

Chapter 2. Skull and Cervical Vertebrae

Short Answer

1. Which bones of the neurocranium are unpaired?
2. Which bones of the neurocranium are paired?
3. List four functions of bone.
4. Which bones compose the viscerocranium?
5. Which bones form the neurocranium?
6. Name each division of the trigeminal nerve, and specify the foramen through which each exits the cranial cavity.

Matching

Match the terms with their descriptions.

- A. Long bone
- B. Epiphysis
- C. Diaphysis
- D. Short bone
- E. Flat bone
- F. Irregular bone

- _____ 1. Protective bones of the skull
- _____ 2. Cuboidal bones of the ankle and wrist
- _____ 3. Tubular bones of the extremities
- _____ 4. Head of long bone
- _____ 5. Bones of the face
- _____ 6. Shaft of long bone

Match the terms with their descriptions. Answers may be used once, more than once, or not at all.

- A. Spine
- B. Foramen
- C. Meatus
- D. Protuberance
- E. Condyle
- F. Tubercle
- G. Crest
- H. Process
- I. Canal
- J. Fovea
- K. Aperture

- L. Fossa
- M. Groove
- N. Fissure

- ___ 7. Circular to oval-shaped opening
- ___ 8. Small, thornlike projection
- ___ 9. Large, depressed area
- ___ 10. Narrow, cleftlike slit
- ___ 11. Long, shallow indentation
- ___ 12. Large extension of bone
- ___ 13. Roughened ridges on the surface of bone
- ___ 14. Small, shallow pit
- ___ 15. Long, narrow, tubelike channel
- ___ 16. Bulge on the surface of bone

Match each cranial nerve with its correct foramen. Answers may be used once, more than once, or not at all.

- A. Internal acoustic meatus
- B. Foramen lacerum
- C. Cribriform plate of the ethmoid bone
- D. Foramen ovale
- E. Hypoglossal canal
- F. Foramen spinosum
- G. Optic canal
- H. Foramen rotundum
- I. Superior orbital fissure
- J. Jugular foramen

- ___ 17. Olfactory nerves
- ___ 18. Optic nerve
- ___ 19. Oculomotor nerve
- ___ 20. Trochlear nerve
- ___ 21. Ophthalmic division of trigeminal nerve
- ___ 22. Maxillary division of trigeminal nerve
- ___ 23. Mandibular division of trigeminal nerve
- ___ 24. Abducens nerve
- ___ 25. Facial nerve
- ___ 26. Vestibulocochlear nerve
- ___ 27. Glossopharyngeal nerve
- ___ 28. Vagus nerve

- ____ 29. Accessory nerve
- ____ 30. Hypoglossal nerve

Completion

Complete each statement.

1. The articular surface of each bone in a synovial joint is covered by _____ cartilage.
2. The facial nerve exits the skull to reach the face through the _____.
3. The depression of the sphenoid bone that contains the pituitary gland is called the _____.
4. The middle meningeal artery enters the skull through the _____.
5. The vertebral artery passes through the _____ of cervical vertebrae en route to supply oxygenated blood to the brain.
6. Spongy bone located between the outer and inner cortical plates of compact bone is known as _____.
7. The zygomatic arch is formed from the temporal process of the zygomatic bone and the _____.
8. The sublingual and submandibular fossae are separated by the _____, a surface feature of the mandible.
9. The junction between the laminae and pedicles of a vertebra is known as the _____.

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ____ 1. The viscerocranium is composed of each of the following bones except the
- A. maxillae.
 - B. frontal bone.
 - C. palatine bones.
 - D. zygomatic bones.
 - E. vomer.
- ____ 2. What shallow depression in the maxilla lies between the roots of the central and lateral incisors?
- A. Incisive fossa
 - B. Alveolus
 - C. Canine eminence
 - D. Infraorbital foramen
 - E. Canine fossa
- ____ 3. The frontal bone is attached to the parietal bones via the
- A. squamous suture.
 - B. lambdoid suture.

- C. sagittal suture.
- D. frontal suture.
- E. coronal suture.

- _____ 4. The parietal and temporal bones are bound by the
- A. squamous suture.
 - B. lambdoid suture.
 - C. sagittal suture.
 - D. frontal suture.
 - E. coronal suture.
- _____ 5. Which of the following openings is not found in the middle cranial fossa?
- A. Foramen lacerum
 - B. Superior orbital fissure
 - C. Foramen spinosum
 - D. Internal acoustic meatus
 - E. Foramen rotundum
- _____ 6. What opening transmits the inferior alveolar neurovascular bundle?
- A. Greater palatine foramen
 - B. Mandibular foramen
 - C. Mental foramen
 - D. Sphenopalatine foramen
 - E. Incisive foramen
- _____ 7. Paranasal sinuses can be found in each of the following bones *except* the
- A. sphenoid bones.
 - B. zygomatic bones.
 - C. maxillary bones.
 - D. ethmoid bones.
 - E. frontal bone.
- _____ 8. What type of joint is found at the epiphyseal plate of developing long bone?
- A. Fibrous
 - B. Synchondrotic
 - C. Symphysial
 - D. Synostotic
 - E. Synovial
- _____ 9. The hypoglossal canal can be found in which of the following bones of the neurocranium?
- A. Temporal
 - B. Parietal
 - C. Occipital
 - D. Frontal
 - E. Sphenoid

Multiple Response

Identify one or more choices that best complete the statement or answer the question.

- _____ 1. Which of the following foramen are found in the greater wing of the sphenoid bone? (Select all that apply.)
- A. Foramen ovale
 - B. Optic canal

- C. Foramen spinosum
- D. Superior orbital fissure
- E. Internal acoustic meatus

- _____ 2. Which of the following features of the ethmoid bone contribute to the bony formation of the nasal cavity? (Select all that apply.)
- A. Superior nasal concha
 - B. Cribriform plate
 - C. Crista galli
 - D. Perpendicular plate
 - E. Middle nasal concha
- _____ 3. Bones articulating with the maxillae outside of the orbit include the (select all that apply)
- A. zygomatic bones.
 - B. nasal bones.
 - C. ethmoid bones.
 - D. frontal bones.
 - E. mandible.
- _____ 4. The posterior openings of the nasal cavity are formed from the (select all that apply)
- A. vomer.
 - B. inferior nasal conchae.
 - C. pterygoid process of the sphenoid bone.
 - D. nasal bones.
 - E. horizontal plate of the palatine bone.
- _____ 5. The atlas (C1) lacks which of the following features found in a typical cervical vertebra? (Select all that apply.)
- A. Spinous process
 - B. Superior articulating processes
 - C. Vertebral foramen
 - D. Vertebral body
 - E. Transverse foramen
- _____ 6. Which of the following structures are transmitted through the jugular foramen? (Select all that apply.)
- A. Vagus nerve
 - B. Internal carotid artery
 - C. Internal jugular vein
 - D. Accessory nerve
 - E. Glossopharyngeal nerve

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Answer Section

SHORT ANSWER

1. ANS:
Frontal, occipital, sphenoid, ethmoid

PTS: 1
2. ANS:
Temporal, parietal

PTS: 1
3. ANS:
Site of muscle attachment for movement, protection of vital organs, support for other body structures, storage site for calcium and blood cells

PTS: 1
4. ANS:
Nasal bone, maxilla, lacrimal bone, zygomatic bone, mandible, inferior nasal concha, palatine bone, vomer

PTS: 1
5. ANS:
Frontal, parietal, occipital, temporal, sphenoid, ethmoid

PTS: 1
6. ANS:
Ophthalmic division—superior orbital fissure, maxillary division—foramen rotundum, mandibular division—foramen ovale

PTS: 1

MATCHING

- | | |
|------------|--------|
| 1. ANS: E | PTS: 1 |
| 2. ANS: D | PTS: 1 |
| 3. ANS: A | PTS: 1 |
| 4. ANS: B | PTS: 1 |
| 5. ANS: F | PTS: 1 |
| 6. ANS: C | PTS: 1 |
| 7. ANS: B | PTS: 1 |
| 8. ANS: A | PTS: 1 |
| 9. ANS: L | PTS: 1 |
| 10. ANS: N | PTS: 1 |
| 11. ANS: M | PTS: 1 |
| 12. ANS: H | PTS: 1 |
| 13. ANS: G | PTS: 1 |

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|------------|--------|
| 14. ANS: J | PTS: 1 |
| 15. ANS: I | PTS: 0 |
| 16. ANS: D | PTS: 0 |
| | |
| 17. ANS: C | PTS: 1 |
| 18. ANS: G | PTS: 1 |
| 19. ANS: I | PTS: 1 |
| 20. ANS: I | PTS: 1 |
| 21. ANS: I | PTS: 1 |
| 22. ANS: H | PTS: 1 |
| 23. ANS: D | PTS: 1 |
| 24. ANS: I | PTS: 1 |
| 25. ANS: A | PTS: 0 |
| 26. ANS: A | PTS: 0 |
| 27. ANS: J | PTS: 0 |
| 28. ANS: J | PTS: 0 |
| 29. ANS: J | PTS: 0 |
| 30. ANS: E | PTS: 0 |

COMPLETION

- | | |
|--|--|
| 1. ANS: hyaline articular | |
| PTS: 1 | |
| 2. ANS: stylomastoid foramen | |
| PTS: 1 | |
| 3. ANS: sella turcica | |
| PTS: 1 | |
| 4. ANS: foramen spinosum | |
| PTS: 1 | |
| 5. ANS: transverse foramina | |
| PTS: 1 | |
| 6. ANS: diploe | |
| PTS: 1 | |
| 7. ANS: | |
| zygomatic process of the temporal bone | |
| temporal bone's zygomatic process | |
| zygomatic process | |
| PTS: 1 | |
| 8. ANS: mylohyoid line | |
| PTS: 1 | |

9. ANS: transverse process

PTS: 1

MULTIPLE CHOICE

1. ANS: B PTS: 1

2. ANS: A PTS: 1

3. ANS: E PTS: 1

4. ANS: A PTS: 1

5. ANS: D PTS: 1

6. ANS: B PTS: 1

7. ANS: B PTS: 1

8. ANS: B PTS: 1

9. ANS: C PTS: 1

MULTIPLE RESPONSE

1. ANS: A, C, D PTS: 1

2. ANS: A, D, E PTS: 1

3. ANS: A, B, D PTS: 1

4. ANS: A, C, E PTS: 1

5. ANS: A, D PTS: 1

6. ANS: A, C, D, E PTS: 1