There are approximately 206 bones in your body and 22* of them belong to your skull. Find out both how they fit together like puzzle pieces and function independently in this study guide!

*Except your teeth. While teeth are bone-like structures and are located in the skull, they are not counted.
Skull bones are either part of the **facial skeleton** (bones that make up the face)...

... or part of the **cranium** (bones that protect the brain).
The **calvaria** (skull cap) is the **upper** part of the **cranium**.

Each **bone** in the **calvaria** is named for the corresponding **lobe** of the **cerebrum** — the largest part of the brain.

The **frontal** bone protects the frontal lobe.  
The **parietal** bones protect the parietal lobes.  
The **occipital** bone protects the occipital lobe.  
The **temporal** bone protects the temporal lobe.
The **occipital bone** gives shape to the back of the skull.

The occipital bone **protects** the occipital lobe and also gives passage to the **medulla oblongata**, which connects the brain to the spinal cord.

The **foramen magnum** is the name of the **opening** in the occipital bone through which the **brain** and **spinal cord** connect.
In addition to protecting the corresponding lobes of the brain, the **temporal bones** have openings that connect the **structures** of the **inner and outer ears**.

**Factoid.** The pointed **projections** you see at the bottom of the temporal bone is called the **styloid process**. Muscles of the **neck** and **extrinsic tongue** attach there.
A **suture** is a **fibrous joint** found only in the **skull**. The parietal bones (in blue) come together to form the **sagittal suture** and also form the **coronal suture** with the frontal bone.

*Factoid.* There are **17 sutures** in the skull.
The **sphenoid** and the **ethmoid** are not part of the calvaria but are part of the **cranium**. They protect the **underside** of the brain.

The **sphenoid** is a bat-shaped bone and is the **keystone** bone at the base of the cranium.
The **ethmoid** is a spongy, cubed bone that gives shape to part of the **roof of the nose** and the **orbits**.

The ethmoid is also home to numerous **foramina** through which the branches of the **olfactory nerves** pass.

**Factoid.** The **cribiform plate** of the ethmoid supports the **olfactory bulb** (the terminus of the olfactory bulb).
While the **frontal bone** gives shape to the forehead, orbits, and nasal cavity, it is **not** part of the facial skeleton. It is part of the **calvaria**.

The frontal bone **articulates** with 12 other bones (10 of the 12 belong to the facial skeleton).
Before moving on, keep this in mind:

8 bones form the cranium.

14 bones form the facial skeleton.
The horseshoe-shaped **mandible** is the largest and strongest of the facial bones.

It is also the only **freely moveable** bone of the skull. The mandible **articulates** with the **temporal** bones at the **temporomandibular joint**.
The **maxillae** form the **upper jaw** and the boundary of **three cavities**:

* the roof of the mouth
* the floor and lateral wall of the nasal cavity
* the floors of the orbits.
Each **zygomatic** bone forms the prominence of a **cheek** (the “cheekbones”).

**Factoid:** People with **high** cheekbones simply have zygomatic bones that project outward more.
The **nasal bones** make up the **bridge of the nose** and attach to the **nasal cartilage**.

The **lacrimal bones** (inside the orbits) contain the **lacrimal sacs** that continue as the **nasolacrimal ducts**, or tear ducts.

The nasal and lacrimal bones are some of the **smallest** bones to make up the facial bones.
The thin **vomer** bone forms the lower part of the **nasal septum**.

The **superior half** of the vomer is fused with the **perpendicular plate of the ethmoid**, and its **lower half** attaches to the **septal cartilage**.

The **posterior border** is free and separates the **choanae**, also known as the **internal nares**.
The nasal conchae consist of a layer of spongy bone curled up on itself like a scroll.

The medial surface of the conchae are perforated for the passage of numerous vessels.

The folds of the conchae increase the surface area of the nasal cavities. This enhances the warming and humidifying air passing over them.
The palatine bones are located in the back of the nasal cavity.

The posterior borders of the palatines serves as the attachment site of the soft palate, and the sharp medial borders form the posterior nasal spine for the attachment of the uvula.
Can you name these bones?
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