How Does Shedding Occur?

- The permanent teeth exert pressure against the deciduous roots causing their resorption.
- Shedding (root resorption) takes about 3-4 years.

Differences Between Deciduous & Permanent Dentition

- Anatomical
- Histological

Differences Between Deciduous & Permanent Dentition

1. Number
2. Size
3. Color
4. Development
5. Calcification
6. Root Resorption
7. Hardness
8. Morphologic Differences

20 Deciduous Teeth
20 successors
12 Non-successors
32 Permanent Teeth

Deciduous Teeth
Anterior Teeth
Posterior Teeth
Retained Deciduous teeth
2. Size

- The crowns are smaller
- The roots are shorter

3. Color

- Whiter in color
- Less whiter

4. Development of Teeth

- Shorter time for crown development
  (Deciduous incisor 4 M.I.U. → 4 M.)
  (Permanent incisor 4 M. → 4-5 Y.)

- Shorter time for complete root formation
  (Deciduous incisor (1-1.5 Y.)
  (Permanent incisor (2-3 Y.)

5. Calcification

- Prenatal systemic disturbances
  Affect calcification of primary teeth

- Postnatal systemic disturbances
  Affect calcification of permanent teeth
6. Root Resorption
Due to pressure from the permanent successors

7. Hardness
Less harder than permanent teeth

8. Morphologic Differences

Anterior Teeth

Crowns
a. Wider mesiodistally in comparison to their length
b. Prominent cervical ridge

Roots
a. Narrow
b. Labial inclination (upright position)
c. Twice length of crown (C1: R 2)

Posterior Teeth

Crowns
a. Prominent buccal ridge
b. Constricted tooth neck
c. Narrower occlusal surface buccolingually

Roots
a. Slender, long & flat
b. Flaring out apically
c. Very short trunks or absent

Histological Differences between Deciduous and Permanent Teeth

Enamel
Thin

Dentin
Limited thickness and less hardness

Enamel-dentin junction
Relatively smooth

• Enamel
• Dentin
• Pulp

Deciduous Molar

Permanent Molar
Large size of the pulp and prominent pulp horns

Deciduous Molar

Permanent Molar

Morphology of Teeth

Deciduous Maxillary Central Incisor

It resembles the permanent maxillary central incisor

- Much smaller in size
- The crown mesiodistally is greater than cervicoincisally
- The labial surface is smooth without developmental lines
- The lingual surface shows less developed marginal ridge and cingulum

Deciduous Maxillary Lateral Incisor

It resembles the permanent maxillary lateral incisor

- Smaller than permanent lateral
- The crown length cervicoincisally is greater than its mesiodistal width
- The distoincisal angle is more rounded
Deciduous Maxillary Canine

- It is similar to the permanent maxillary canine EXCEPT:
  - Smaller in size
  - More constricted at the cervix
  - MCA & DCA at the center of the middle third
  - Longer and sharper cusp
  - Root length twice crown length

Deciduous Mandibular Canine

- It is similar to the permanent mandibular canine EXCEPT:
  - Smaller in size
  - More pointed cusp tip
  - Developmental depression along the labial surface of the root

Deciduous Maxillary First & Second molar

Deciduous Maxillary First Molar

- Four cusps and three roots
- It is much wider mesiodistally at the contact areas than at the cervix
- The occlusal line is scalloped with no definite cusp
- The buccal surface is smooth
- The roots are long and slender with short root trunk
The crown converges in a lingual direction.

- MLC is the longest and sharpest of all cusps.
- DLC cusp is poorly developed and sometimes absent.
- All three roots are seen from this aspect and the palatal root is larger than the others.

Prominent cervical ridge.

- The crown is wider buccolingually at the cervical ridge than at the occlusal third.
- The LR appears slender and extends lingually to a marked degree.

Rectangular with shortest sides represented by the marginal ridges.

- Four cusps and two fossae; central and mesial triangular.
- Oblique ridge connecting the MLC with DBC.
- Central developmental groove.
- Buccal developmental groove.
- Three developmental grooves radiating from the mesial triangle fossa; one buccally, one lingually and one toward the marginal ridge.

Occlusal Aspect.
Five cusps and three roots
- It is similar to the permanent maxillary first molar EXCEPT:
- The crown is more constricted at the cervix
- Prominent cervical ridge
- The roots
  More slender and twice the length of the crown and greatly flare out
- Root Trunk is short and sometimes absent

Deciduous Mandibular First Molar
- Four cusps and two roots
- Mesial outline is straight
- Distal outline is marked convex making the DCA extends distally to a great degree
- Cervical line dipping apically where it joins with the mesial root
- Roots
  long, slender and flaring greatly
- Short root trunk

The crown and root converge lingually
- MLC is long & sharp
- DLC is rounded and well develop
**Mesial Aspect**

- The crown is roughly rhomboidal
- Prominent cervical ridge
- MBC & MLC connected by developed MMR
- Mesial root
  Parallel outlines with long developmental depression along the full length of the root

**Occlusal Aspect**

The prominent cervical ridge is observed from this aspect

- Four cusps, MLC is the largest cusp
- Central fossa and mesial triangle fossa with CDG extends between them

**Deciduous Mandibular Second Molar**

- It has five cusps and two roots
- It is similar to the permanent mandibular first molar **EXCEPT**:
  - Smaller in size
  - MBC, DBC, DC are almost equal in size
  - The roots are more slender, flaring out
  - Short root trunk
Deciduous Teeth
Deciduous Teeth
Deciduous Teeth
Deciduous Teeth

Occlusion of Deciduous Teeth
Deciduous Mandibular second molar

Occlusal Aspect

Occlusal Dental formula

3 years old

A B C D E
A M1/3 D 2/3 MS DS M 1/3 D 2/3 1/5 4/5

5 years old

A B C D E
A M1/3 D 2/3 MS DS M 1/3 D 2/3 1/5 4/5