

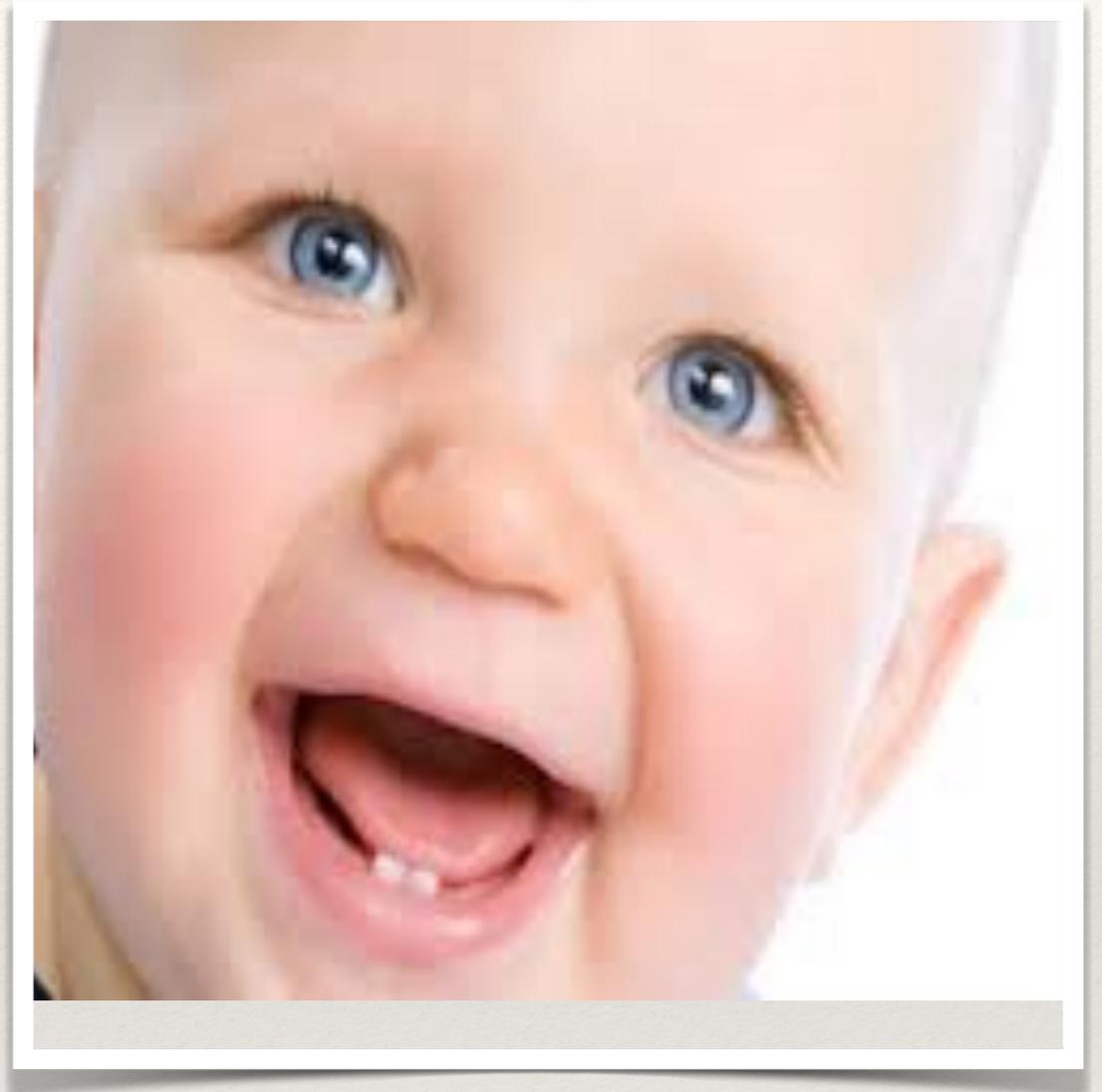
# Deciduous Teeth

## Part (1)

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2025



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# Lecture Objectives

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1. Identify the importances of deciduous dentition.
2. Know the sequence of eruption of deciduous teeth.
3. Describe the different types of deciduous teeth.
4. Differentiate between deciduous and permanent teeth.
5. Know the spaces generated during deciduous dentition.



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# Deciduous teeth

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## Preface

Human oral cavity is categorized as heterodont and diphyodont.

### 🌐 Definition of heterodont:

Heterodont means that the human mouth contain a teeth with different types, shapes, sizes and different functions.

### 🌐 Definition of diphyodont:

Diphyodont means that the human mouth contain two sets of teeth, one during the child period (**termed deciduous dentition**) and the other for the adult termed (**permanent dentition**).

# Importances of Deciduous Teeth

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# Importances of deciduous teeth

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1. Mastication of food for maintenance of a proper diet needed for child growth.
2. Maintenance of the normal facial appearance and craniofacial growth.
3. Development of speech and pronunciation of letters.
4. Maintenance of the space needed for eruption of permanent teeth.
5. Act as a guide for eruption of permanent successors.
6. Act as a guide for eruption of first permanent molars.
7. Prevent malocclusion of permanent teeth.

# Differences Between Deciduous and Permanent Teeth

## I. General Differences

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# 1. Number:

## Deciduous teeth

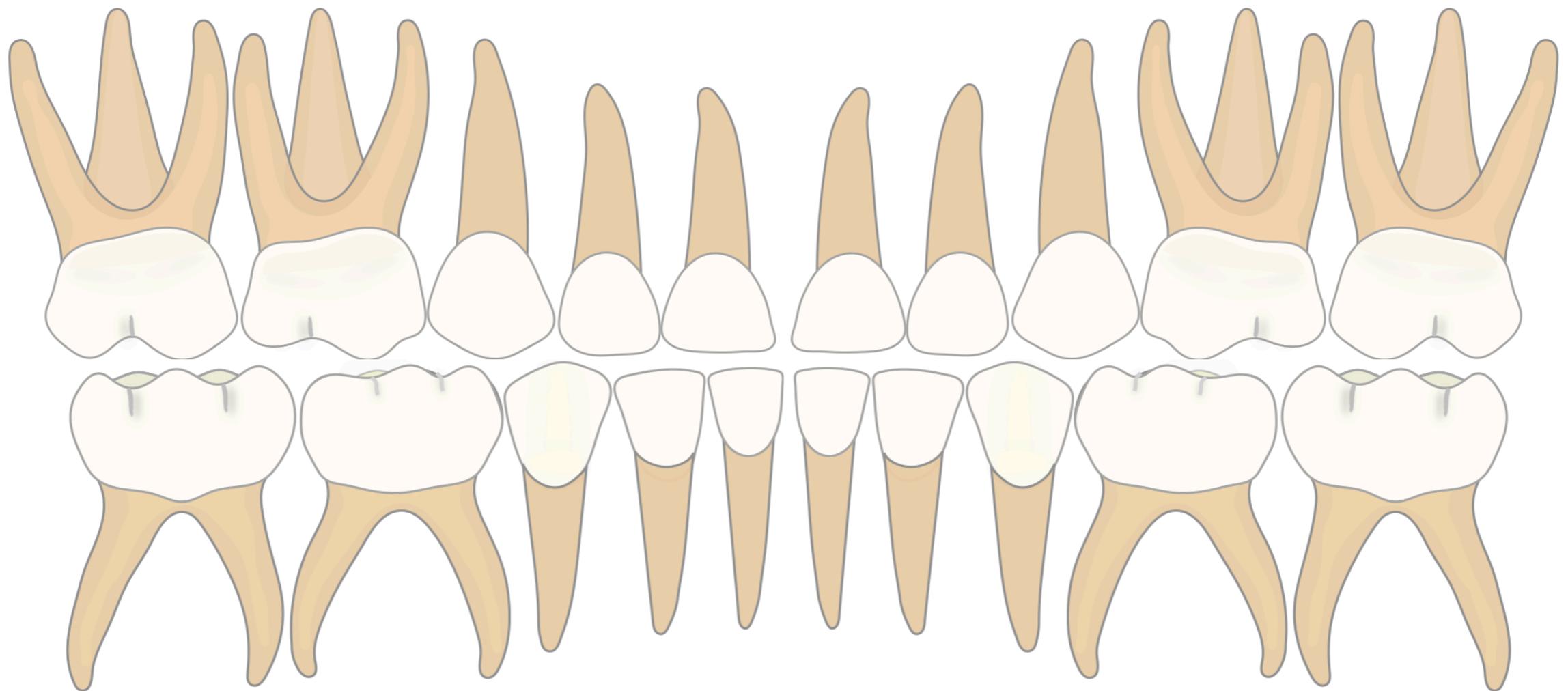
20 teeth

5 in each quadrant

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Upper Right

Upper Left



Lower Right

Lower Left

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# 1. Number:

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## Permanent teeth

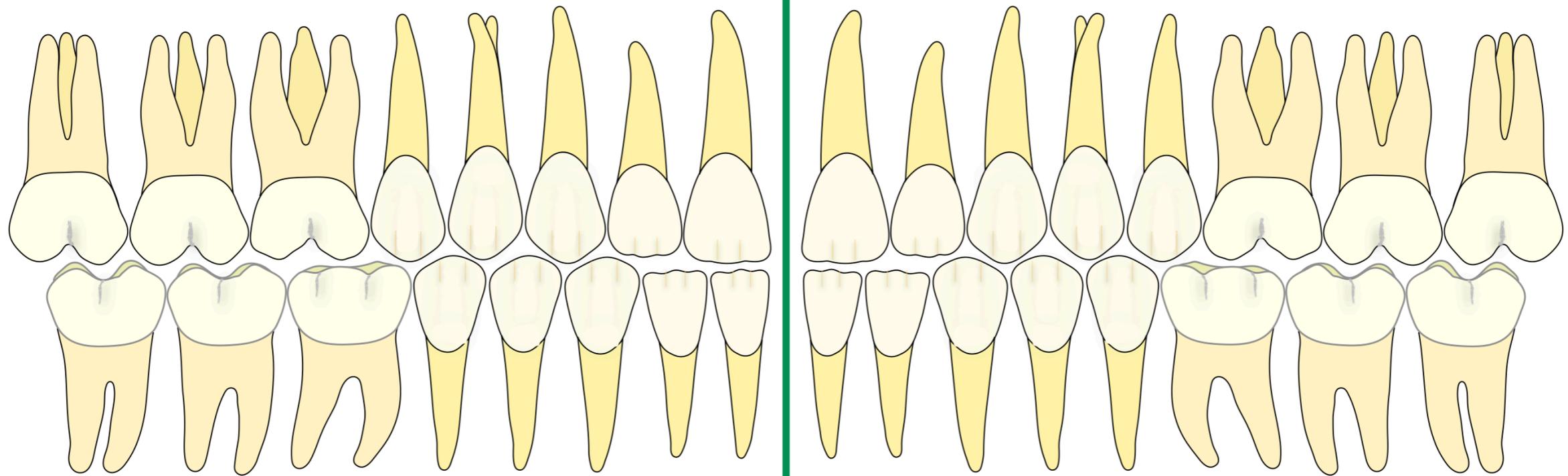
32 teeth

8 in each quadrant

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Upper Right

Upper Left



Lower Right

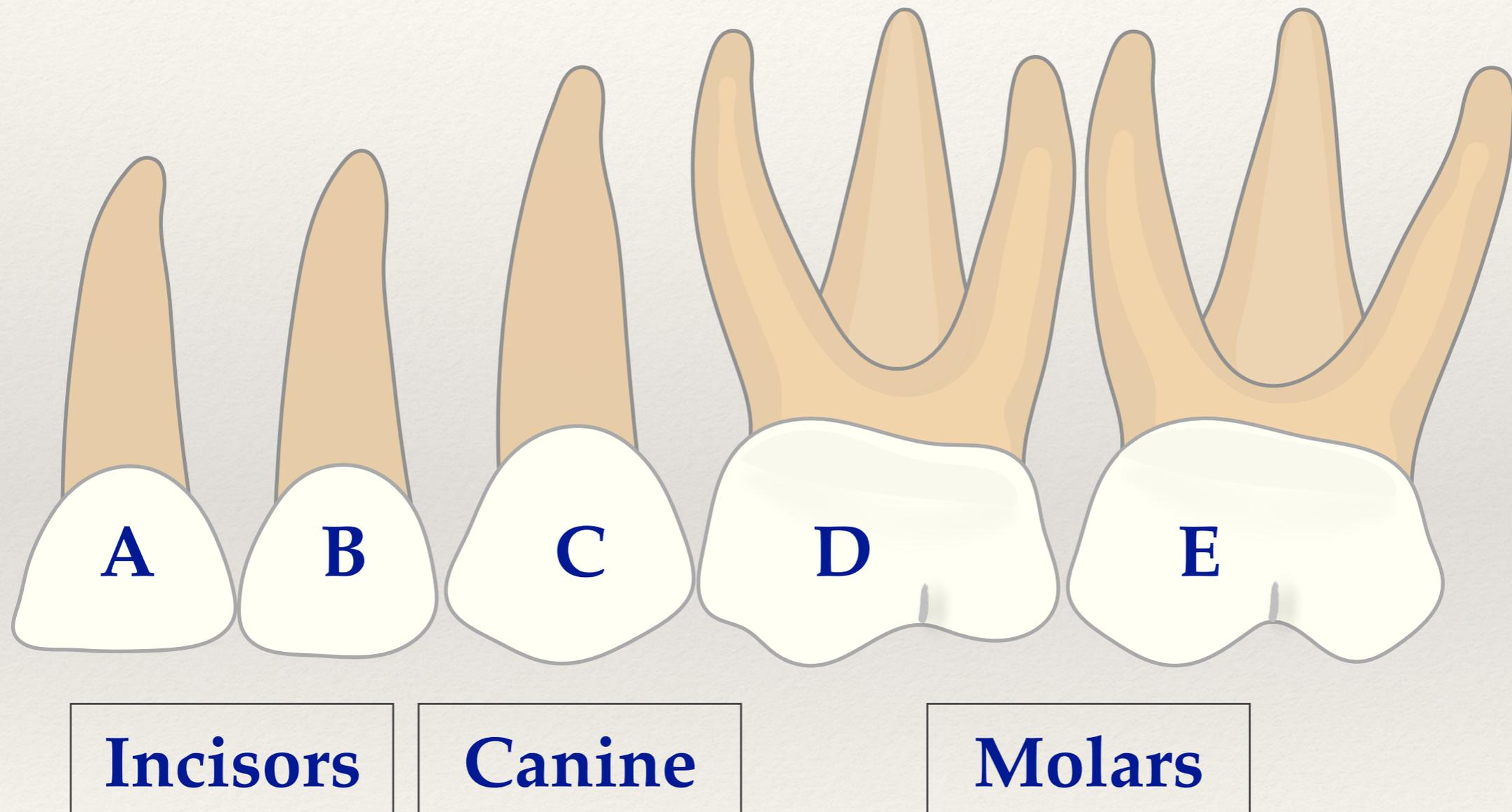
Lower Left

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## 2. Teeth Categories:

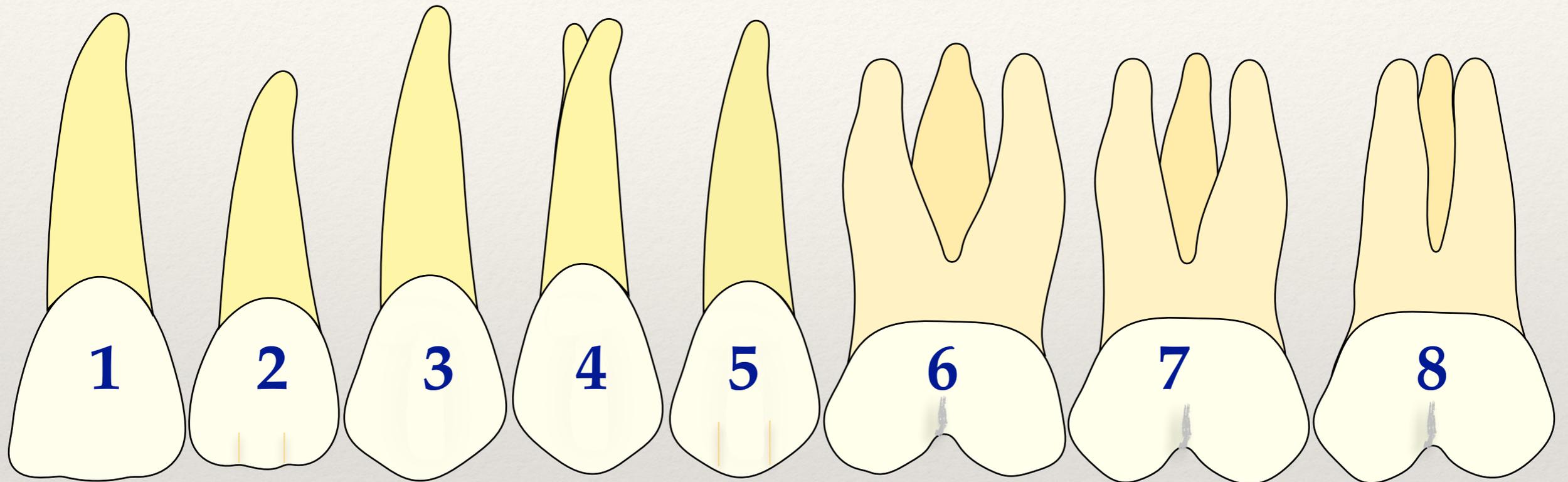
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### Deciduous teeth



## 2. Teeth Categories:

### Permanent teeth



**Incisors and canine**

**Premolars and molars**

**Anterior teeth**

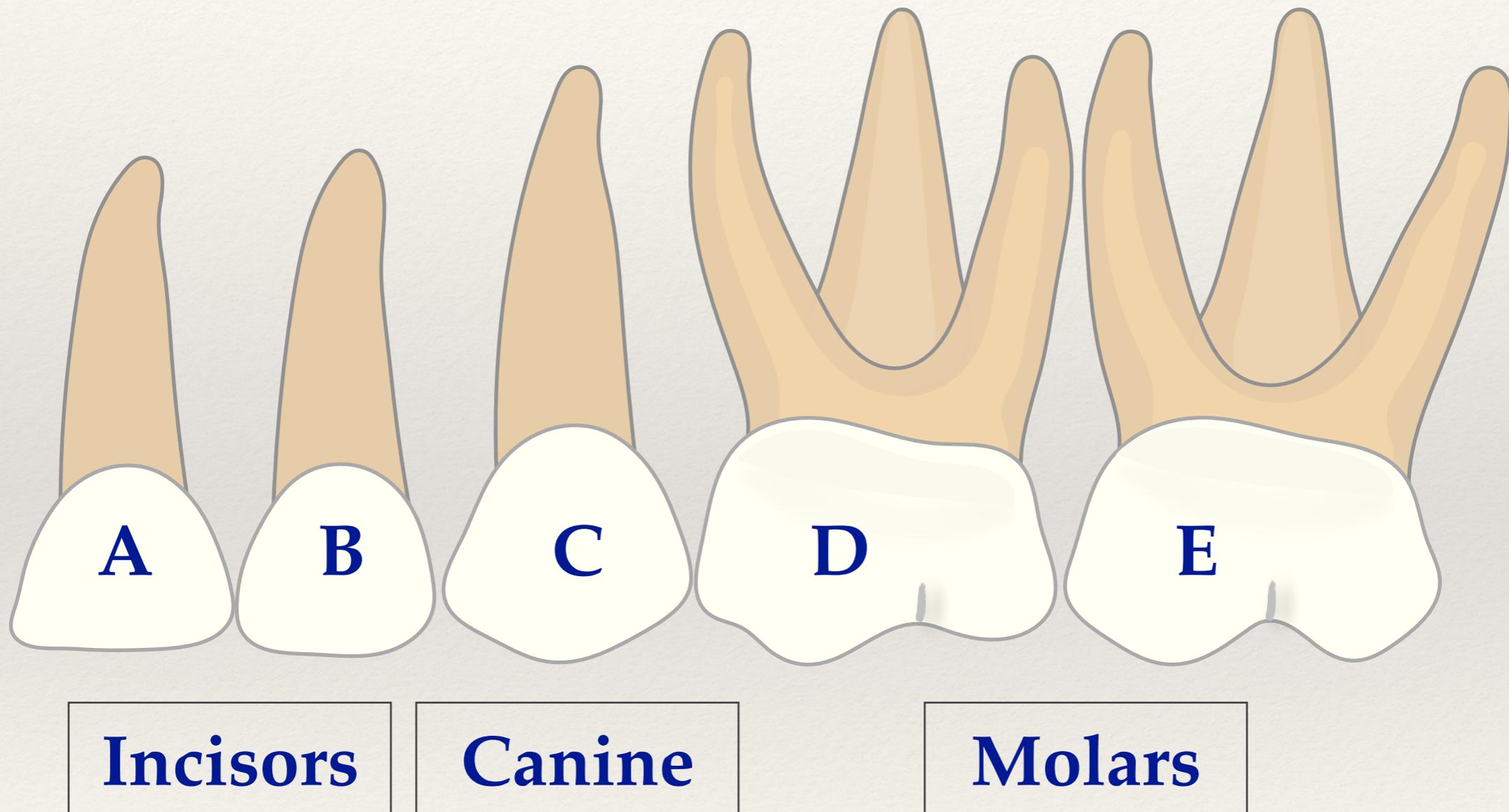
**Posterior teeth**

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### 3. No premolars or third molar:

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No premolars and no third molar in deciduous teeth



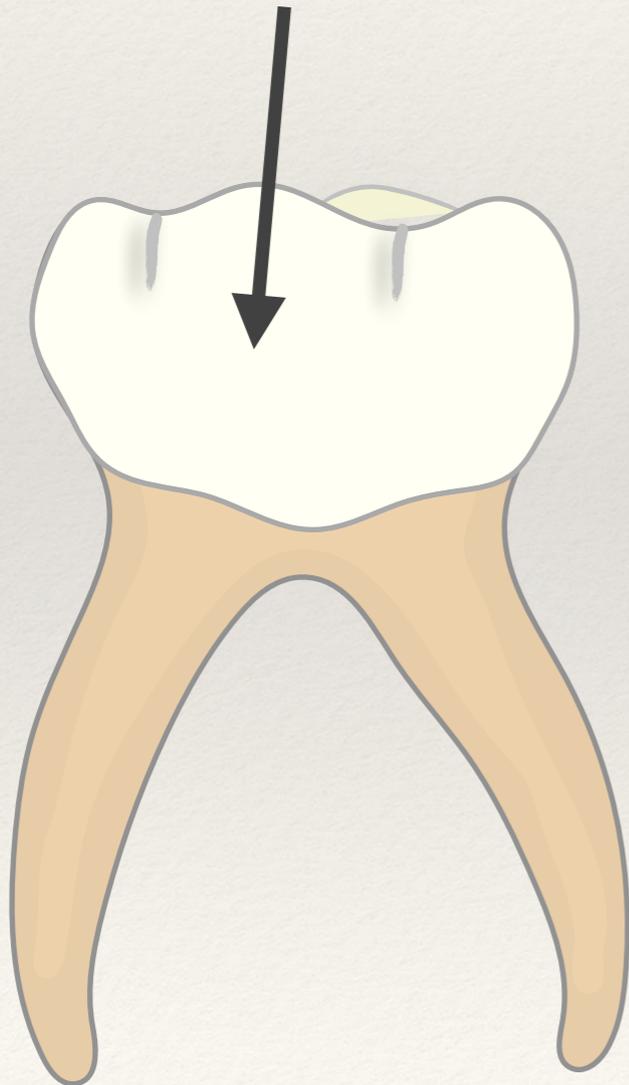
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## 4. Color of the Crown:

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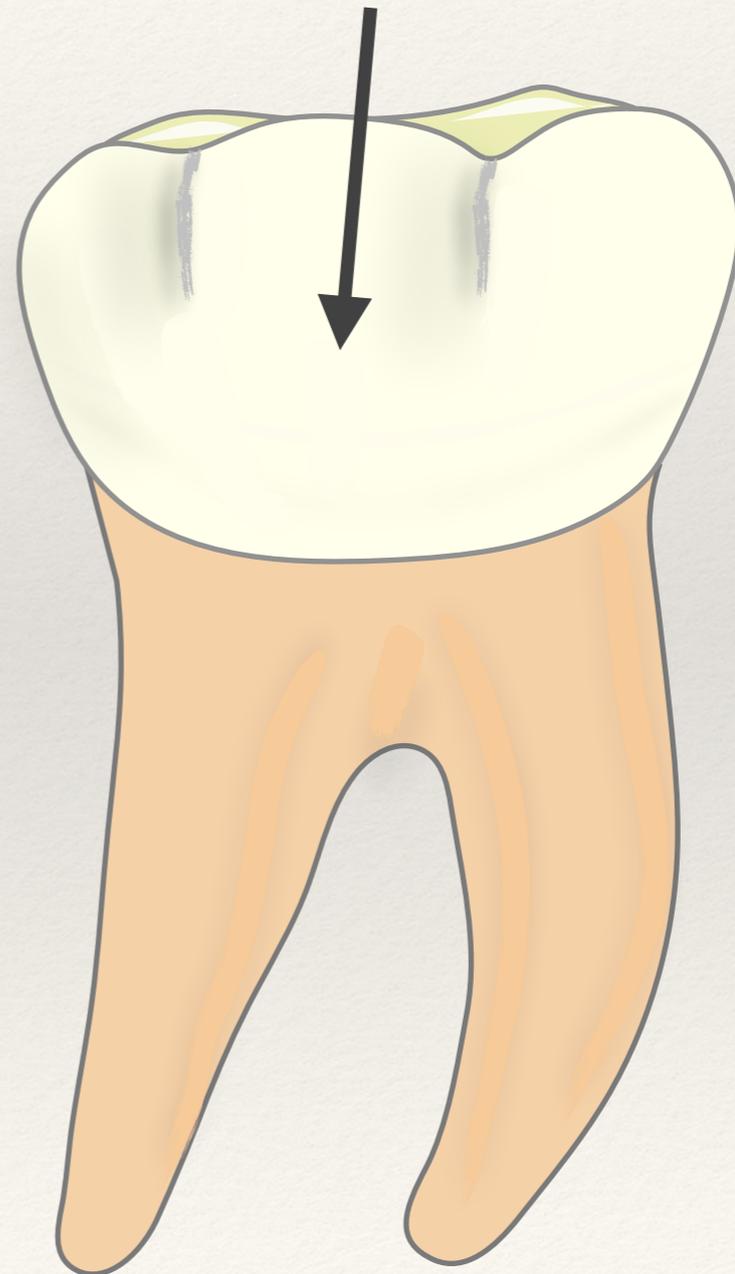
**Deciduous teeth**

**Whiter in color**



**Permanent teeth**

**Yellowish in color**



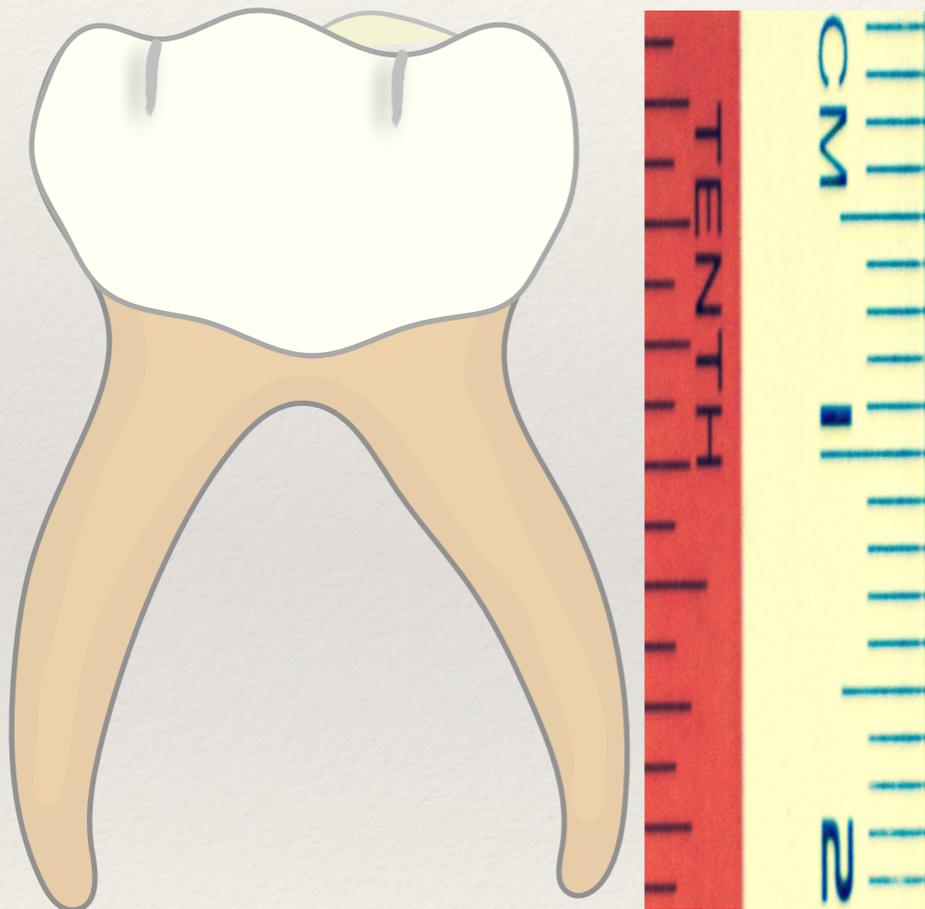
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## 5. Size of deciduous Teeth:

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**Deciduous teeth**

**Smaller in size**



**Permanent teeth**

**Larger in size**



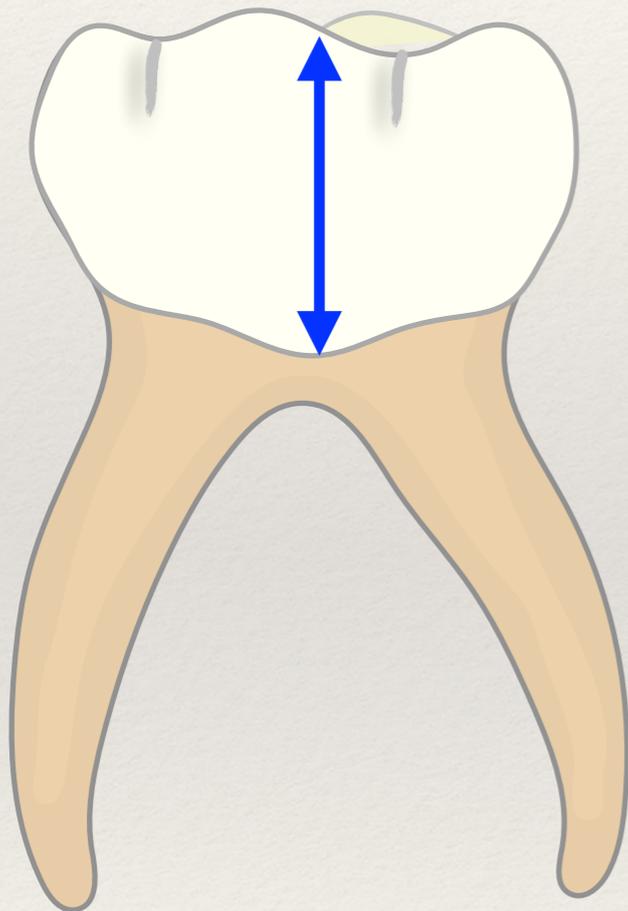
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## 6. Crown length of deciduous Teeth:

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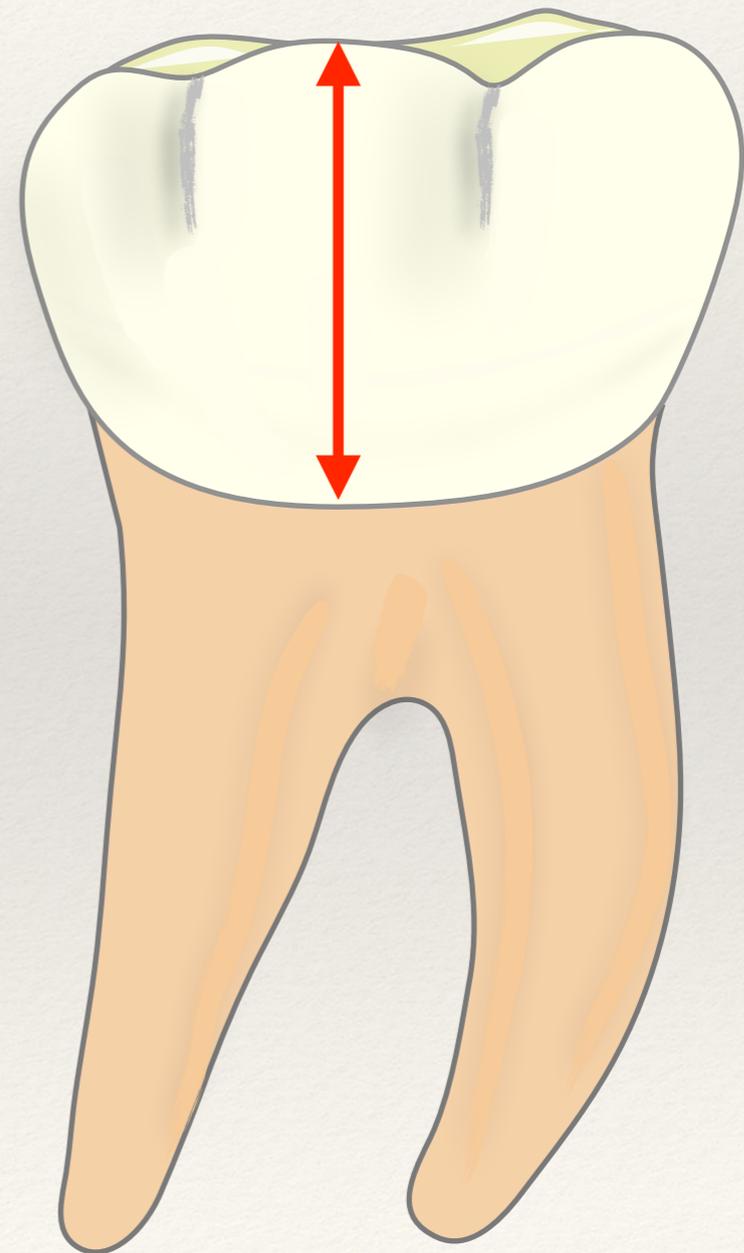
**Deciduous teeth**

**Smaller in size**



**Permanent teeth**

**Larger in size**

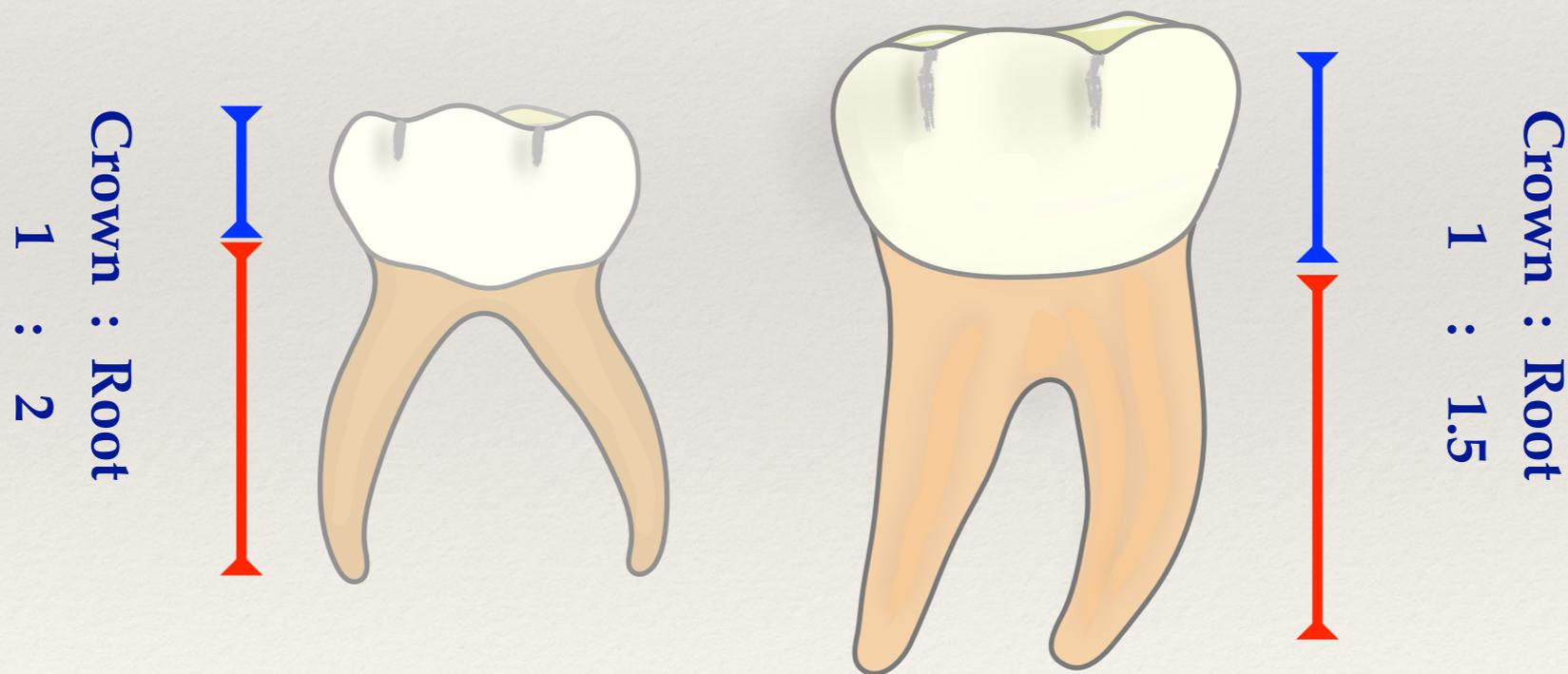


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## 7. Root length of deciduous Teeth:

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- Root of deciduous teeth is longer in relation to crown length.
- Crown root ratio of deciduous teeth measure about 1 : 2
- Crown root ratio of permanent teeth measure about 1 : 1.5



# 8. Dental Formula:

**Deciduous teeth**

**Permanent teeth**

$$I \frac{2}{2} \quad C \frac{1}{1} \quad M \frac{2}{2}$$

$$I \frac{2}{2} \quad C \frac{1}{1} \quad P \frac{2}{2} \quad M \frac{3}{3}$$

**Other way**

$$I \ C \ P \ M \\ 2 \ 1 \ 0 \ 2 / 2 \ 1 \ 0 \ 2$$

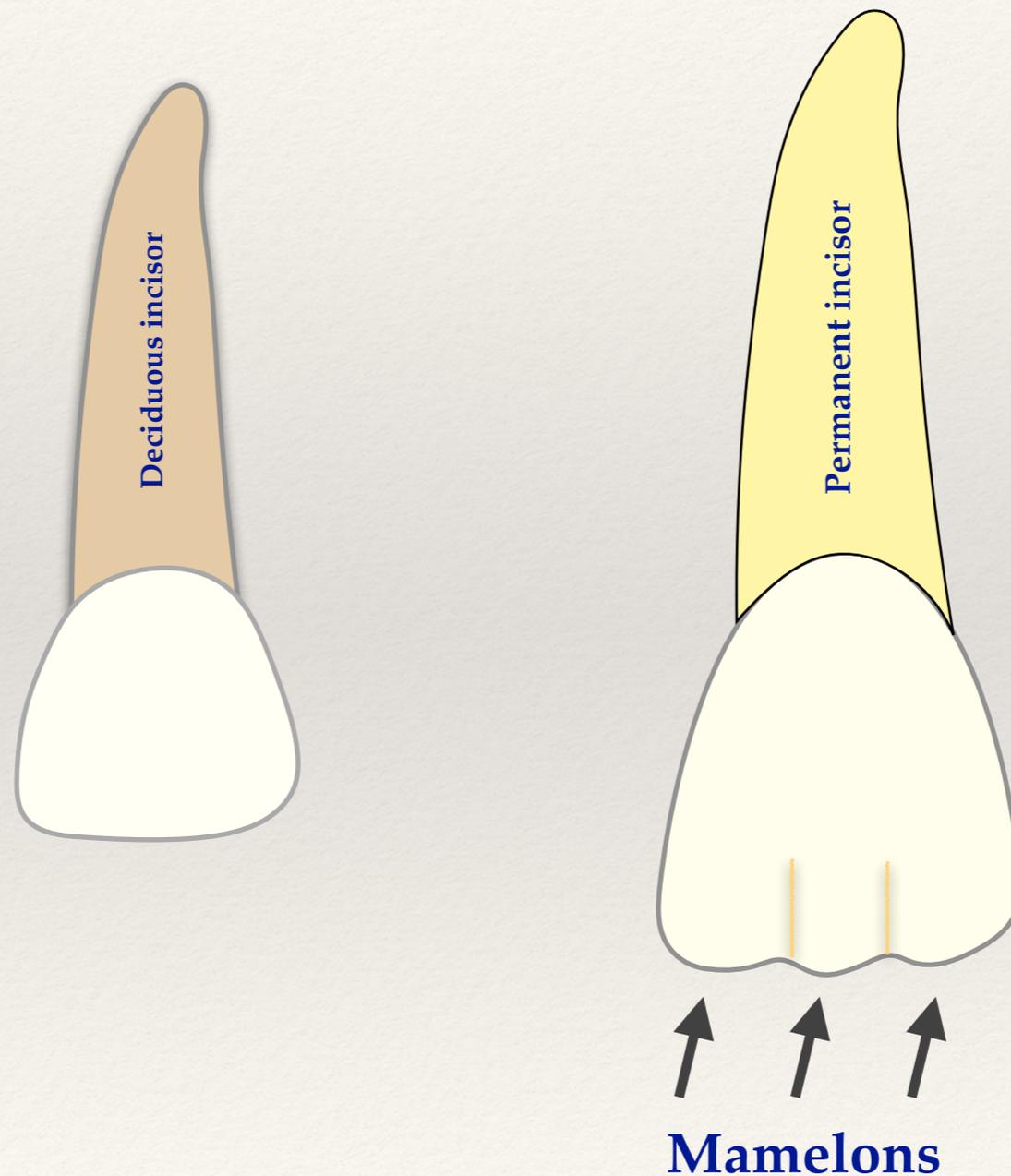
$$I \ C \ P \ M \\ 2 \ 1 \ 2 \ 3 / 2 \ 1 \ 2 \ 3$$

# Differences Between Deciduous and Permanent Teeth

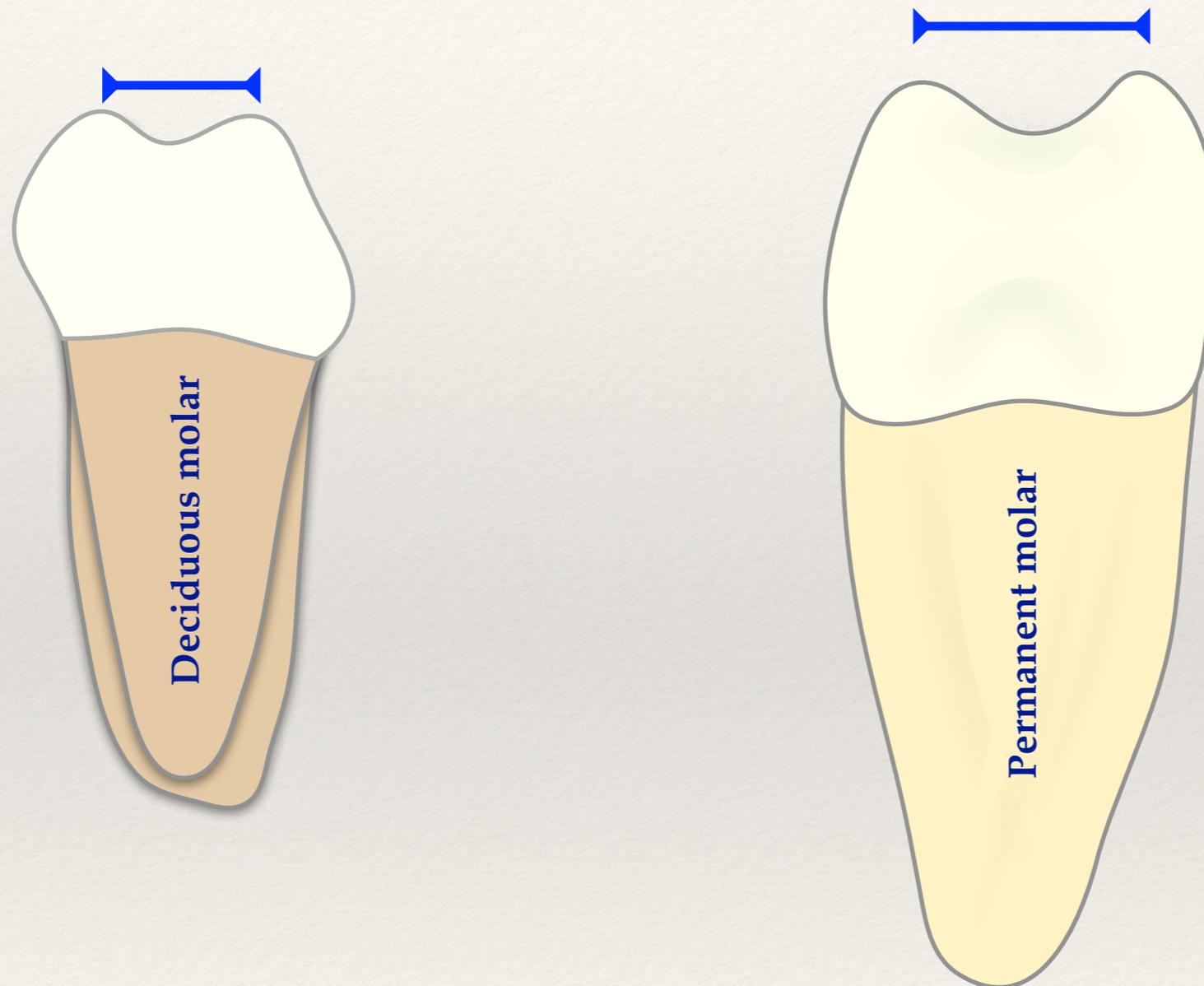
## II. Anatomical Differences

# 1. Deciduous incisors contain no mamelons.

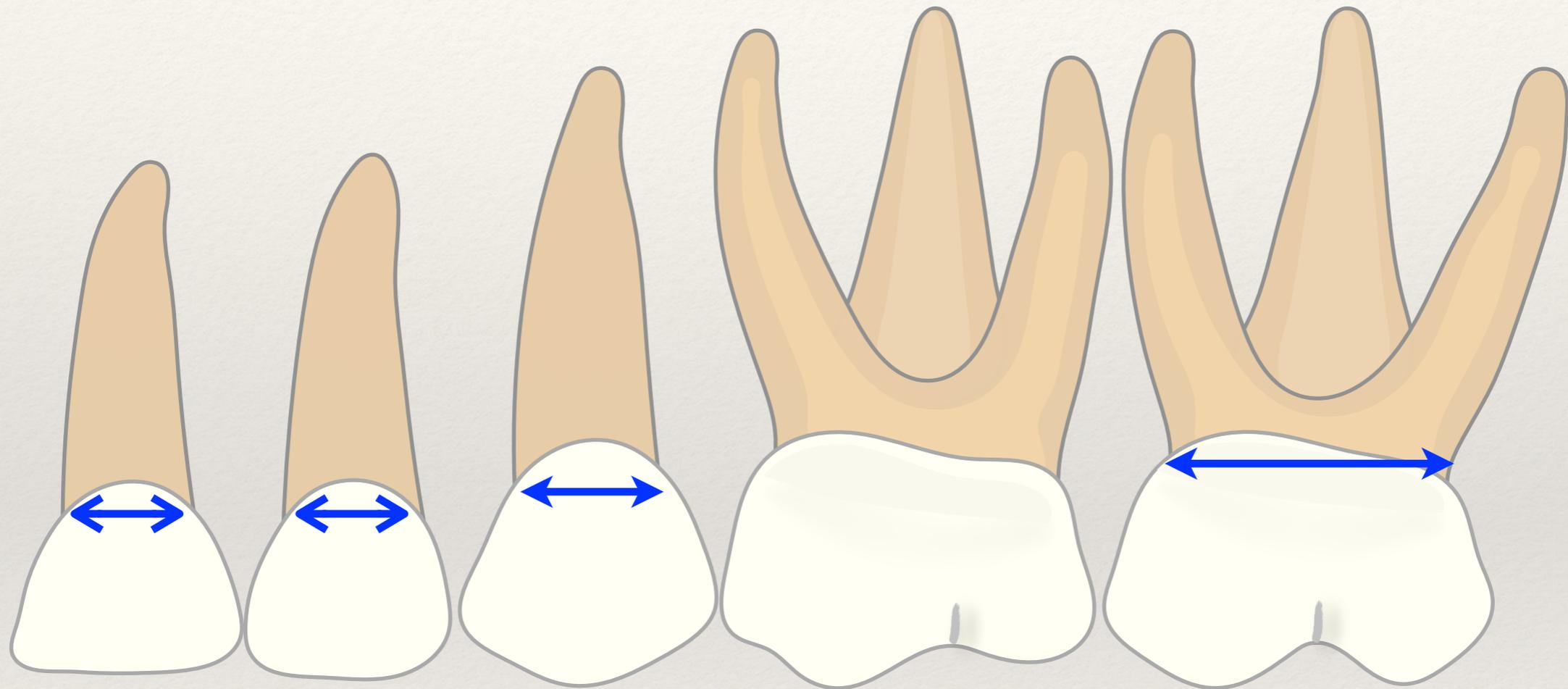
Mamelons found only in newly erupted permanent incisors.



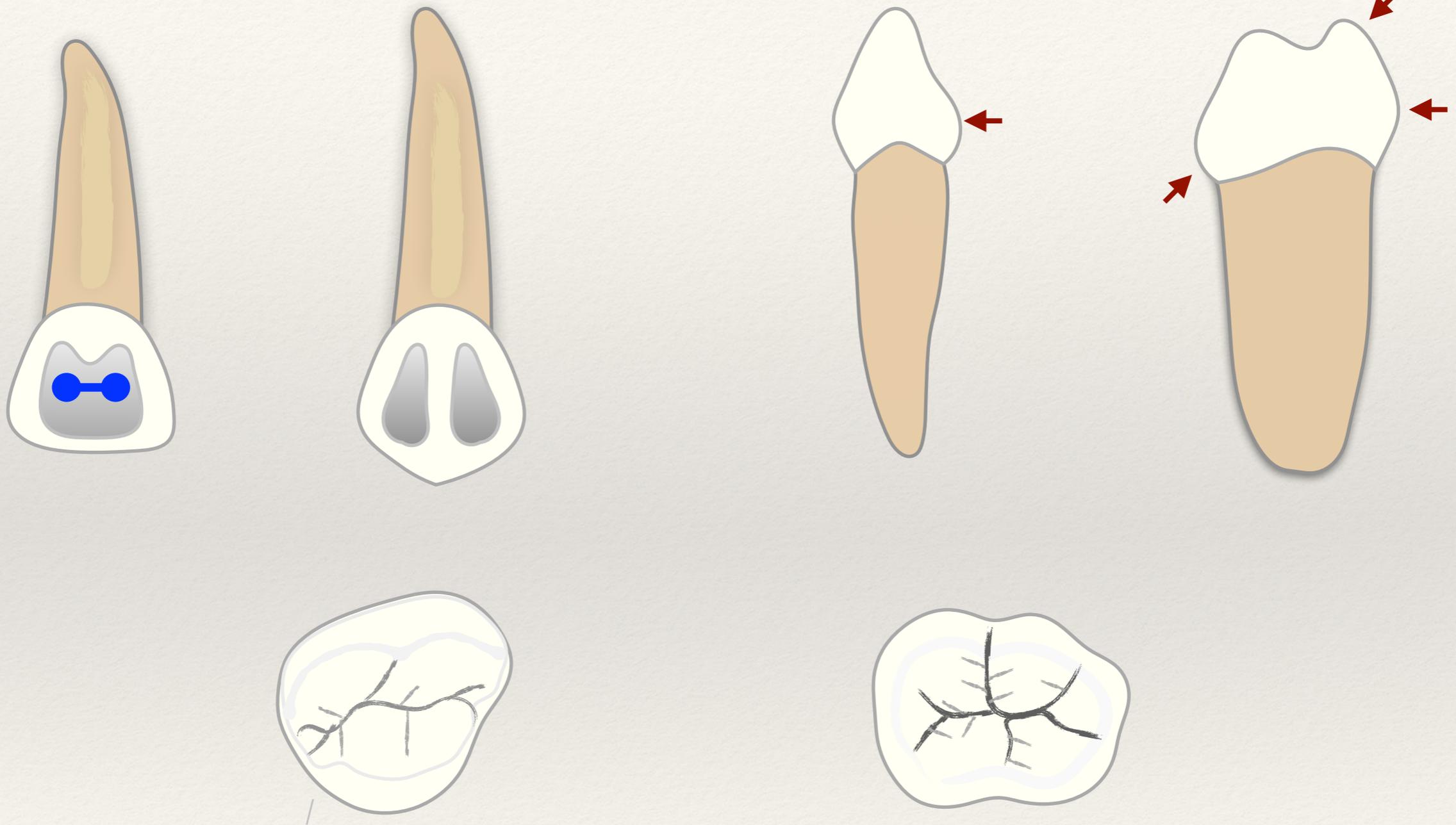
## 2. Posterior deciduous teeth contain narrow occlusal table.



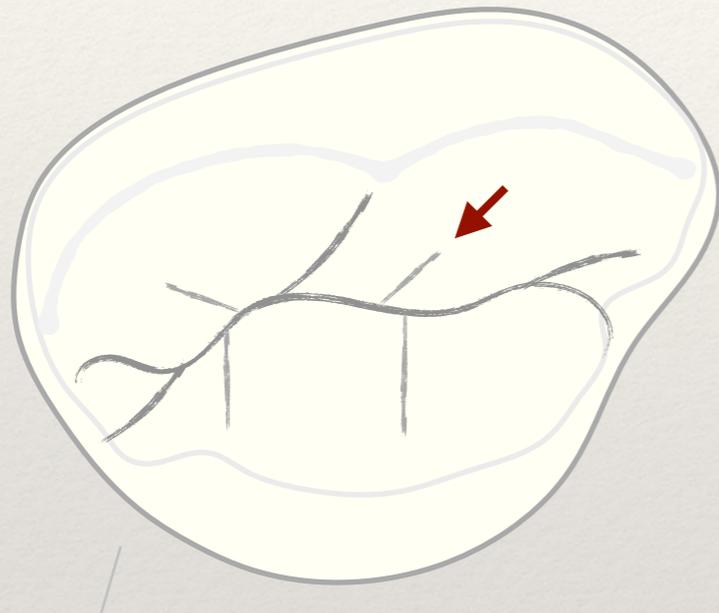
**3. All deciduous teeth has constricted neck.**



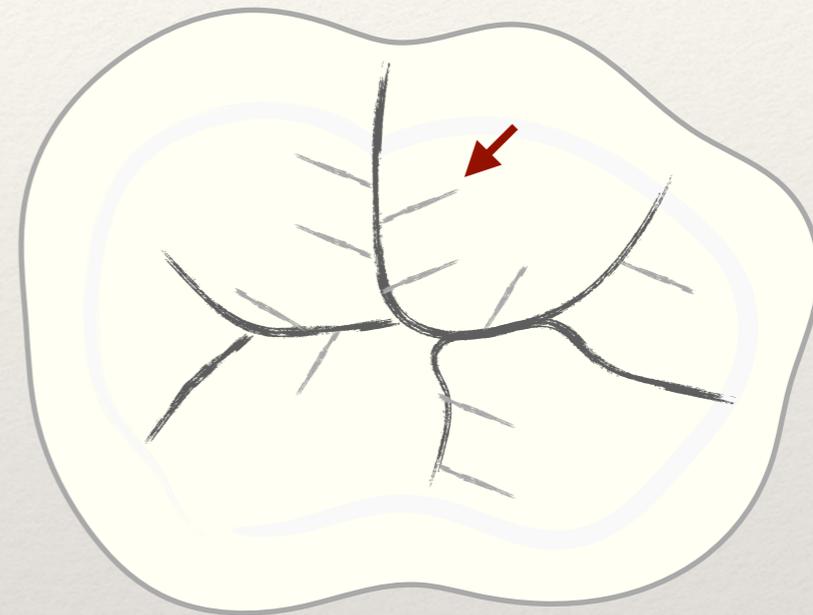
**4. Crown elevations and depression of deciduous teeth are more developed.**



**5. Crown of deciduous teeth has more supplemental grooves.**

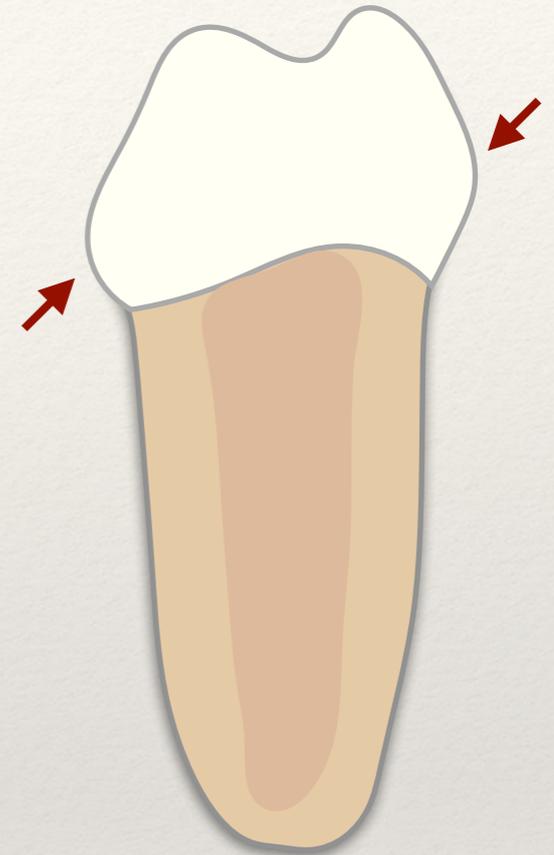
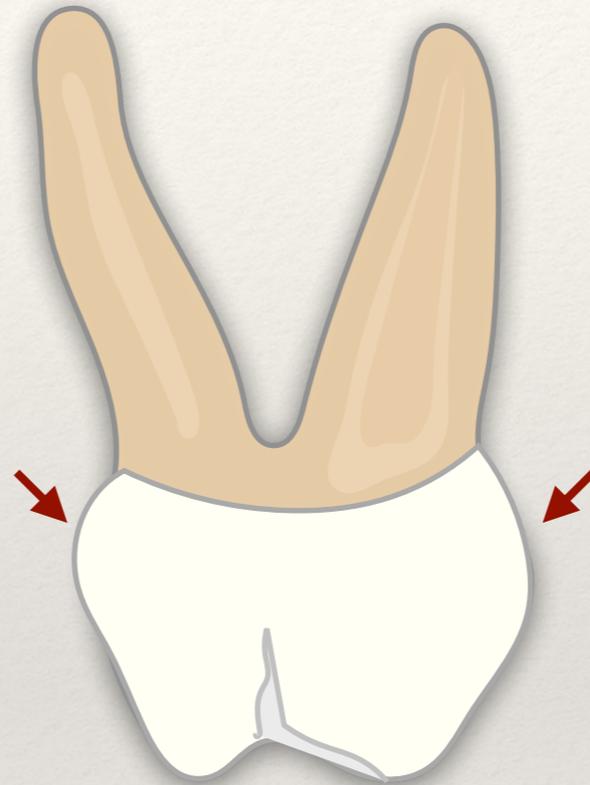
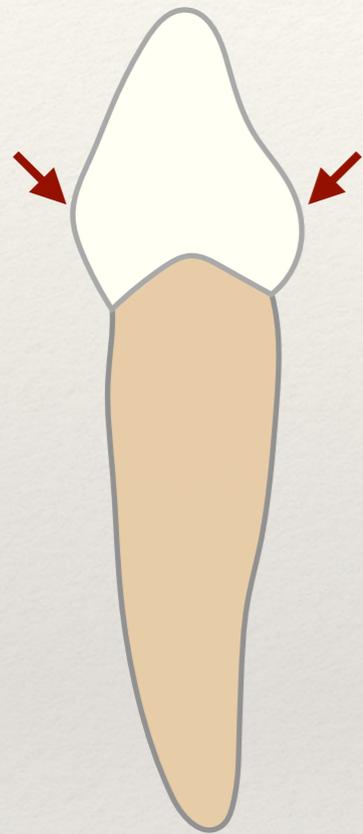


**Maxillary deciduous  
first molar**



**Mandibular deciduous  
second molar**

6. All maximum contour of labial, buccal, and lingual are located at cervical 3<sup>rd</sup> .



# Differences Between Deciduous and Permanent Teeth

## III. Histological Differences

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# Deciduous teeth is differ from permanent by:

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## 1. Enamel:

The enamel of deciduous teeth is thinner and less calcified.

## 2. Dentin:

The dentin of deciduous teeth is thinner and less calcified.

## 3. Cementum:

The cementum of deciduous teeth is thinner and less calcified.

## 4. Pulp:

- The pulp chamber of deciduous teeth is larger in relation to crown size.
- The pulp horns related to cusps are located at a higher position.
- The vascularity and cellularity of the pulp are more active.
- Potentiality for repair is at higher level.

# Chronology

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Sequence of Eruption of  
Deciduous and Permanent Teeth

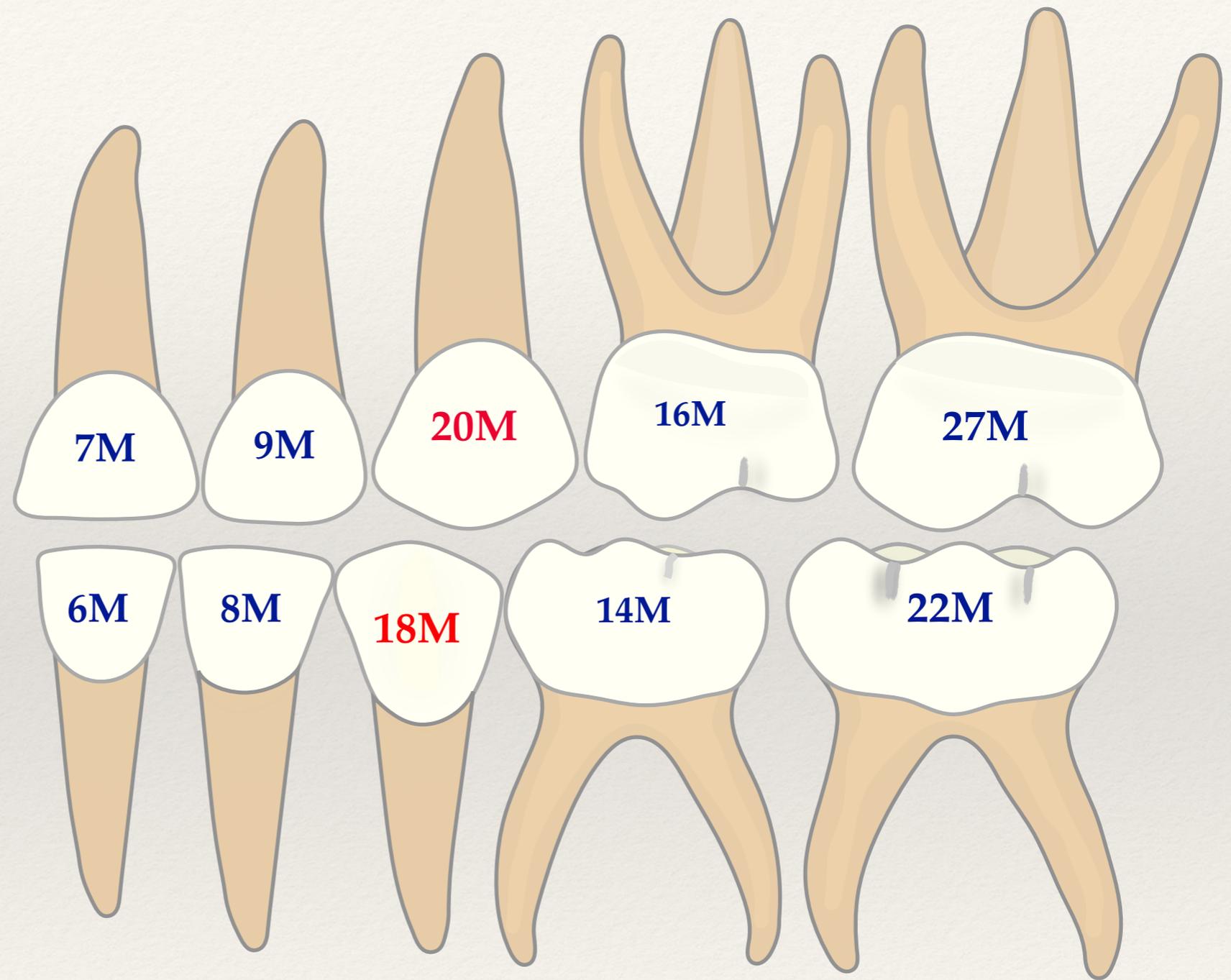
# Sequence of eruption of deciduous teeth

1. Incisors

2. First Molars

3. Canine

4. Second Molars



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# Conclusions

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- Mandibular central incisor is the first deciduous tooth erupting in the oral cavity.
  - First deciduous molar erupt before deciduous canine.
  - Deciduous tooth begin to erupt after formation of a half of the root length.
  - Root complete its development after **1 : 1.5 years** of tooth eruption.
  - Root resorption of deciduous teeth begin **1 year** before shedding.
  - Mandibular teeth erupt earlier than the maxillary one.
  - Girls teeth erupt earlier than the boys.
  - Teeth in the left side of the oral cavity erupt earlier than the right side.
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# Question: 1

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How old is this child ?



Two mandibular central deciduous incisors has been erupted in this child's mouth.

**Therefore, this child is 6 months old.**

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# Question: 2

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How old is this child ?



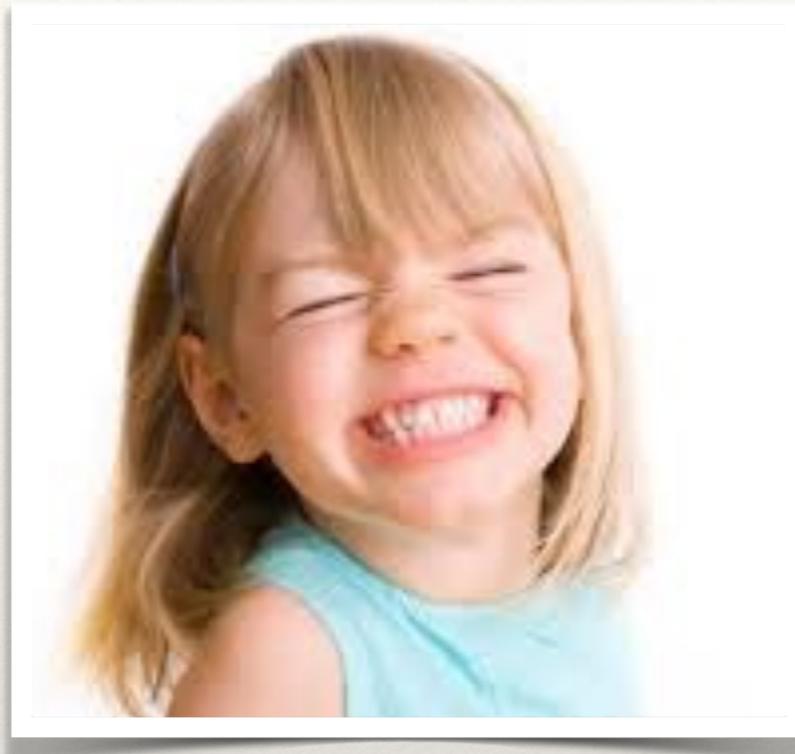
*This child is ? months old.*

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# Question: 3

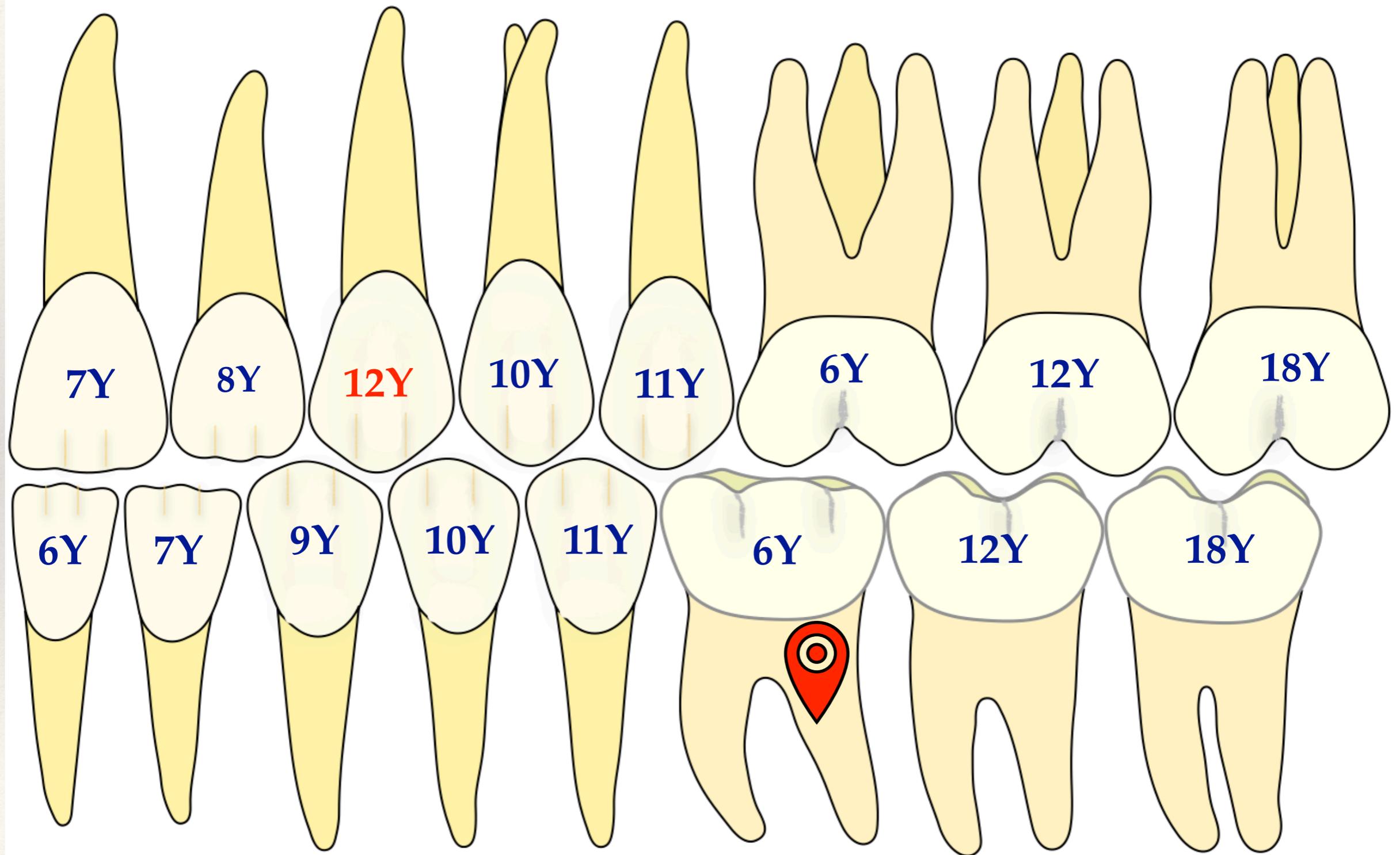
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How old is this girl ?



*This child is ? months old.*

# Sequence of eruption of permanent Teeth



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# Conclusions

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- First permanent molar is the first permanent tooth erupting in the oral cavity.
- First permanent molar erupt easily because it does not has deciduous predecessor.
- Permanent tooth begin to erupt after formation of a half of the root length.
- Root complete its development after **2.5:3** years of tooth eruption.



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# Question: 5

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How many teeth are there in the mouth  
of a 14-years old person?

?

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# Question: 6

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**How many and what types of teeth are in  
the mouth of a 10-years old person?**

**?**

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# Question: 7

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**What are the teeth that begin calcification  
during the fetus stage?**

**?**

# Physiological Spaces in Deciduous Dentition

# Leeway space

- ❖ **Definition:**

Leeway space is the space generated from the differences between the sum of mesiodistal width of deciduous molars in one quadrant and mesiodistal width of its successors.

- ❖ **Measurement:**

The sum of mesiodistal widths of the deciduous 1<sup>st</sup> and 2<sup>nd</sup> molars is greater than that of premolars, measure about 2.5 mm greater for mandibular quadrant and 1.5 mm greater for the maxillary one.

- ❖ **Function:**

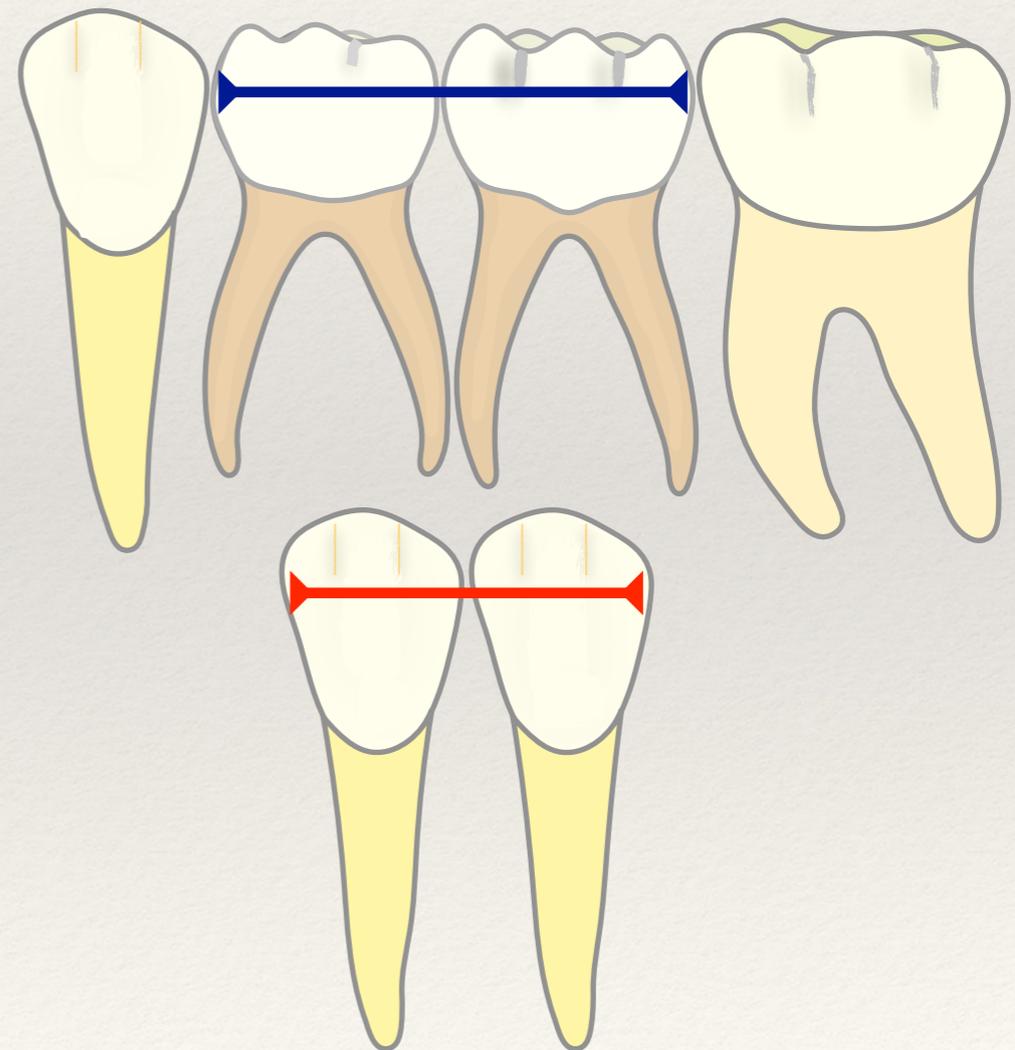
- ❖ These spaces aid to relieve crowding in permanent anterior teeth during the development of normal occlusion.

- ❖ **When not needed:**

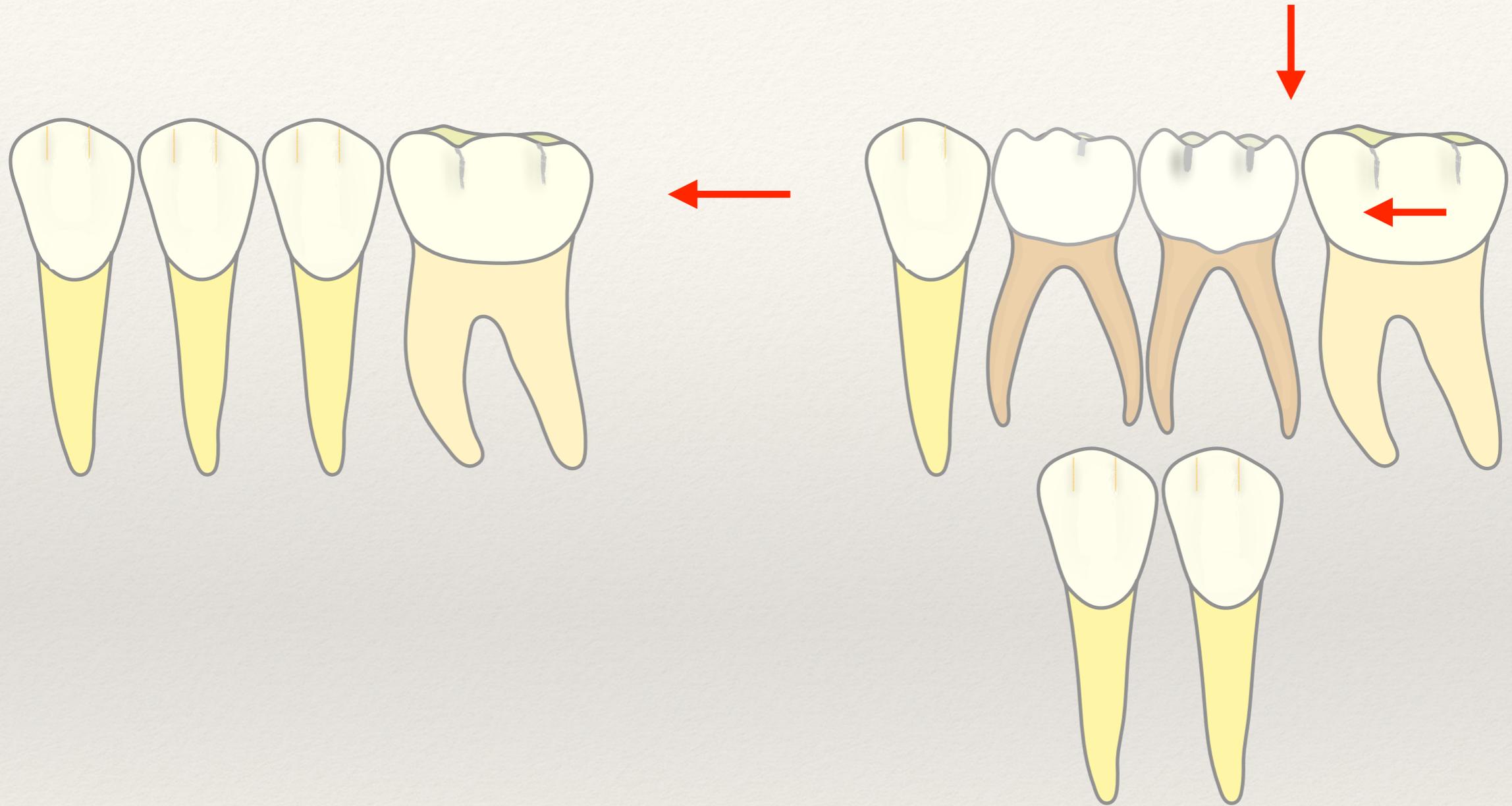
- ❖ If normal occlusion does not need leeway space, the first permanent molar drift mesially to close this space.

# Leeway space

2.5mm  
↔



# Leeway space



# Primate space

## ❖ Definition:

Primate space is the space resulted from jaw growth and generated between:

1. The maxillary deciduous lateral incisor and canine, and
2. The mandibular deciduous canine and first deciduous molar.

## ❖ Incidence:

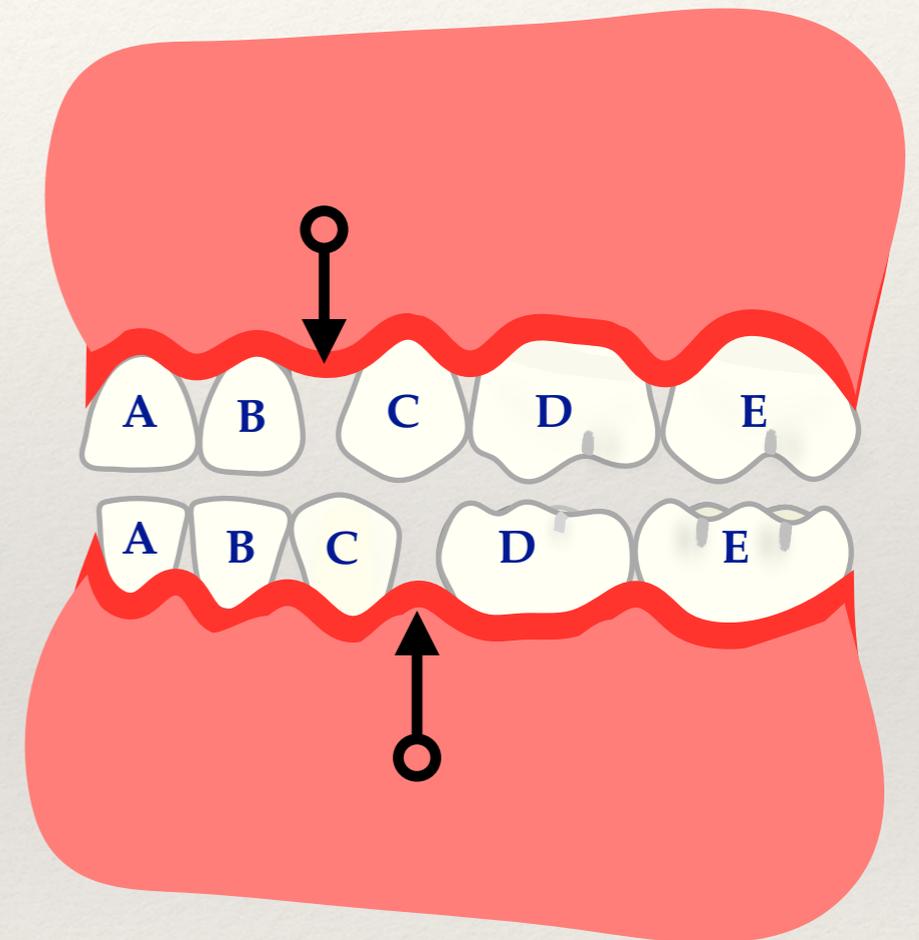
- It occur in about 70 % of the maxilla of the child.
- It occur in about 63 % of the mandible of the child.

## ❖ Functions:

1. Help in placement of permanent canine in normal class I occlusion.
2. Needed for development of offset relation between opposing teeth.

## ❖ It is termed primate space:

- primate space is similar to that spaces found in primate species with human similarity.



# Primate Animal



**Thank you my dear**