

FUNCTIONS of the

① SUPPORT

Keeps the body upright and prevents it from collapsing

② PROTECTION

Shields soft organs such as the brain, heart, and lungs

③ MOVEMENT

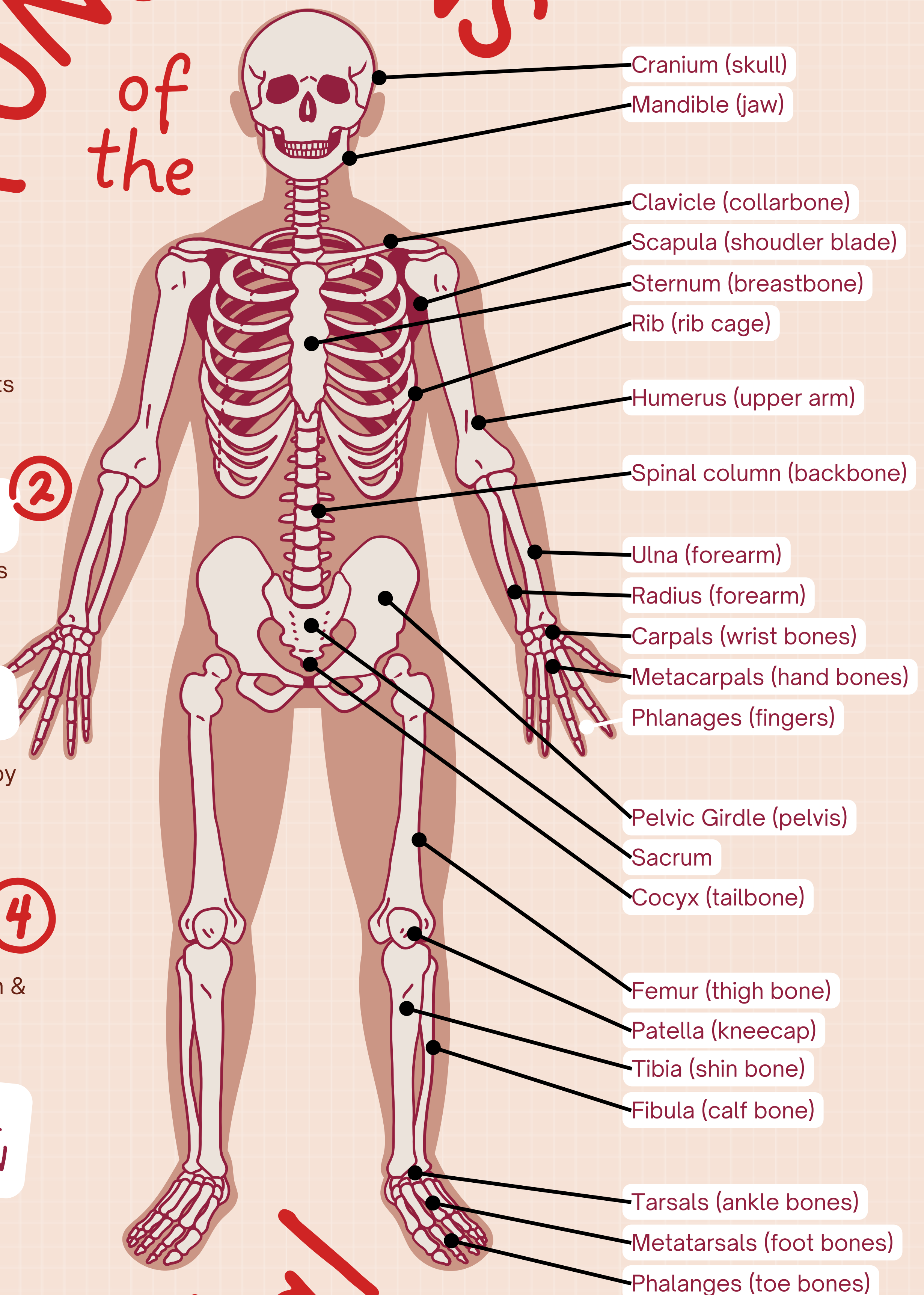
Allows movement by working together with the muscles

④ STORAGE

Minerals like calcium & phosphorus

⑤ BLOOD CELL PRODUCTION

Occurs in bone marrow



Skeletal SYSTEM

Skeletal Differences in FEMALE BONES

same 206 bones but differ in...

① OVERALL SIZE & DENSITY

Slightly smaller, lighter, and less dense — which is why women are more prone to osteoporosis later in life, especially after menopause when estrogen drops.

SKULL DIFFERENCES ②

- Smoother forehead
- More rounded jaw and chin
- Smaller mastoid process
- Lighter, thinner bones overall

③ PELVIS – THE MOST NOTICEABLE DIFFERENCE

- Wider, shallower, and lighter
- Larger, more circular pelvic inlet for childbirth
- Pubic arch is wider — usually over 90°
- Sacrum is shorter and curves less, giving more space in the birth canal

④ RIB CAGE & SHOULDERS

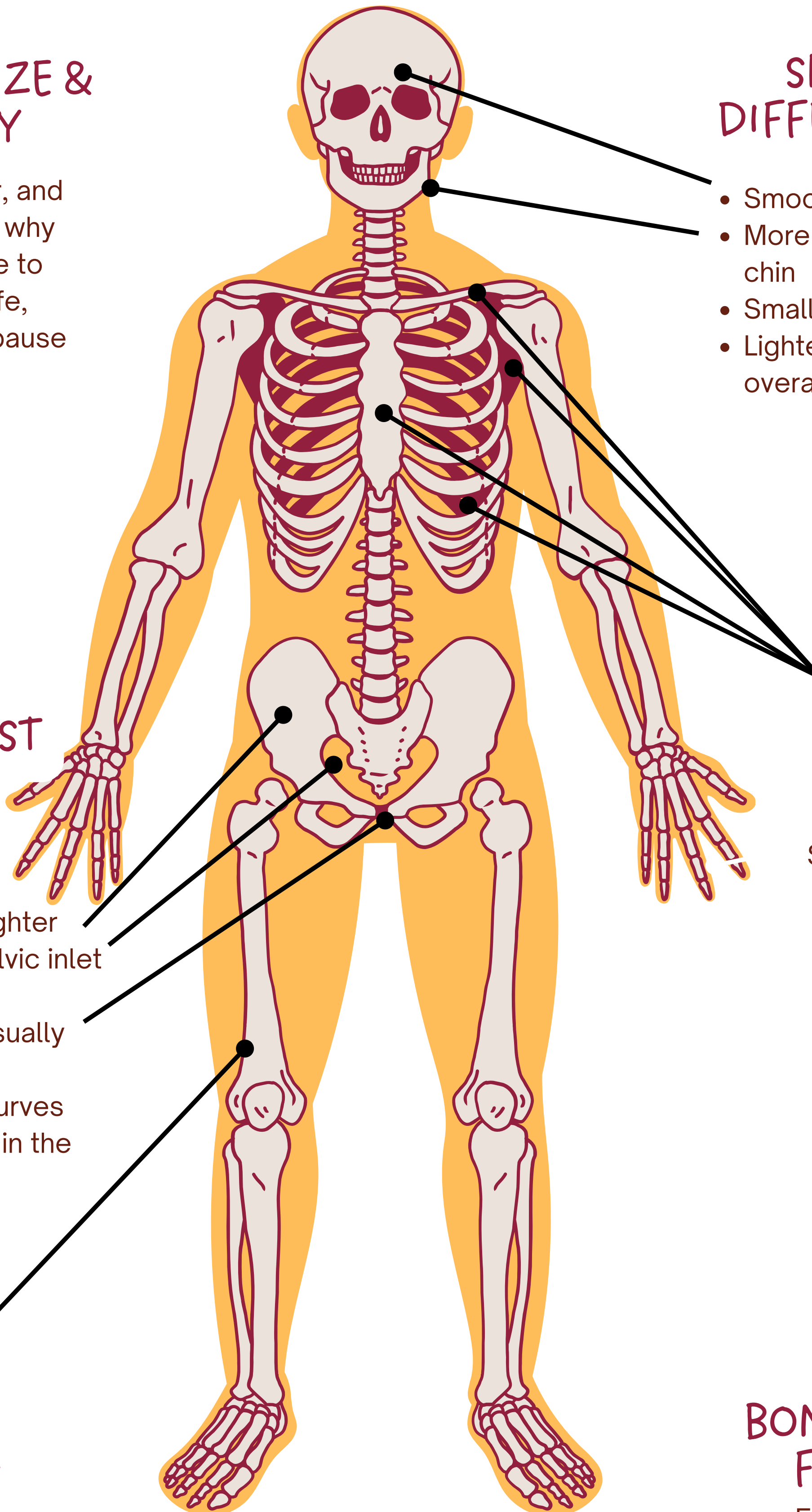
Smaller and narrower, with shoulders closer in proportion to hips

⑤ LIMB PROPORTIONS

Female femurs tend to angle inward more from hip to knee — this is called the Q-angle and is related to the wider pelvis.

⑥ BONE SURFACE FEATURES

Female bones have smoother surfaces in comparison male bones



Skeletal Differences in MALE BONES

same 206 bones but differ in...

① OVERALL SIZE & DENSITY

Generally larger, thicker, and denser — giving greater muscle attachment sites and strength.

SKULL DIFFERENCES ②

- More pronounced brow ridges
- Squarer jawline
- Larger mastoid process (the bony bump behind your ear)
- Heavier, thicker cranial bones

③ PELVIS – THE MOST NOTICEABLE DIFFERENCE

- Narrower, taller, and heavier
- Heart-shaped pelvic inlet
- Pubic arch (angle under the pubic bone) is less than 90°
- Sacrum is longer and curves inward more

④ RIB CAGE & SHOULDERS

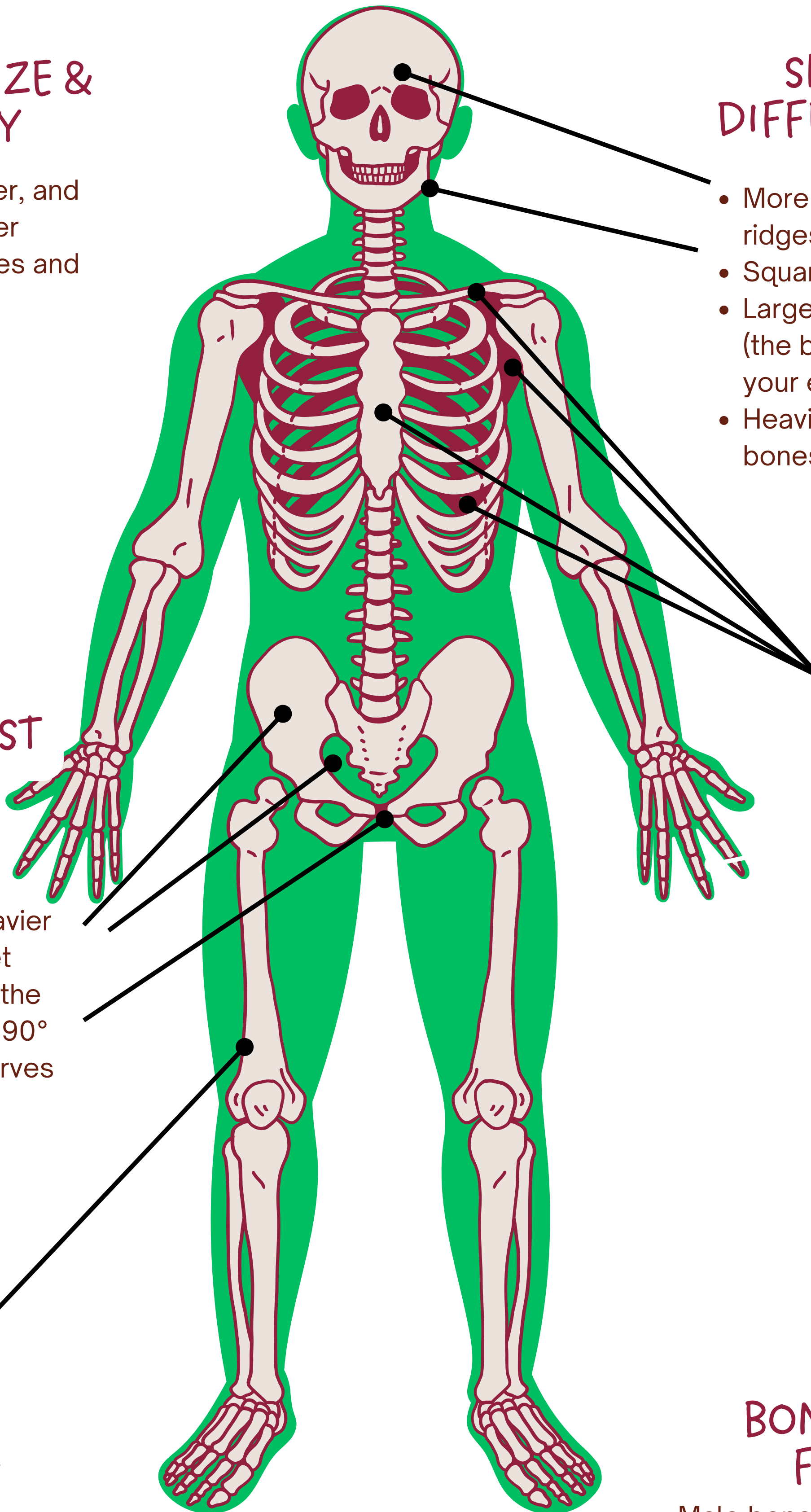
Larger and more barrel-shaped, with broader shoulders

⑤ LIMB PROPORTIONS

Male femurs are generally thicker and longer

⑥ BONE SURFACE FEATURES

Male bones often have more pronounced ridges, bumps, and projections where muscles attach.



Male & Female Skeletal Differences

Male and female skeletons differ and we're going to look at these fascinating traits.

These differences aren't about one being "better" or "stronger" than the other, they're simply adaptations for different biological roles, especially when it comes to childbirth. Think of it as nature's way of customizing the same design for different purposes.

Both male and female skeletons share the same 206 bones, but there are differences in:

1. Size
2. Shape
3. Angles
4. Bone density

These differences start becoming more noticeable after puberty, when hormones like estrogen and testosterone influence bone growth.

Fun fact:

Anthropologists can often tell biological sex from just the pelvis alone with high accuracy.

Why These Differences Matter

1. **Forensic Science & Anthropology** – Experts can estimate biological sex from skeletal remains with high accuracy by studying the pelvis, skull, and long bones.
2. **Health & Sports** – Understanding these differences helps in training, injury prevention, and bone health planning. This wider angle is why females are more prone to knee injuries in sports like soccer or basketball – something to keep in mind for training and joint care.
3. **Holistic Perspective** – Your skeleton reflects your life's story – nutrition, activity, hormones, and even stress can influence its shape and strength over time. This means females may need to focus more on weight-bearing exercise and mineral-rich diets to protect bone health over time.

Male and female skeletons share far more similarities than differences – but those differences are fascinating adaptations for life's diverse needs. No matter your bone structure, the key to lifelong skeletal health is movement, nutrition, posture, and care.