Summary

oral science

Primary teeth

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Ju dentistry.com

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Primary teeth

- **The primary set of teeth develop during the embryonic stage of development and erupt during early childhood and last until ~12 years of age**

- **In Latin, decidere means to fall off or be shed, like leaves from a tree.**

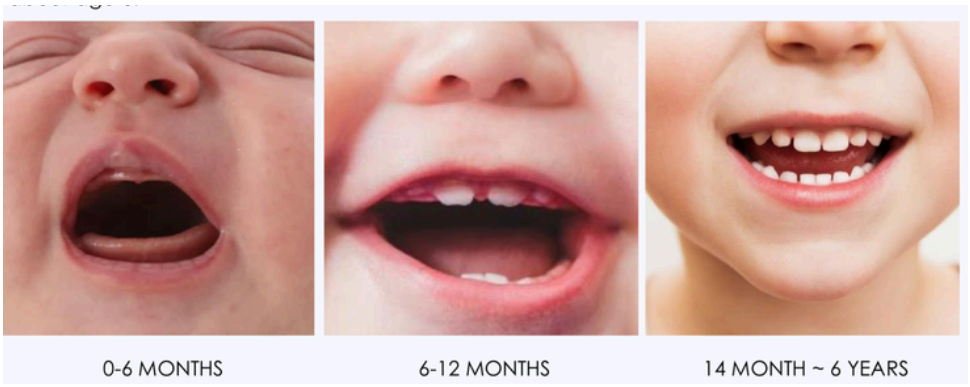
- Deciduous teeth are shed and replaced by permanent teeth. In the absence of permanent replacements, they can remain functional for many years.

- **Called Milky teeth because of their white appearance**

"The primary teeth have been called temporary, milk, or baby teeth. These terms are improper because they foster the implication that these teeth are useful for a short period only. It is emphasized again that the primary teeth are needed for many years of growth and physical development. Premature loss of primary teeth because dental caries is preventable and is to be avoided"

باختصار : الأسنان اللبنية مهمة، ووجودها بشكل مؤقت لا يعني عدم احتياجنا اليها، وأي تسوس أو مشكلة فيهم لازم يتم حلها وعدم إهمالها

- **The <u>first</u> primary tooth comes in at about <u>6 months</u> of age and the <u>20th and last primary tooth</u> erupts at around <u>2 and 1/2 years of age</u>.**
- **The primary teeth are <u>replaced</u> beginning usually at about <u>age 6</u>**



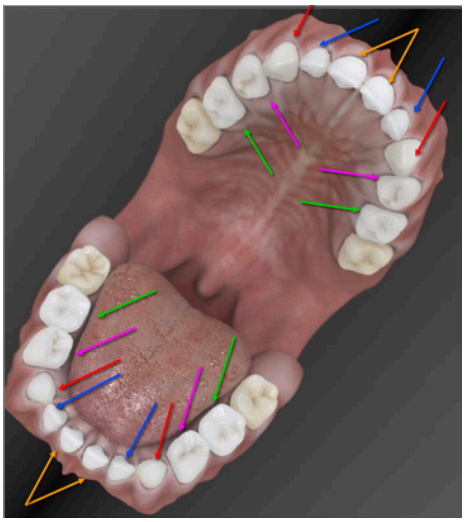
Primary teeth

Dentition	Primary dentition	Permenant dentition
Number of teeth	20 teeth	32 teeth
Functioning period	6 month-12 years	Starts at 6 years

- **Why 20 teeth but not 32?**

In primary dentition, there is no premolars and no 3rd molars, so we just have:

1. **Four central incisors**
2. **Four lateral incisors**
3. **Four canines**
4. **Four first molars**
5. **Four second molars**



Primary teeth

- **Functions of primary teeth:**

- **Masticatory**:

Primary teeth start appearing as the human's feeding demands starts changing and solid food is introduced. And so just like the function of permanent teeth primary teeth serve their primary function which is: cutting tearing and grinding of food so that small food particles are passed on to the GI track for

"The American Academy of Paediatrics recommends children be introduced to foods other than breast milk or infant formula when they are about 6 months old."

- **Craniofacial development:**

As the child grows his skull, his maxilla and his mandible grow and so there is much more space which requires bigger teeth thus a permanent well accommodated dentition.

- **Space maintenance and permanent teeth guidance**

- **Speech and appearance**

Teeth notation

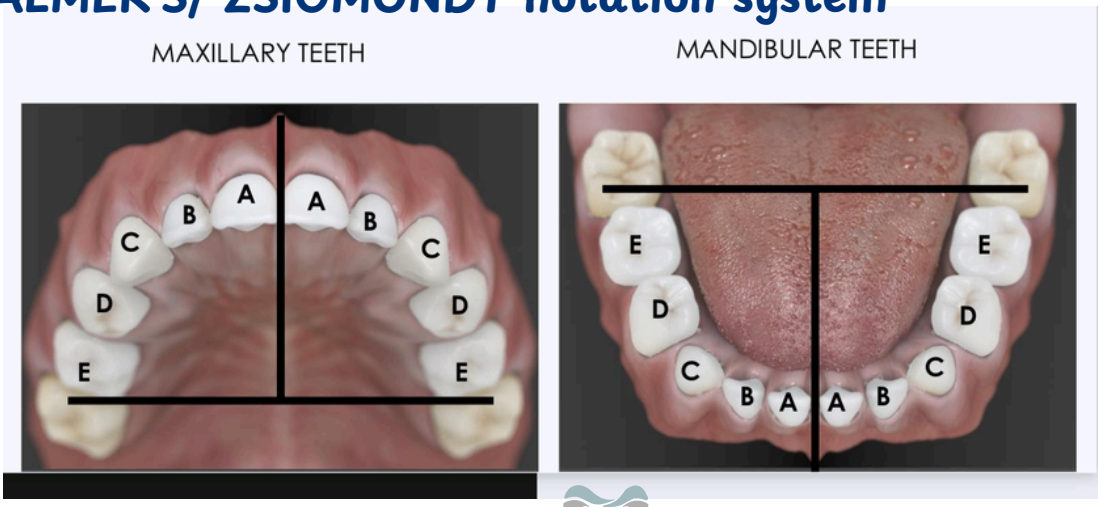
FDI Annotation system

Maxillary	55 54 53 52 51	61 62 63 64 65
Mandibular	85 84 83 82 81	71 72 73 74 75

Universal Annotation system

Maxillary	A B C D E	F G H I J
Mandibular	T S R Q P	O N M L K

PALMER'S/ ZSIGMONDY notation system



Primary vs. Permenant

General comparison	Primary teeth	Permenant teeth
Size	• Smaller	• Larger
Crown height/ tooth length ratio	• Smaller	• Larger
Crown width/ height ratio	• Larger	• Smaller
Occlusal table	• Flat	• Well contoured and present different curves
Picture		

Primary vs. Permenant

Crown features	Primary teeth	Permenant teeth
Colour	• Whiter (thinner dentine)	• More yellowish (thicker dentine)
Cusps	• Cusps are slender and tend to be more conical with More bulging B & L cervical ridges and a Constricted cervix	• Cusps are less conical
Supplemental grooves	• More	• Less
Mamelons	• No mamelons	• Highly present when teeth first erupt
Picture		

Primary vs. Permenant

Root features	Primary teeth	Permenant teeth
Shape	• Highly divergent root and slender	• Larger, thicker and more bulbous
Root truck	• Small	• Large
Width	• Narrow mesiodistally	• Broad mesiodistally
Physiological resprption	• During shedding of teeth	• Absent
Picture		

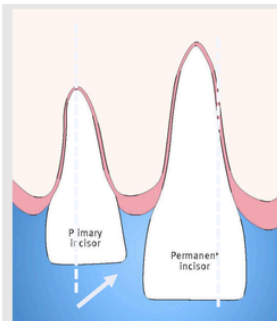
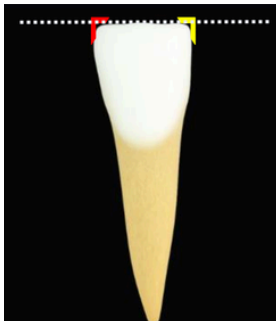
Primary vs. Permenant

Pulp	Primary teeth	Permenant teeth
Pulp chamber	• Larger	• Smaller
Accessory canals	• More present in the function area	• More present in the apical portion of the root
Pulp horns	• More prominent and close to the outer surface	• Flattened and not close to the outer surface

• Clinical implications:

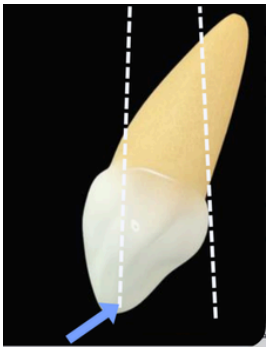
- Primary teeth are much thinner so cavity preparation must be cautiously carried out so that pulp exposure do not mistakenly occur
- Root canal treatment is different to enable the natural physiological resorption to occur.
- During root extraction the thin divergent teeth can be broken easily
- After extraction space maintenance must be planned ahead of procedure to preserve the space for the permanent teeth
- Behavioral management

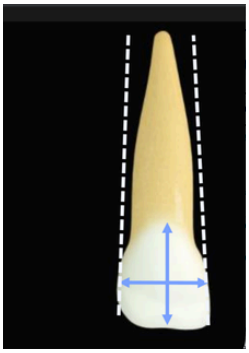
Primary incisors anatomy

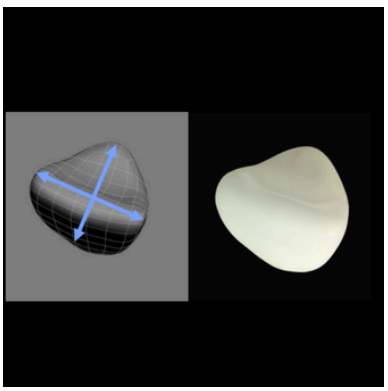
Maxillary central incisor	Mandibular central incisor
• The only incisor with Mesial-distal width larger than crown height. • Overhanging Mesial and distal profiles over root profile • No labial grooves, depressions or lobes • **Lingual ridge:** Unmarked by pits or grooves • Marginal ridge is Clearly evident • **Cingulum:** Bulging and incisally located, may extend further toward the incisal edge 	• Bilaterally symmetrical • 90 degree Mesioincisal & distoincisal angles • Incisal margin is horizontal • Lingual fossa is shallower • Marginal ridges are Less marked than maxillary centrals • Root is pointed and narrow and three times longer than the crown 

Primary incisors anatomy

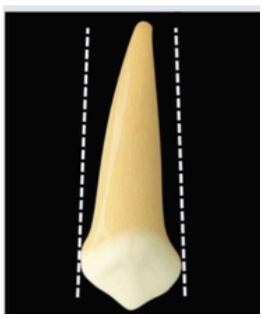
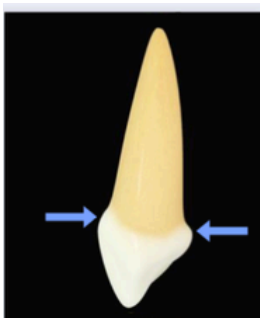
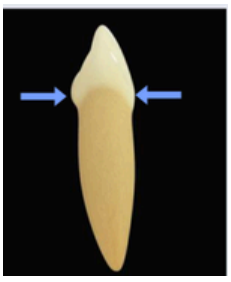
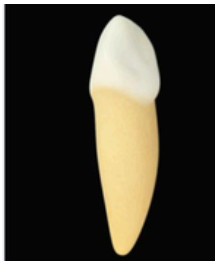
Maxillary lateral incisor	Mandibular lateral incisor
• Very similar to maxillary central incisor • Smaller than central • Rounded from incisal aspect • Mesial and distal profiles are more in line with root profiles • Mesio-distal width is smaller than crown length • Distal incisal angle is more rounded • Labial surface is more convex MD • Lingual fossa Is deeper	• Very similar to mandibular central incisor • Greater crown height/Mesiodistal ratio than mandibular central • Incisal edge slopes distally • Disto-Incisal angle is rounded • Lability-Lingual diameter is greater than mesio-distal diameter







Primary canines anatomy

Maxillary canines	Mandibular canines
• Mesio-distal width is larger than crown height • No labial ridge or depression • Rounded from incisal aspect • Mesial and distal profiles overhang the root • Well-developed sharp cusp • The cervix is quite constricted • Maximum curvatures are much near toward the cervix	• Crown height is larger than mesio-distal width • Less cervically converging Mesial and distal profiles • Labial or lingual aspects: arrow in shape • No labial ridge or grooves • Maximum curvatures are much near toward the cervix than in permanent • Labiolingual diameter is smaller than that of primary maxillary canines • Less prominent cingulum or marginal ridges and shallower fossae than in primary maxillary canine
 	 

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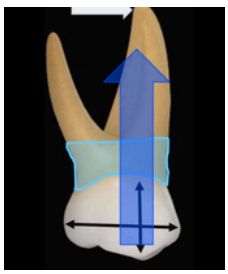
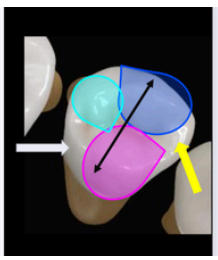
Primary molars anatomy

Maxillary First molar

- Intermediate between a premolar and a molar
- Most atypical of all primary and permanent molars
- Smallest molar in all dimensions except of the bucolic-palatal diameter
- Bicusped (only MB & ML cusps are present)
- A small DB cusp is frequently present on the distal cusp ridge of MB cusp
- Parastyle on the Mesial ridge of MB cusp (supernumerary cusp associated with maxillary molars)
- DL cusp rarely occurs: in some cases, a modular tubercle on the palatal portions resembles a DL cusp
- MD diameter is larger than crown height
- Mesial part is higher oclusally than distal and more projected cervically onto the root area
- Marked cervical constriction
- Very small root trunk
- 3 roots strongly divergent
- Lingual root is the longest



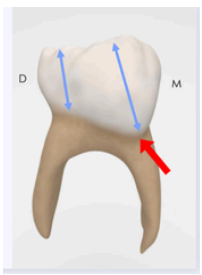


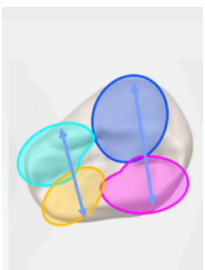
Mandibular First molar

- Also unique in its shape but more molariform
- 4 cusped tooth:

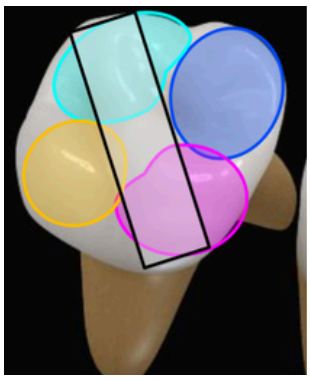
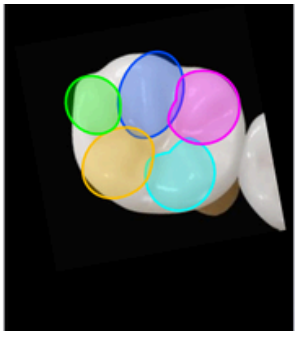
MB cusp is the largest, followed by: ML, DB ,DL.

- Bucco-lingual width is greater on the Mesial side than distal
- Mesial side is larger than the distal
- The crown has a bulging and overhanging appearance over the root
- Mesial half projects more occlusaly & occupies 2/3s of crown area
- Cervical line inclines downward from distal to Mesial with a projection on the mesio-bucco-cervical side called Zuckerkandl tubercle
- 2 strongly divergent roots, Mesial and distal



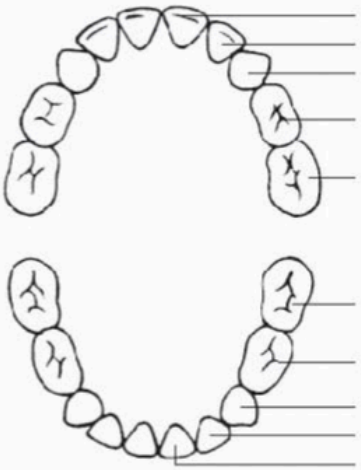


Primary molars anatomy

Maxillary second molar	Mandibular second molar
• Morphologically considered a model for the permanent 1st maxillary molar • Allows prediction of what the 1st maxillary molar will look like • Small root trunk • Three thin roots and strongly divergent • Four well developed cusps: ML, MB, DB, DL • Transverse ridges from DB cusps to ML Cusp • a smaller version of maxillary 1st molar   	• Morphologically considered a model for the permanent 1st mandibular molar • Allows prediction of what the 1st mandibular molar will look like • Small root trunk • Two thin roots and strongly divergent • Five well developed cusps: ML, MB, DB; DL and distal • a smaller version of mandibular 1st molar  

Chronology

PRIMARY TEETH



Upper Teeth	Erupt	Shed
Central incisor	8-12 mos.	6-7 yrs.
Lateral incisor	9-13 mos.	7-8 yrs.
Canine (cuspid)	16-22 mos.	10-12 yrs.
First molar	13-19 mos.	9-11 yrs.
Second molar	25-33 mos.	10-12 yrs.

Lower Teeth	Erupt	Shed
Second molar	23-31 mos.	10-12 yrs.
First molar	14-18 mos.	9-11 yrs.
Canine (cuspid)	17-23 mos.	9-12 yrs.
Lateral incisor	10-16 mos.	7-8 yrs.
Central incisor	6-10 mos.	6-7 yrs.

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