

# What is the Anatomy of the Vertebral Column?

## Worksheet

The vertebral column is made of 33 vertebrae divided into five regions - cervical (7), thoracic (12), lumbar (5), sacral (5 fused), and coccygeal (4 fused) - that support the body and protect the spinal cord.

## Questions

1. How many cervical vertebrae are there?  
A) 5  
B) 7  
C) 12  
D) 33
2. Which vertebra is known as the 'atlas'?  
A) C1  
B) C2  
C) T1  
D) L1
3. Which region of the spine articulates with the ribs?  
A) Cervical  
B) Thoracic  
C) Lumbar  
D) Sacral
4. How many total vertebrae are in the adult vertebral column?  
A) 24  
B) 29  
C) 33  
D) 36
5. Count the total number of vertebrae across all regions of the spine.
6. Identify which vertebrae allow the head to nod and rotate.
7. Explain why the lumbar vertebrae are the largest.
8. Define: How many vertebrae are in the human spine?
9. Define: What are the atlas and axis?
10. Define: Which region has the most vertebrae?

## Answer Key

1. B) 7 - There are 7 cervical vertebrae, C1 through C7.
2. A) C1 - C1, the atlas, supports the skull and allows nodding motion.
3. B) Thoracic - The 12 thoracic vertebrae each articulate with a pair of ribs.
4. C) 33 - 33 total, including the fused sacral and coccygeal vertebrae.
5. Cervical region: 7 vertebrae (C1-C7) Thoracic region: 12 vertebrae (T1-T12) Lumbar region: 5 vertebrae (L1-L5) Sacrum: 5 fused vertebrae + Coccyx: 4 fused vertebrae Total =  $7+12+5+5+4 = 33$  vertebrae
6. C1 (the atlas) supports the skull and allows the 'yes' nodding motion at the atlanto-occipital joint C2 (the axis) has the dens (odontoid process), around which C1 rotates for the 'no' head-shaking motion
7. Lumbar vertebrae (L1-L5) bear the greatest compressive load from the upper body They have larger, thicker vertebral bodies and shorter, blunter spinous processes than cervical or thoracic vertebrae This structural adaptation distributes weight and resists axial stress
8. 33 total: 7 cervical, 12 thoracic, 5 lumbar, 5 fused sacral, 3-4 fused coccygeal.
9. C1 (atlas) supports the skull; C2 (axis) has the dens that C1 rotates around.
10. The thoracic region, with 12 vertebrae, each articulating with a pair of ribs.

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