

# Dental Anatomy

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## OBJECTIVES/RATIONALE

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It is important to know the anatomy of the tooth to effectively communicate information with the dentist. The student will utilize dental terminology associated with dental charting.

TEKS 121.5 (c) 1G, 2A, 3E, 3F, 6A,

TAKS ELA 1, 4  
Science 2

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## KEY POINTS

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- I. Face and Oral Cavity
  - A. Maxillary and Mandibular arches
  - B. Anterior Teeth
    - 1. Incisors – located at the front of the mouth – include the central and lateral incisors.
    - 2. Cuspids/Canines – Sharp points tear food that is too tough for the incisors – have the longest root.
  - C. Posterior Teeth
    - 1. Premolars/Bicuspid – located next to the cuspids/canines
    - 2. Molars – located next to the bicuspid – the largest teeth in the mouth
- II. Identification of Teeth
  - A. Name and Location
    - 1. Deciduous Teeth
    - 2. Permanent Teeth
  - B. Letter and Number
    - 1. Universal Method – deciduous/permanent teeth are identified by letter and permanent teeth are identified by number
      - a. Deciduous teeth – begin lettering with the right second molar in the maxillary arch – it is labeled A – continue lettering from upper right to upper left, then lower left to lower right – the last molar on the right mandibular arch is labeled T
      - b. Permanent Teeth – begin numbering with the right third molar in the maxillary arch – it is numbered 1 – continue numbering from upper right to upper left, then lower left to lower right – the last molar on the right mandibular arch is numbered 32
- III. Anatomy of the tooth
  - A. Crown – outer surface covered with enamel – the enamel is a protective sheet made of calcium and phosphorus that protects the dentin of the tooth
  - B. CEJ (Cementum Enamel Junction) – junction between enamel and cementum
  - C. Root
    - 1. covered with cementum
    - 2. lies below the gingival/gums

3. holds the tooth in the bony sockets of the jaw
4. a tooth may have more than one root
  - a. mandibular molars have two roots
  - b. maxillary molars have three roots
- D. Dentin – makes up the bulk of the tooth – contains dentinal tubules
- E. Cementum – hard, thin shell that covers the root
- F. Pulp – soft tissue inside the hard wall of enamel and dentin – has veins, arteries, and nerve tissue that nourish the tooth and sense pain
- G. Apex – the very tip of each root

#### IV. Surrounding Tissues

- A. Alveolar processes – form the bony sockets that hold and support the teeth in position
- B. Gingiva/gums – cover the alveolar bone – protect the tooth and deeper tissues from injury or infection
- C. Gingival sulcus – the open space between gingival/gums and a tooth
- D. Periodontal ligaments / periodontal membranes
  1. Small fibers anchored in the cementum and attached to the alveolus
  2. Act as a shock absorber for the tooth

#### V. Dental Terminology

- A. Anterior teeth –incisors and the cuspids
  1. labial – surface that touches the lips – facial – towards the front of the face
  2. lingual – surface faces toward the tongue
  3. incisal – edge of the tooth that we bite with
  4. distal – surface away from midline
  5. mesial – surface toward the midline
- B. Posterior teeth – bicuspid and molars
  1. Buccal – surface that touch the cheeks
  2. Lingual – surface facing toward the face
  3. Occlusal – large chewing surface where food is ground
  4. Distal – surface toward the back of the oral cavity
  5. Mesial – surface toward the front of the oral cavity

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### ACTIVITIES

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- I. Chart existing dental restorations in a partner's mouth.

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### MATERIALS NEEDED

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Light source

Mouth mirrors

Dental Chart

Answers Key Terms

Identification of Deciduous Teeth

Identification of Permanent Teeth

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## ASSESSMENT

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Successful charting

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## ACCOMMODATIONS

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For reinforcement, the student will define Key Terms.

For enrichment, the student will review and report on a case study found at <http://www.dent.ohio-state.edu/teaching/CasesSample/Default.htm>

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## REFLECTIONS

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## Key Terms

**Alveolus -**

**Apex -**

**Buccal -**

**Cementum -**

**Crown -**

**Cuspal -**

**Dentin -**

**Enamel -**

**Frenum -**

**Gingivae /Gums -**

**Nerves -**

**Periodontal membrane/ligament -**

**Pulp -**

**Pulp Chamber -**

**Root -**

## Answers - Key Terms

**Alveolus** - A opening in the jaw-bone in which a tooth is attached.

**Apex** - The very bottom each root

**Buccal** - The tooth surface which is next to your cheeks. Usually only posterior teeth touch your cheeks, so people usually use the term "buccal" only when talking about the back teeth.

**Cementum** - A bony substance covering the root of a tooth.

**Crown** - the visible part of a tooth.

**Cuspal** - The chewing or tearing points of the cuspids, bicuspid, and molars.

**Dentin** - The calcium part of a tooth below the enamel containing the pulp chamber and root canals.

**Enamel** - A hard ceramic which covers the exposed part of teeth.

**Frenum** - Small pieces of pink colored skin that attach the lips, cheeks and tongue to the mouth.

**Gingivae /Gums** - the soft tissue that surrounds the base of the teeth.

**Nerves** - nerves transmit signals (conveying messages like hot, cold, or pain) to and from the brain.

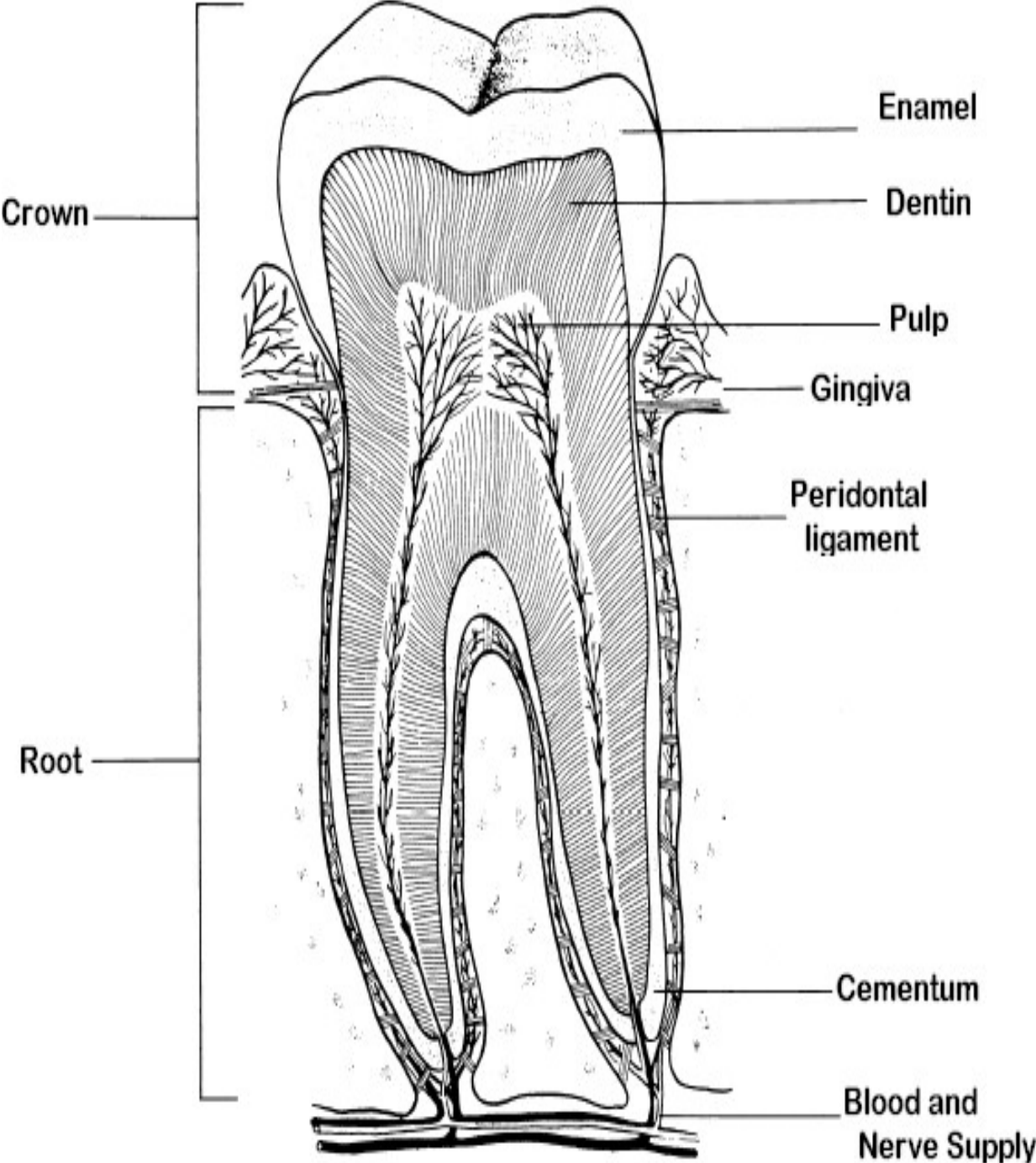
**Periodontal membrane/ligament** - the fleshy tissue between tooth and the tooth socket; it holds the tooth in place. The fibers of the periodontal membrane are embedded within the cementum.

**Pulp** -The soft inner structure of a tooth, consisting of nerve and blood vessels

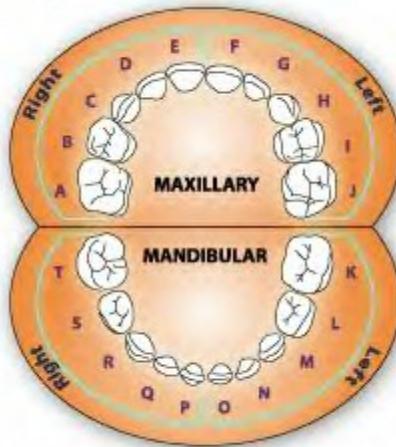
**Pulp Chamber** - The very inner part of your tooth containing nerve cells and blood vessels.

**Root** - the anchor of a tooth that extends into the jawbone. The number of roots ranges from one to three

# Parts of the Tooth



## Identification of Deciduous Teeth



<http://www.dentalcare.com/soap/ce104pc/pg03.htm>

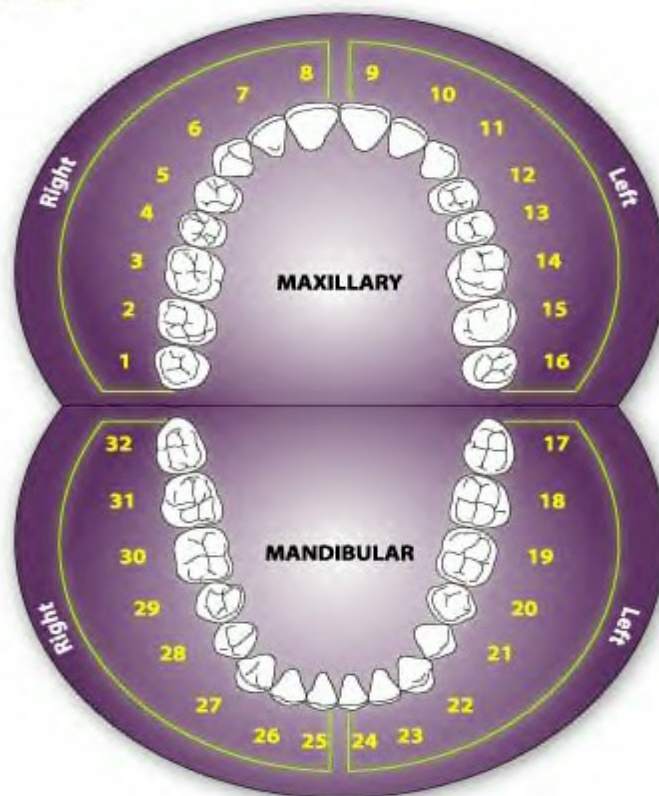
### Maxillary Teeth

- 2 central incisors in the center next to midline
- 2 lateral incisors next to the central incisors
- 2 cuspids just under the ala wing of the nose
- There are no Bicuspids in the deciduous dentition
- 2 primary first molars
- 2 primary second molars

### Mandibular Teeth

- 2 central incisors in the center next to midline
- 2 lateral incisors next to the central incisors
- 2 cuspids just under the ala wing of the nose
- There are no Bicuspids in the deciduous dentition
- 2 primary first molars
- 2 primary second molars

## Identification of Permanent Teeth



<http://www.dentalcare.com/soap/ce104pc/figure4.htr>

### Maxillary Teeth

- 2 central incisors in the center next to the midline
- 2 lateral incisors next to the central incisors
- 2 cuspids under the ala next to the lateral incisors
- 2 first premolars/bicuspids next to the cuspids
- 2 second premolar/bicuspids next to the first bicuspids
- 2 first molars next to the second bicuspids
- 2 second molars next to the first molar
- 2 third molars or “wisdom teeth” in the back of the mouth

### Mandibular Teeth

- 2 central incisors in the center next to the midline
- 2 lateral incisors next to the central incisors
- 2 cuspids under the corner of the nose next to the lateral incisors
- 2 first premolars/bicuspids next to the cuspids
- 2 second premolar/bicuspids next to the first bicuspids
- 2 first molars next to the second bicuspids
- 2 second molars next to the first molar
- 2 third molars or “wisdom teeth” in the back of the mouth