Breathing Mechanisms

Ventilation = breathing (aka. Respiration)

(Cellular Respiration = how each cell in the entire body produces energy.)

Gas Exchange → O_2 enters blood cells,
CO_2 leaves blood cells.

SPIROMETRY = to measure breathing
"metry" "spiro"

Breath vs. breathe

Inspiration = breathing in, inhaling.

- Exterior Intercostals (muscles in between the ribs) ↳ "ribs"
  → they CONTRACT, expanding the ribcage, ↓ moving ribcage UP.
- DIAPHRAGM contracts, moving downward

↑ Thoracic Volume
↓ Lung Pressure

* good test question!! (Hint, hint!)

Expiration = breathing out, exhaling

Quiet breathing: Exterior Intercostals & the Diaphragm RELAX

Forced breathing: Interior Intercostals & Abdominal Muscles CONTRACT at same time.

Gas Transport

- O_2 is carried by HEMOGLOBIN (250,000 Hemoglobins in each RBC). Hemoglobin is a protein. Hemoglobin contains iron, and it makes blood red. The breakdown of Hemoglobin makes feces BROWN!!
- O_2 is also stored in muscle tissue, by a protein called MYOGLOBIN (myo= muscle)
  If this O_2 is used up (during exercise), cells must respire ANAEROBICALLY (an=without, aerobic= breathing (oxygen)
  → producing Lactic Acid CAUSES side aches!!