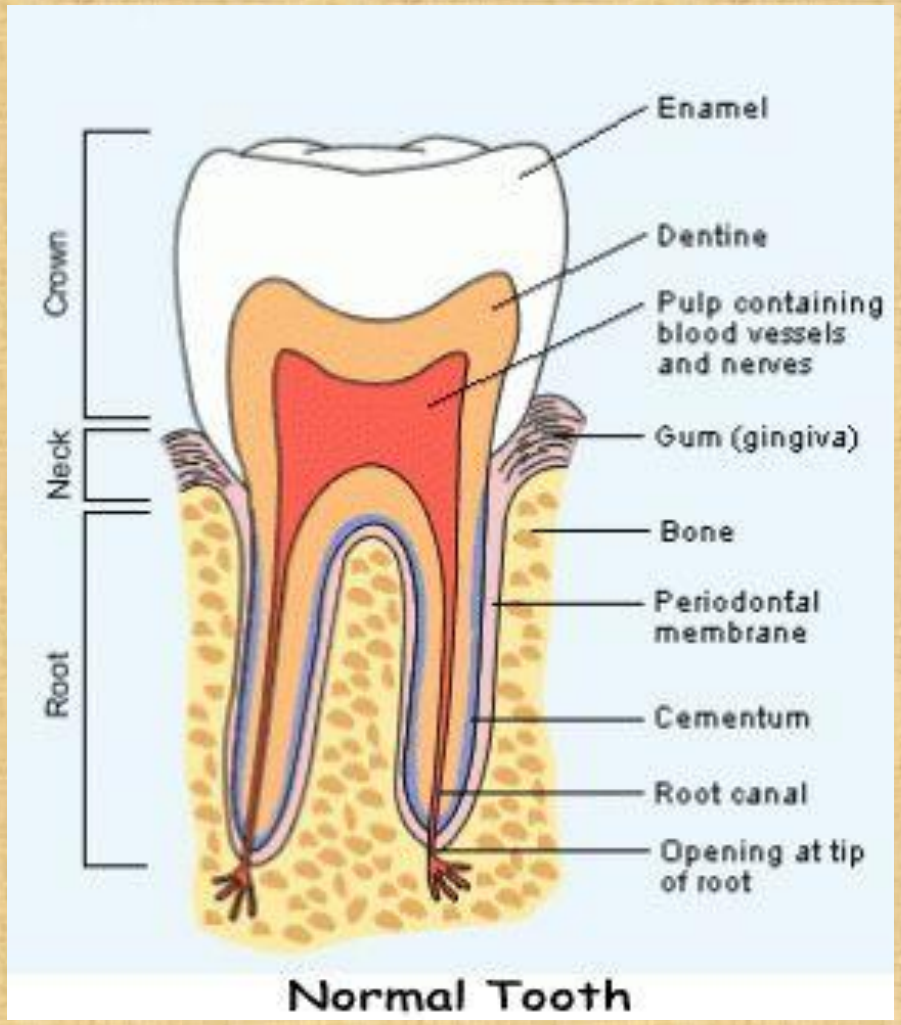
KARAGANDA STATE MEDICAL UNIVERSITY.

Report: The Tooth structure.

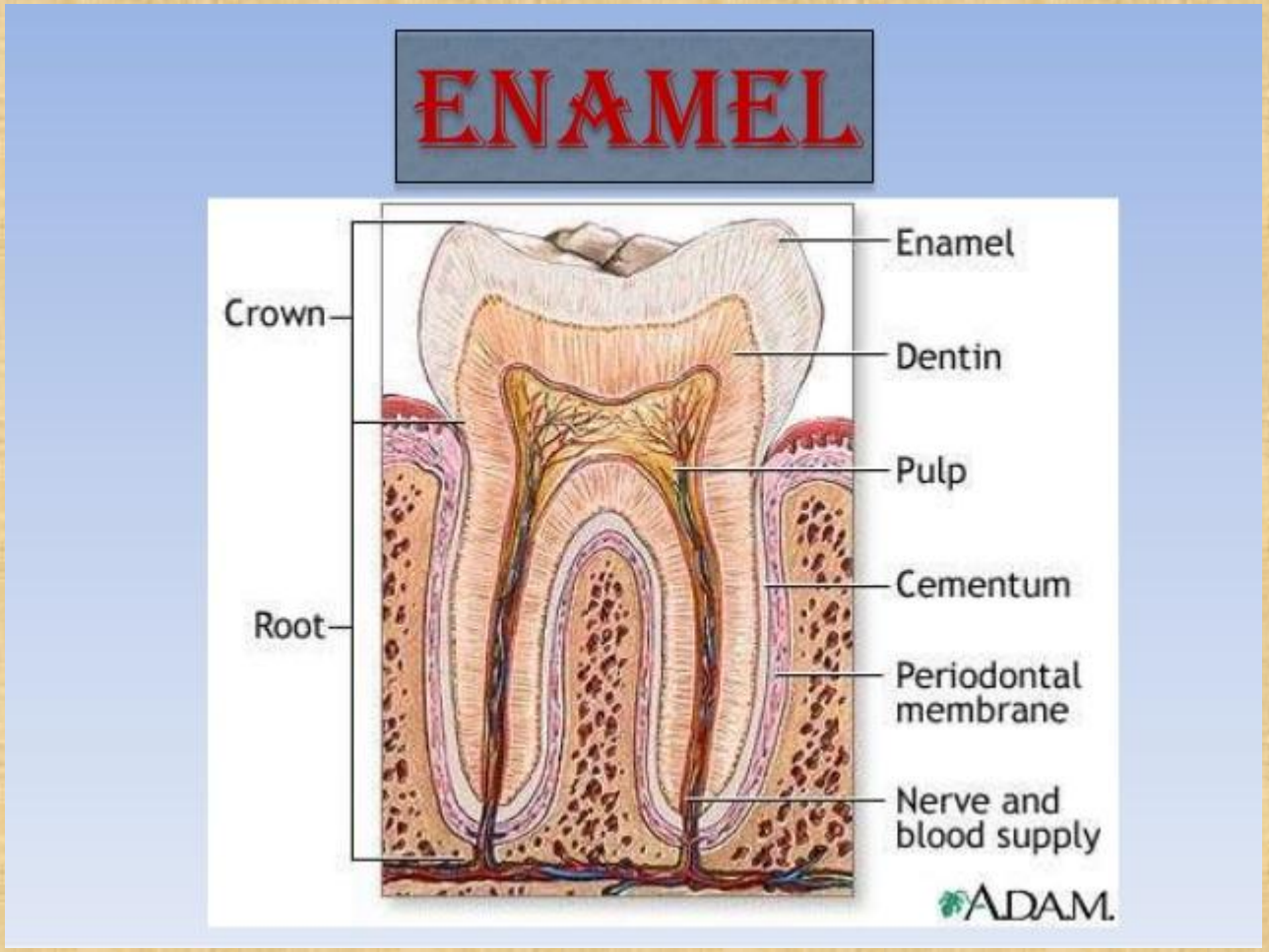
Made by: Belostockiy A.I.

Karagandy,2016.

The tooth consists of: crown is the visible part of the tooth, above the gums; root is the part of the tooth under the gums and inside the alveolar bone that keeps the tooth in place; gum margin(neck) is the area between the tooth crown and the root.

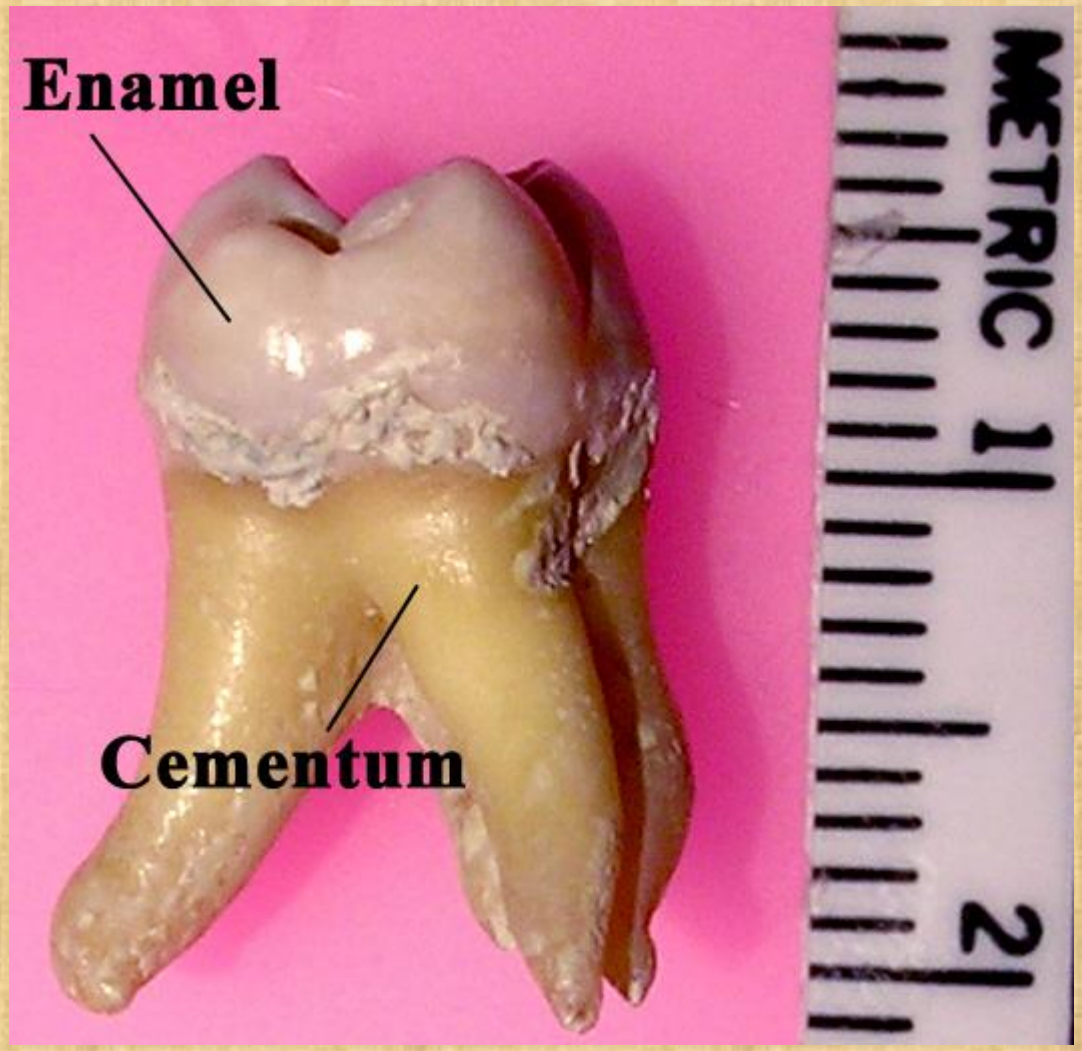


Enamel is the hardest and most highly mineralized substance of the body. It is one of the four major tissues which make up the tooth, along with dentin, cementum, and dental pulp. It is normally visible and must be supported by underlying dentin.

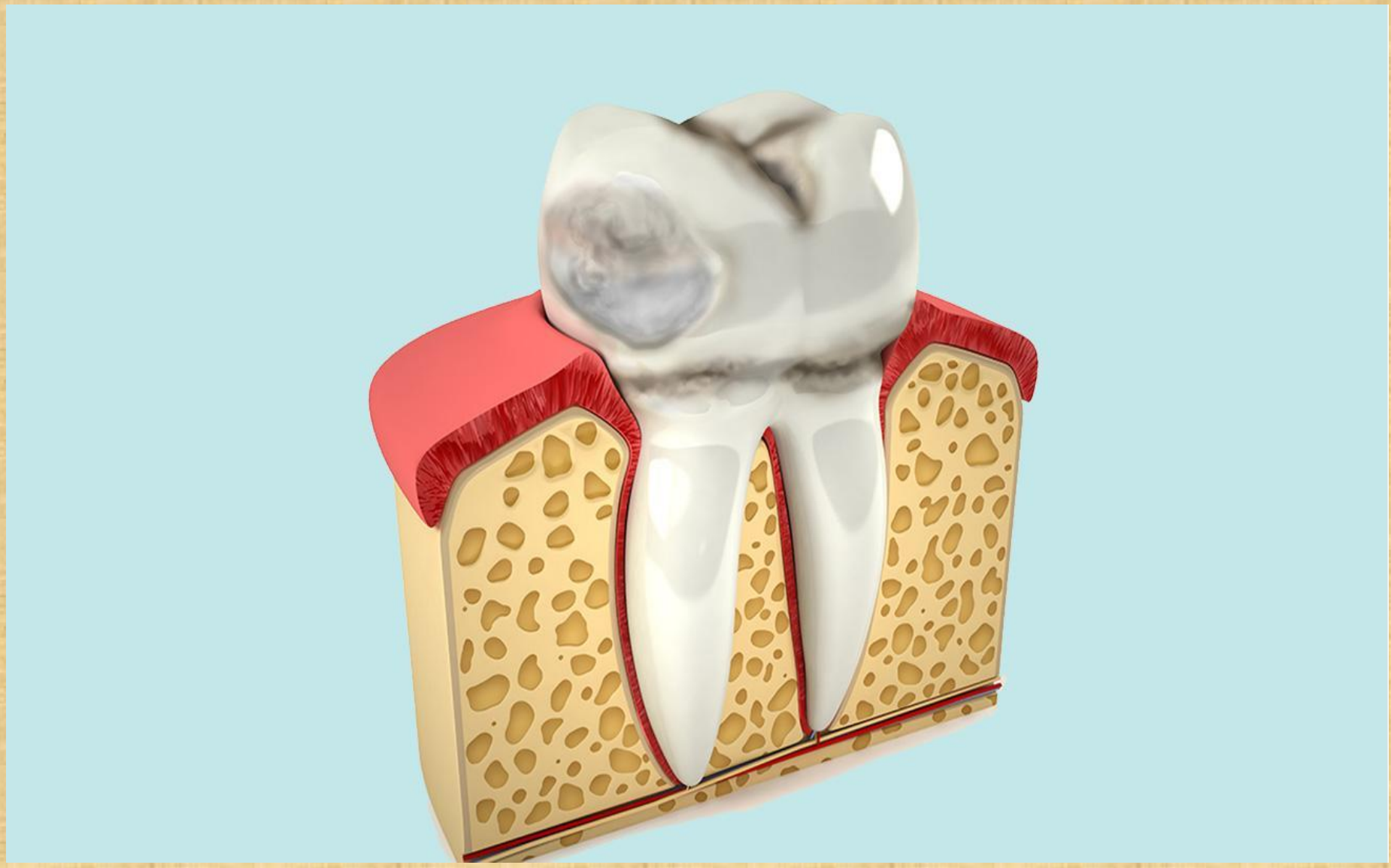


96% of enamel consists of mineral, with water and organic material comprising the rest. The normal color of enamel varies from light yellow to grayish white. At the edges of teeth where there is no dentin underlying the enamel, the color sometimes has a slightly blue tone.

Since enamel is semitranslucent, the color of dentin and any restorative dental material underneath the enamel strongly affects the appearance of a tooth. Enamel varies in thickness over the surface of the tooth and is often thickest at the cusp, up to 2.5mm, and thinnest at its border.



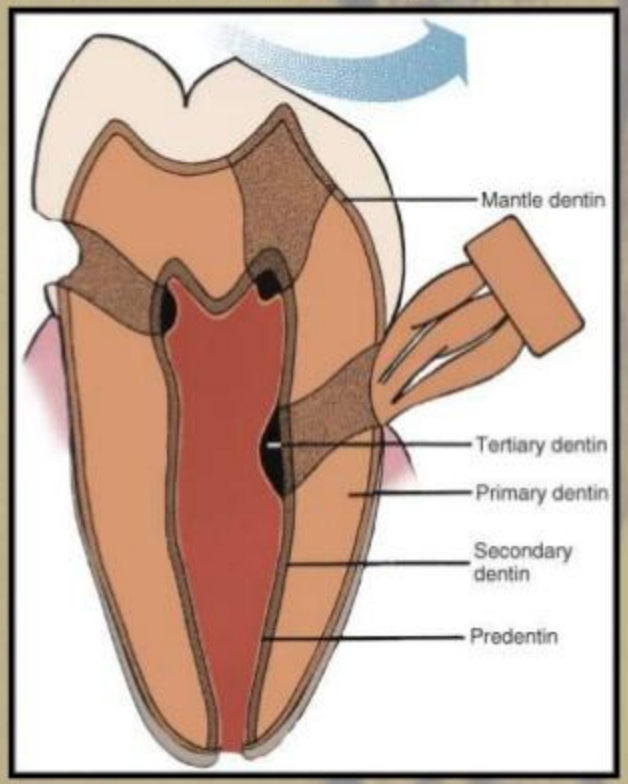
Enamel's primary mineral is hydroxylapatite, which is a crystalline calcium phosphate. The large amount of minerals in enamel accounts not only for its strength but also for its brittleness.



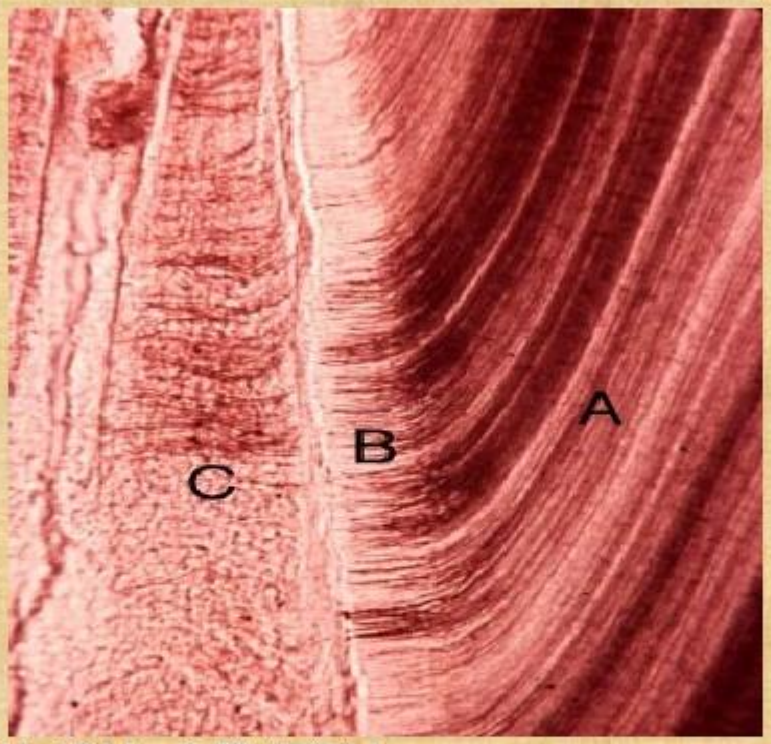
Dentin is the substance between enamel or cementum and the pulp chamber. It is secreted by the odontoblasts of the dental pulp. The formation of dentin is known as dentinogenesis. The porous, yellow-hued material is made up of 70% inorganic materials, 20% organic materials, and 10% water by weight.

TYPES OF DENTIN

- Primary dentin
  - Mantle
  - Circumpulpal
- Secondary dentin
- Tertiary dentin



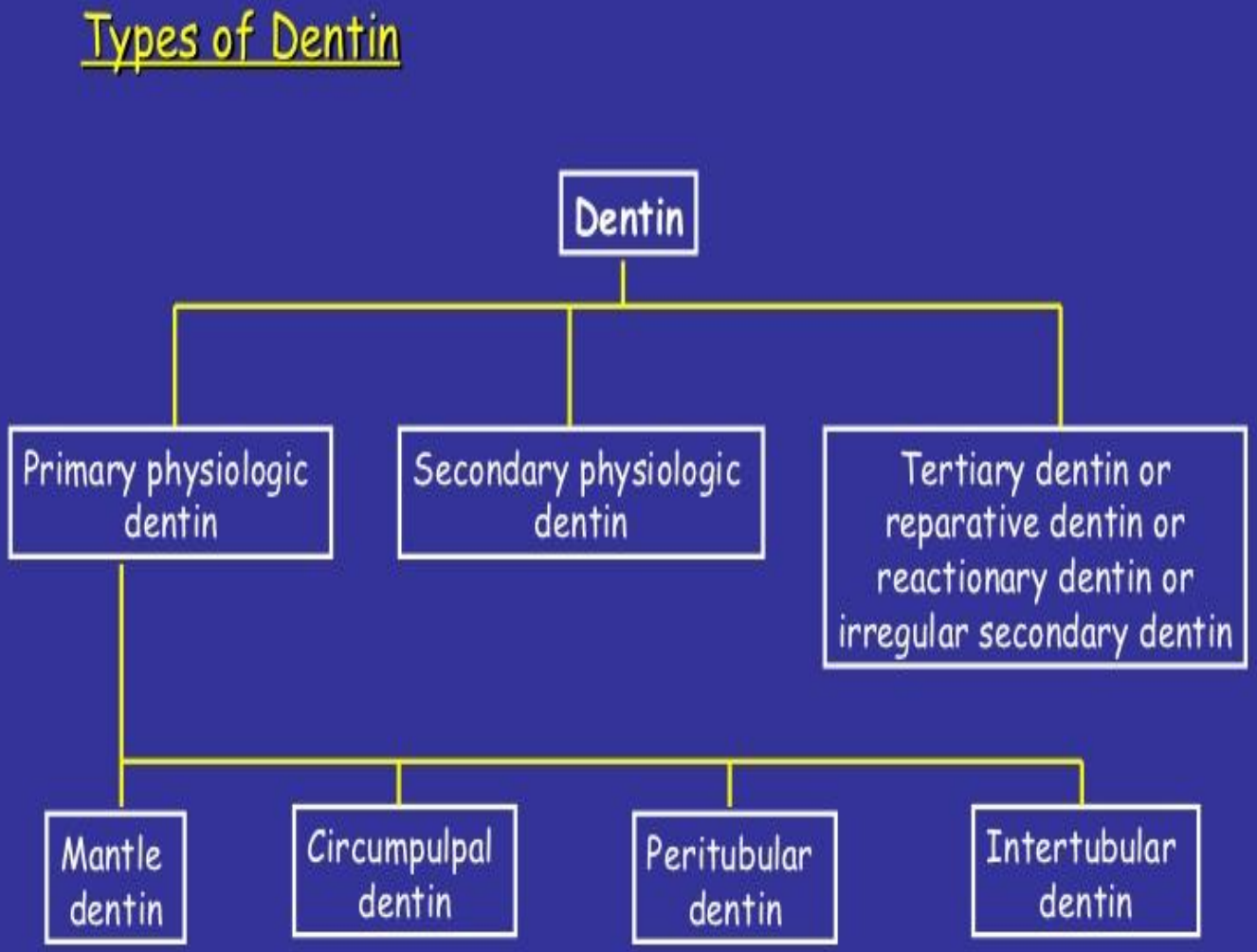
Because it is softer than enamel, it decays more rapidly and is subject to severe cavities if not properly treated, but dentin still acts as a protective layer and supports the crown of the tooth.



A.PRIMARY DENTIN

B. SECONDARY DENTIN

C. TERTIARY DENTIN



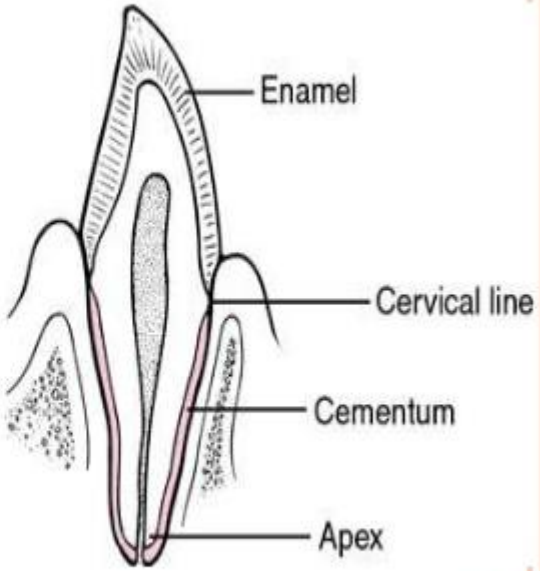
Dentin is a mineralized connective tissue with an organic matrix of collagenous proteinsopic . Dentin has microscopic channels, called dentinal tubules, which radiate outward through the dentin from the pulp cavity to the exterior cementum or enamel border.

Cementum is a specialized bone like substance covering the root of a tooth. It is approximately 45% inorganic material (mainly hydroxyapatite), 33% organic material (mainly collagen) and 22% water.

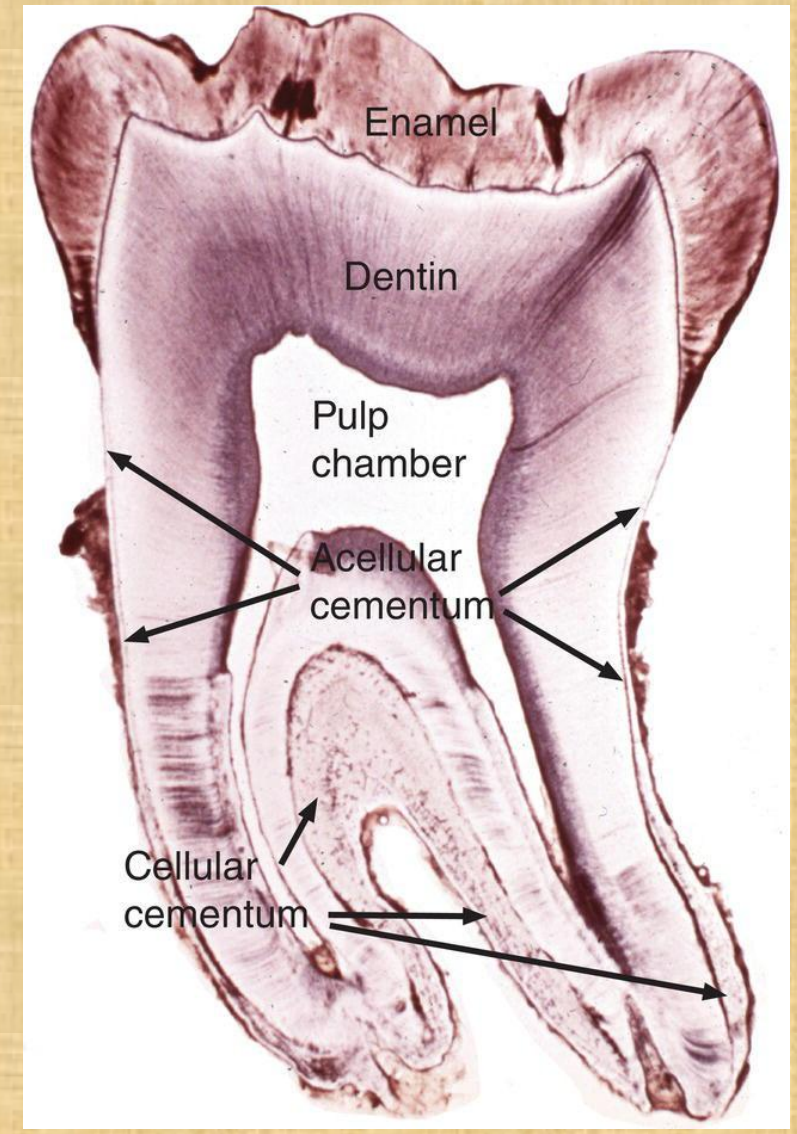
Cementum is excreted by cementoblasts within the root of the tooth and is thickest at the root apex. Its coloration is yellowish and it is softer than either dentin or enamel. The principal role of cementum is to serve as a medium by which the periodontal ligaments can attach to the tooth for stability.

CEMENTUM

- **CEMENTUM** is defined as calcified avascular mesenchymal tissue that forms the outer covering of root.
- The cementum is the part of the periodontium that attaches the teeth to the alveolar bone by anchoring the periodontal ligament.



At the cementoenamel junction, the cementum is acellular due to its lack of cellular components, and this acellular type covers at least ⅔ of the root. The more permeable form of cementum, cellular cementum, covers about ⅓ of the root apex.



The dental pulp is the central part of the tooth filled with soft connective tissue. This tissue contains blood vessels and nerves that enter the tooth from a hole at the apex of the root. Along the border between the dentin and the pulp are odontoblasts, which initiate the formation of dentin.

Other cells in the pulp include fibroblasts, preodontoblasts, macrophages and T lymphocytes. The pulp is commonly called "the nerve" of the tooth.

MODAL VERBS

Modal verbs are a part of the larger category called auxiliary verbs which are verbs that cannot be used on their own. They need to be accompanied by another (main) verb.

Modal verbs are used to express ability, obligation, permission, assumptions, probability and possibility, requests and offers, and advice. Each modal verb can have more than meaning which depends on the context of that sentence (or question).

The following words are modal verbs: Can, Could, May, Might, Must.

Structure

(+) Subject + Modal Verb + Verb (base form of the infinitive)

(-) Subject + Modal Verb + not + Verb (base form of the infinitive)

(?) Modal Verb + Subject + Verb (base form of the infinitive)

- Task III. Complete the sentences:
- 1. __**96**__% of enamel consists of mineral, with water and organic material comprising the rest.
- 2. At the edges of teeth where there is no dentin underlying the enamel, the color sometimes has a slightly __**blue**__ tone.
- 3. The __**porous**___**,** yellow-hued material is made up of 70% inorganic materials, 20% organic materials, and 10% water by weight.
- 4. This tissue contains blood vessels and nerves that enter the tooth from a hole at the __**apex**__ of the root.
- 5. Other cells in the pulp include fibroblasts, __**preodontoblasts**__, macrophages and T lymphocytes.


THE
END