Science 14

Unit C: Matter and energy in living systems

Cell shapes and health monitors

Skin and nerve cells

- Skin cells are flat so they can cover a large area.
- Nerve cells are long so a signal can travel a long distance.

Stomata and a blood pressure cuff

- Stomata are tiny openings in a leaf that regulate gases and water.
- A blood pressure cuff measures the pressure of blood in the arteries.

Key terms

stomata

Tiny openings in a leaf that regulate gas exchange and water loss.

blood pressure cuff

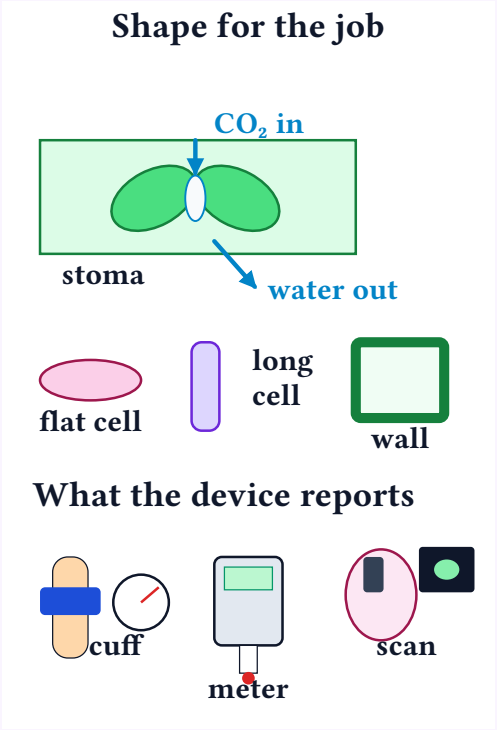
A device that measures the pressure of blood in the arteries.

blood glucose monitor

A device that measures the sugar level in a small blood sample.

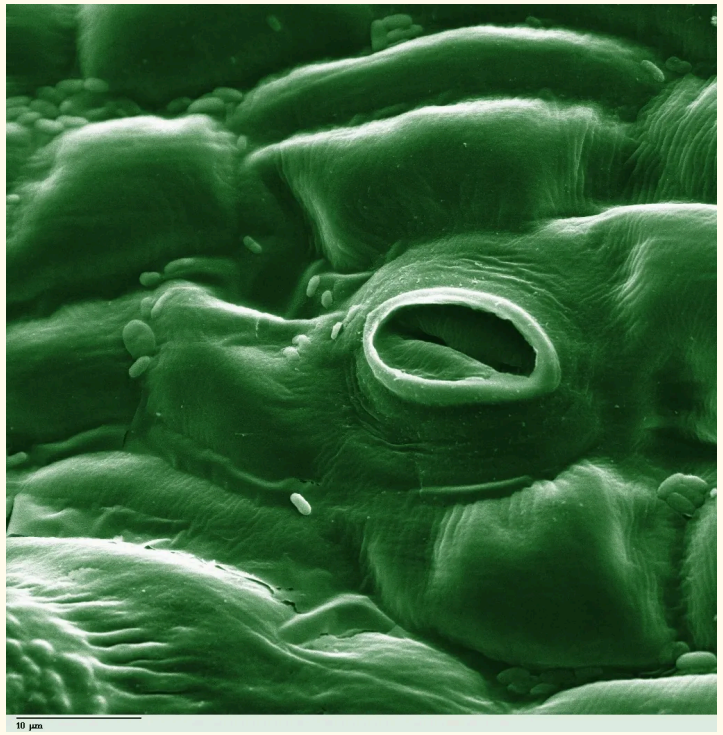
Cell shape and medical devices

- Stomata, walls, flat cells and long cells are adaptations you can point to.
- A cuff gives a blood pressure number. A glucose meter gives a blood sugar number. Ultra-sound makes a picture.



Openings in a leaf

- Stomata let gases move for photosynthesis.
- They also regulate water leaving the leaf.



A sealed leaf surface

- A sealed surface would block gas exchange.
- Stomata let the leaf handle water and gases together.

Three structures

- Match stomata, a nerve cell, and a sugar beet with a job.
- Use water and gases, signals, and stored energy in the match.

Cell investigation variables

- The cell's shape and the device's display are both answers to a life function.
- Exercise heart-rate trials name manipulated, responding and controlled variables.

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