cells:** the smallest units of life that make up all living things
- **tissues:** groups of similar cells working together
- **organs:** structures made of tissues that do specific jobs in the body
- **oxygen:** a gas your body needs to turn food into energy
- **carbon dioxide:** a waste gas your body makes and breathes out
- **circulatory system:** the heart and blood vessels that carry blood around the body
- **respiratory system:** the lungs and airways that help you breathe
- **diffusion:** the movement of gases like oxygen and carbon dioxide across cell membranes
- **stimulus response:** how your body reacts to changes, like increased heart rate during exercise

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