

Introduction to Dental Anatomy

(Second Lecture)

Dr. Fatema Elturki

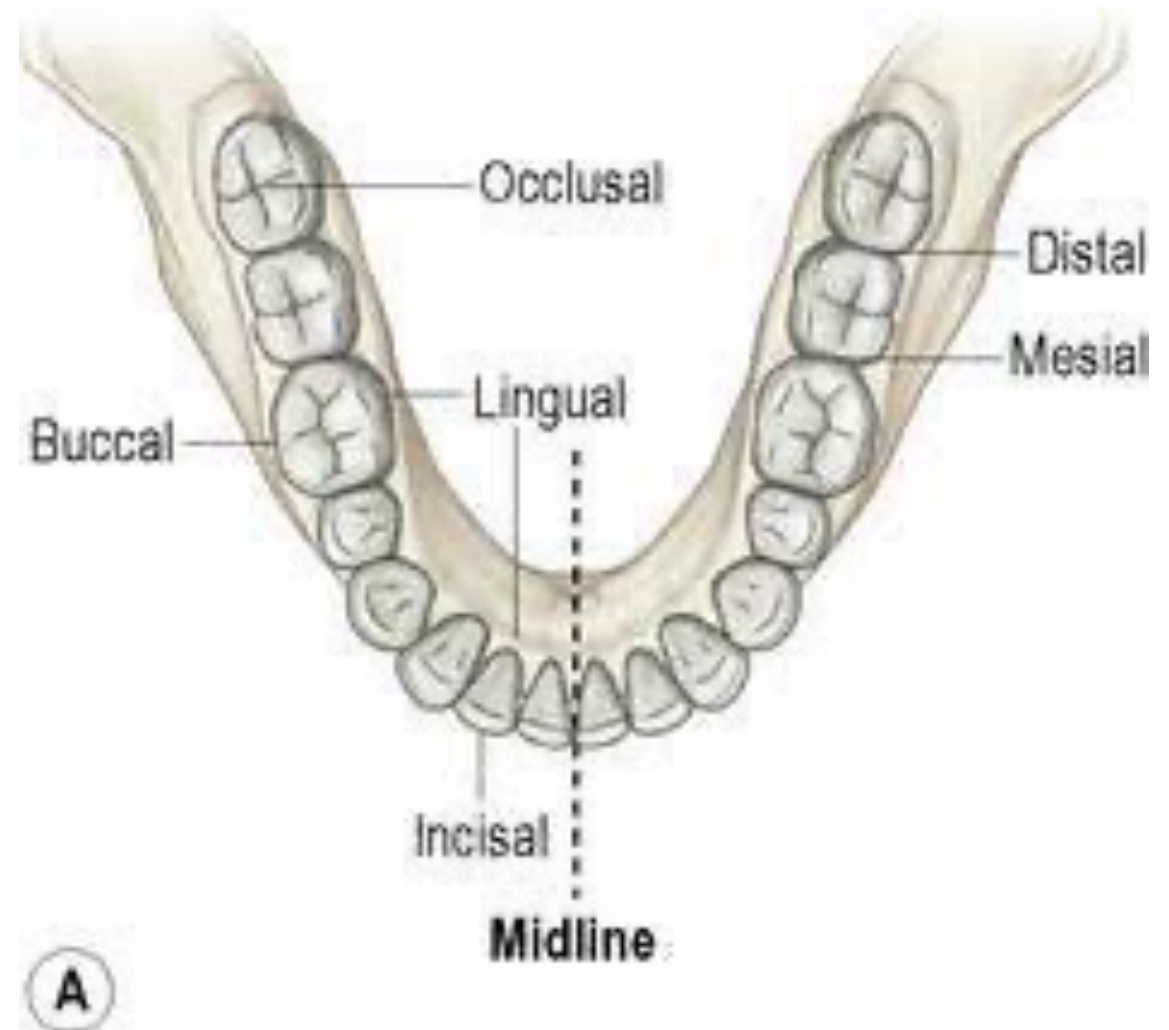


Surfaces of Teeth



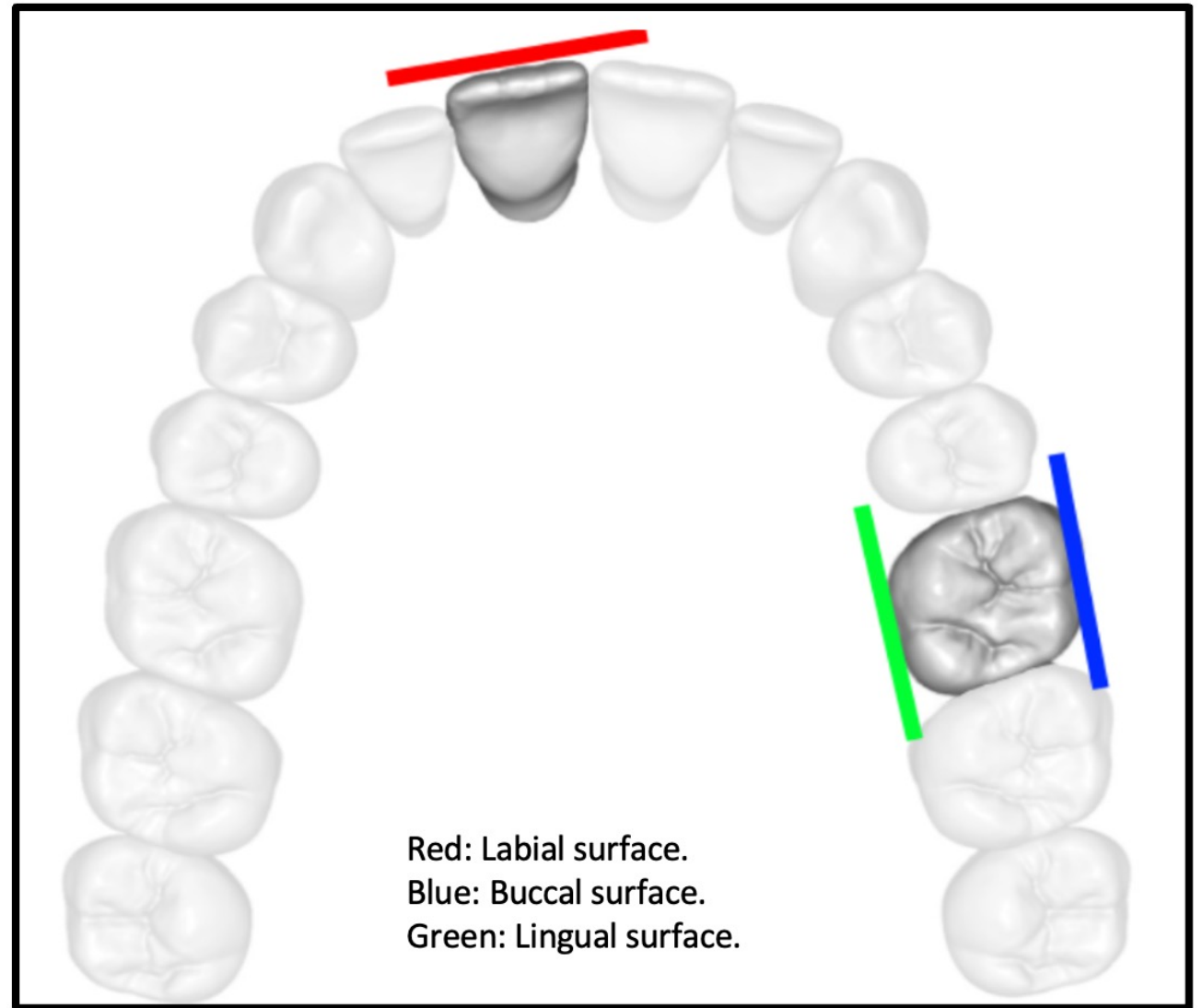
Surfaces of Teeth

- Each tooth has Five surfaces:
 - Facial (Labial & Buccal).
 - Lingual.
 - Mesial.
 - Distal.
 - Functioning surface (Incisal & Occlusal).



FACIAL SURFACE

- The **facial surface** of a tooth is the surface toward the face. It includes:
 - **Labial surfaces:** The facial surface of anterior teeth or the surface of a tooth in the mouth resting against the lip.
 - **Buccal surface:** The facial surface of posterior teeth or the surface of a tooth in the mouth resting against the cheeks.



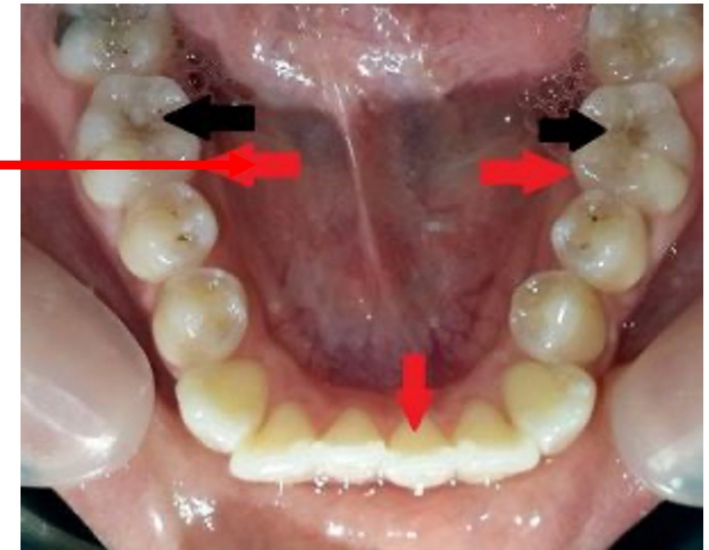
LINGUAL SURFACE

- The **lingual surface** is the surface of a maxillary or mandibular tooth nearest to the tongue.
- In the maxillary arch, this surface can also be called the **palatal surface** due to its proximity with the palate.



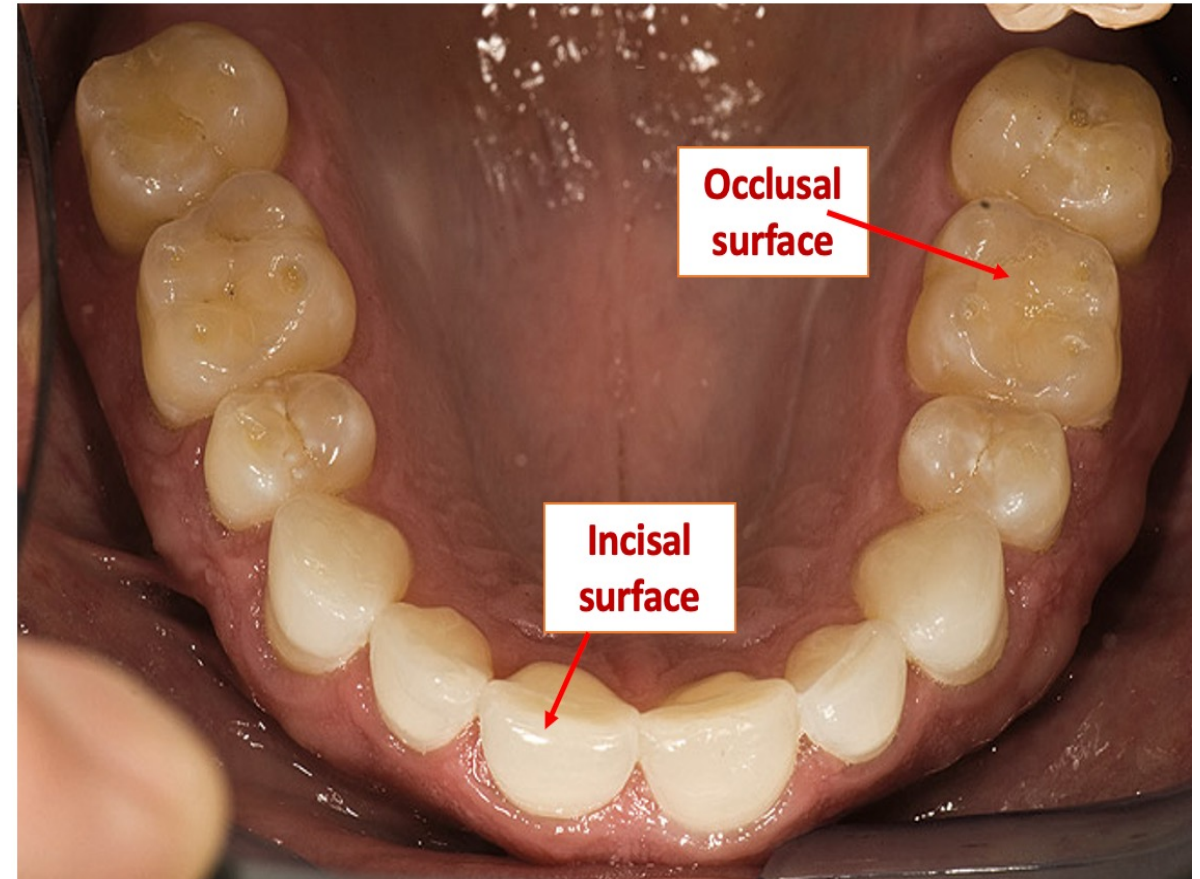
Palatal surface

Lingual surface



Occlusal and Incisal Surfaces

- The **occlusal surface** is the chewing surface of a posterior tooth.
- Anterior teeth (incisors and canines) do not have an occlusal surface but do have a cutting **incisal edge** or **ridge**





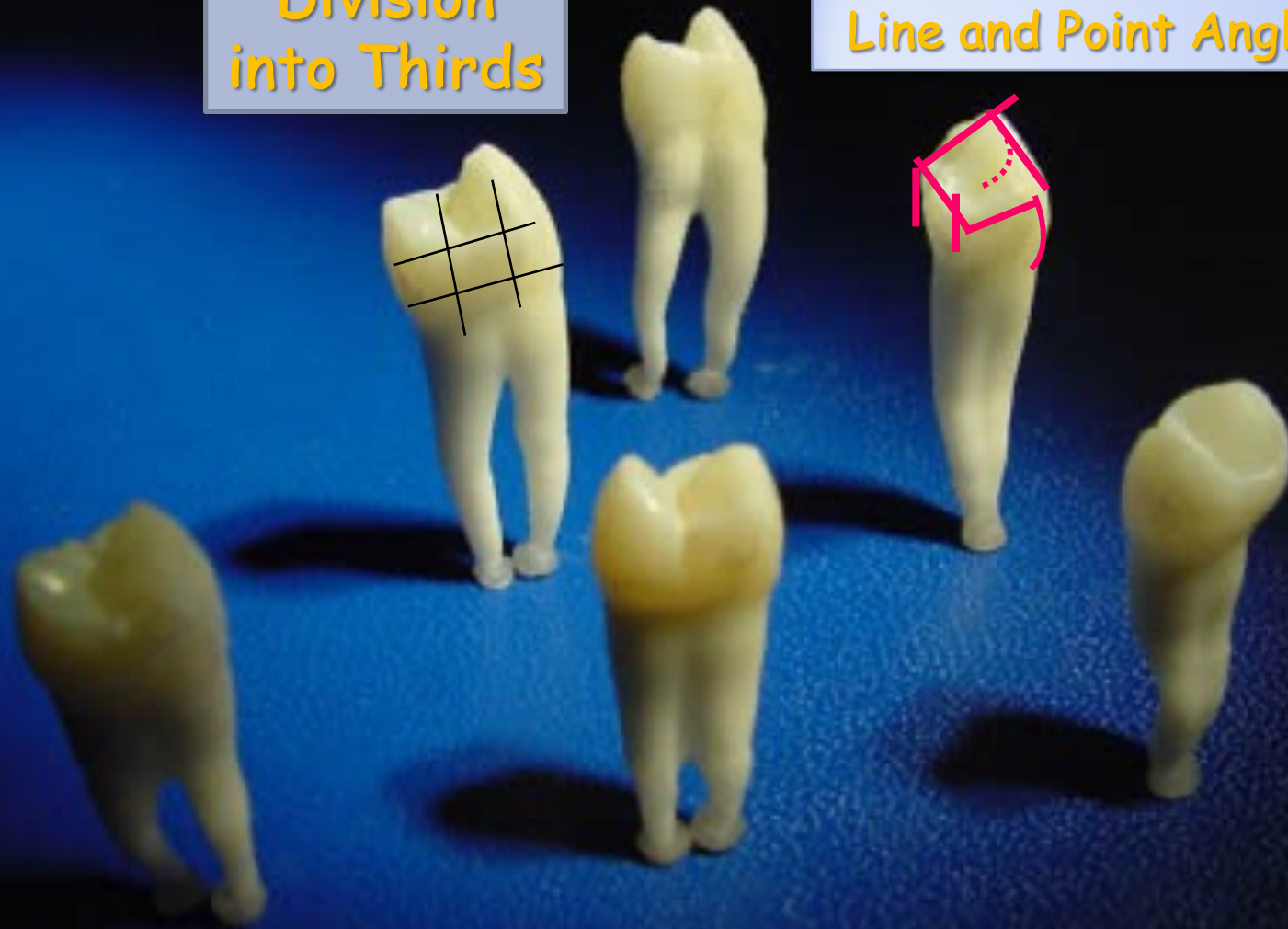
Mesial and Distal Surfaces

- The **proximal surfaces** are the sides of a tooth next to an adjacent tooth.
- Depending on whether the proximal tooth surface toward the arch midline between the central incisors or away from the midline.
- It is either a **mesial** surface (towards the midline) or a **distal** surface (away from the midline).

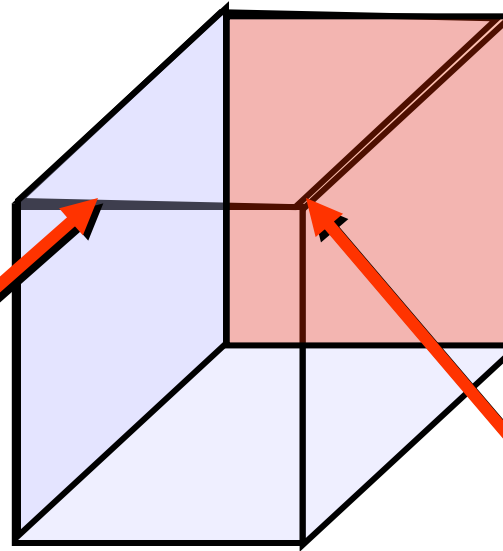


Division
into Thirds

Line and Point Angles



Line Angles & Point Angles



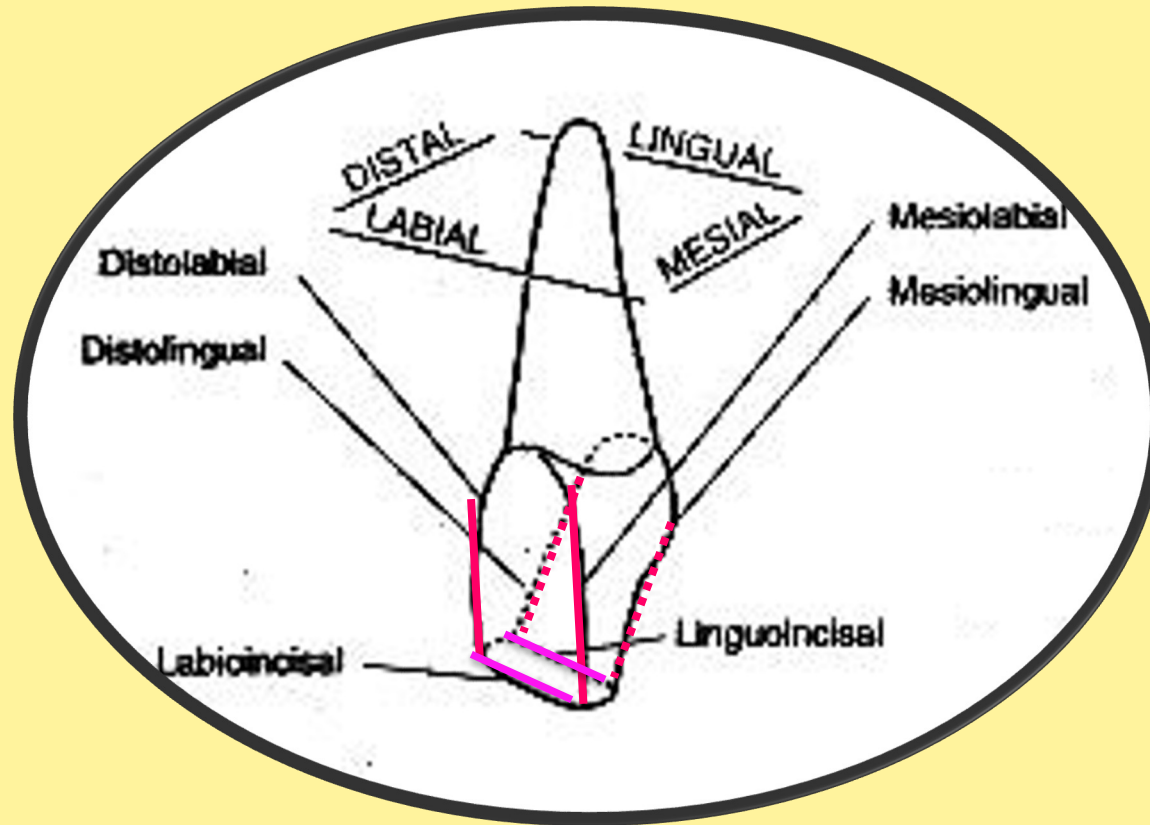
**Line
angle**

It is formed by the junction of two surfaces and its name is derived from both surfaces.

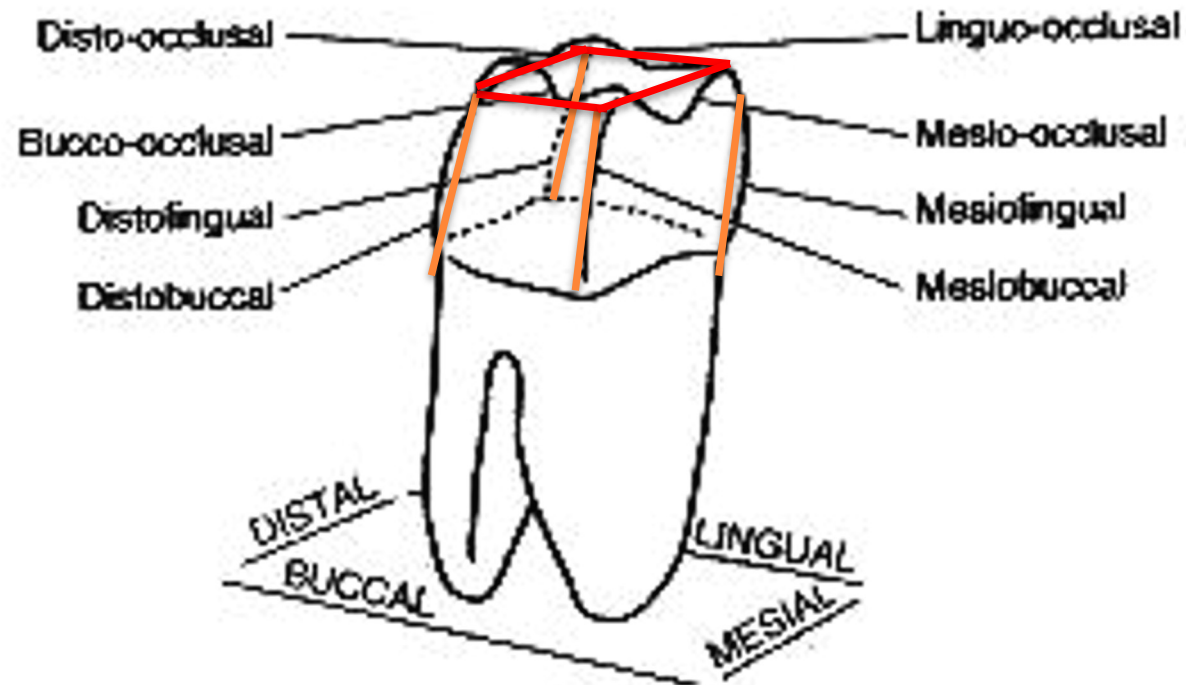
**Point
angle**

It is formed by the junction of three surfaces and its name is derived from these surfaces.

Line Angles of Anterior Teeth

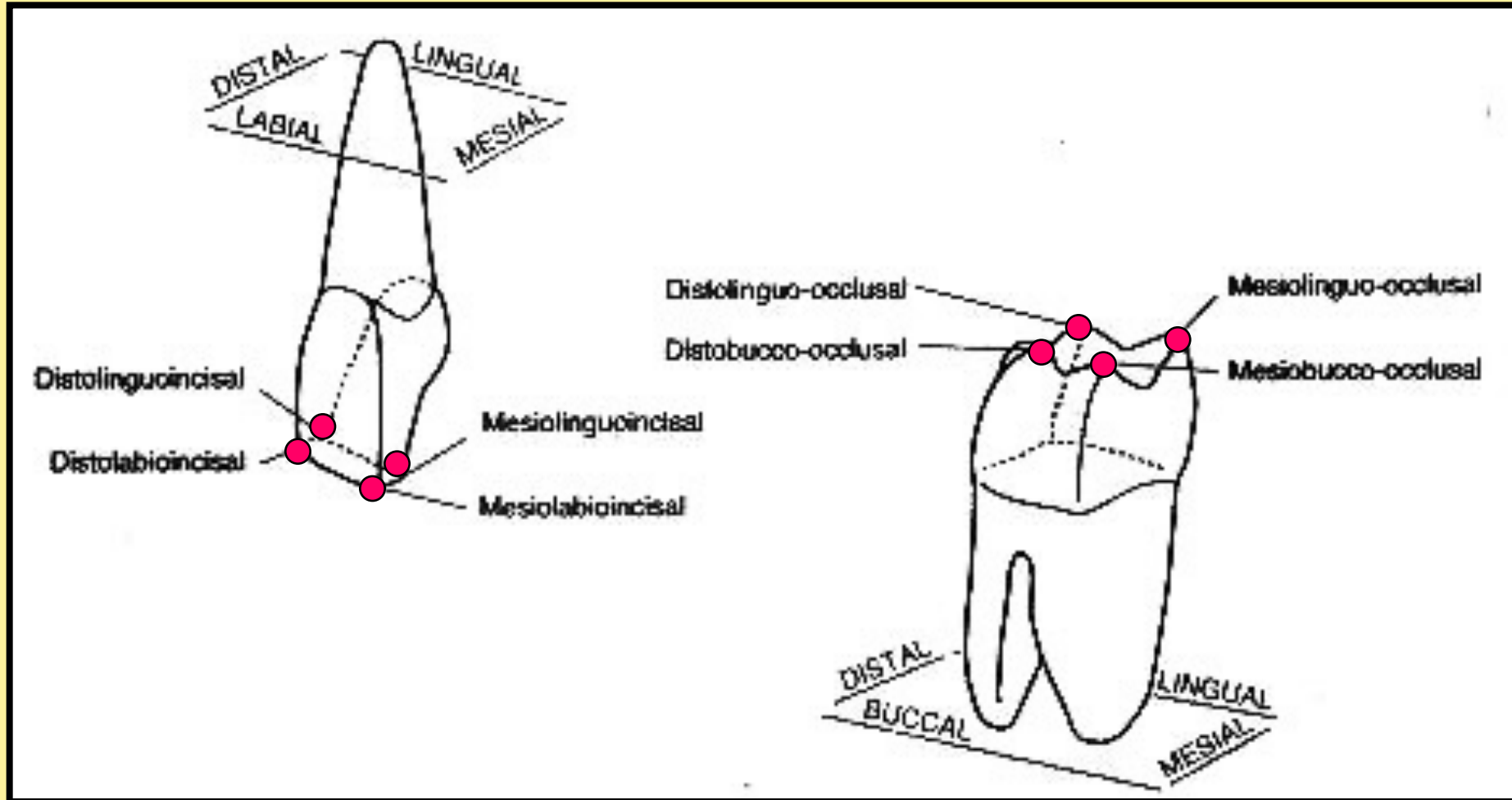


Line Angles of Posterior Teeth

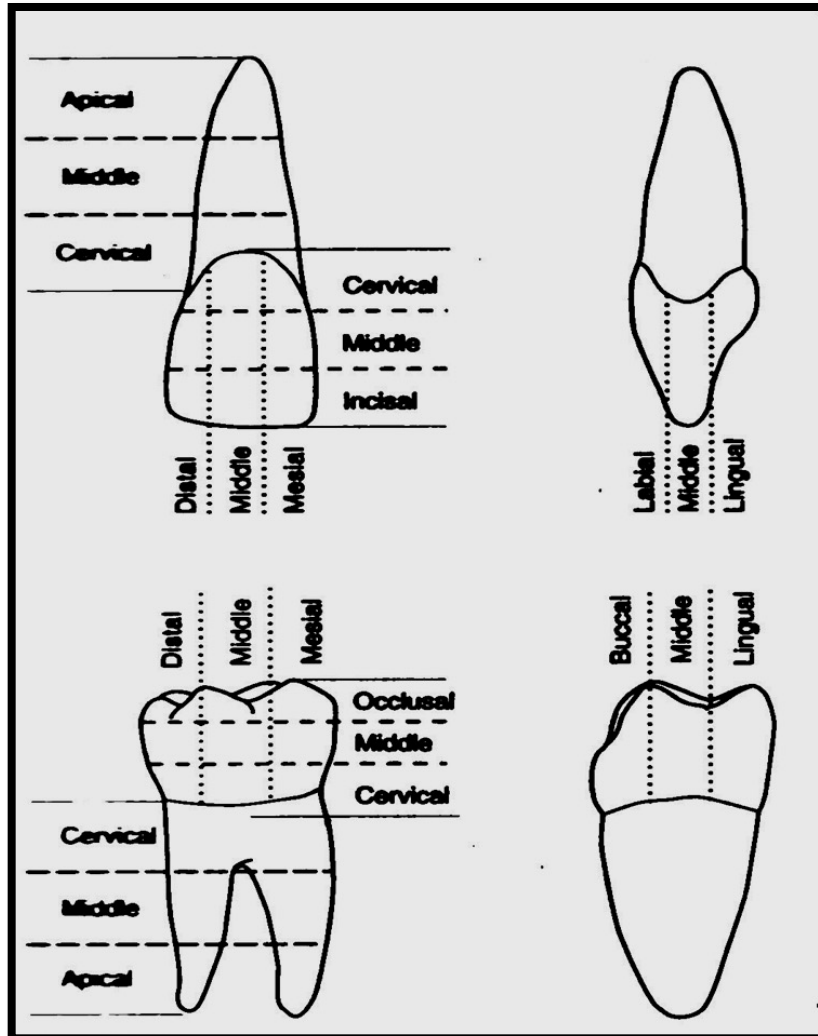


Point Angles

Meeting of 3 surfaces



DIVISION INTO THIRDS



For descriptive purposes (to locate the anatomical landmarks):

Crown surfaces could be divided *horizontally* or *vertically* into three portions or thirds,

The root could be divided into thirds **horizontally**, while **vertically** into halves by the root axis line { labial (buccal) & lingual and/or mesial & distal }.

TOOTH IDENTIFICATION SYSTEMS

NUMBERING OR CODING SYSTEMS

1. **Palmer Notation System.**
2. **International FDI System (two digit system).**
3. **Universal System.**

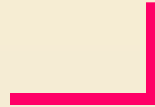


1- Palmer Notation System

for Permanent Teeth

It represents the four quadrants of the dentition as if you are facing the patient.

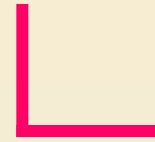
In upper right



In lower right



In upper left

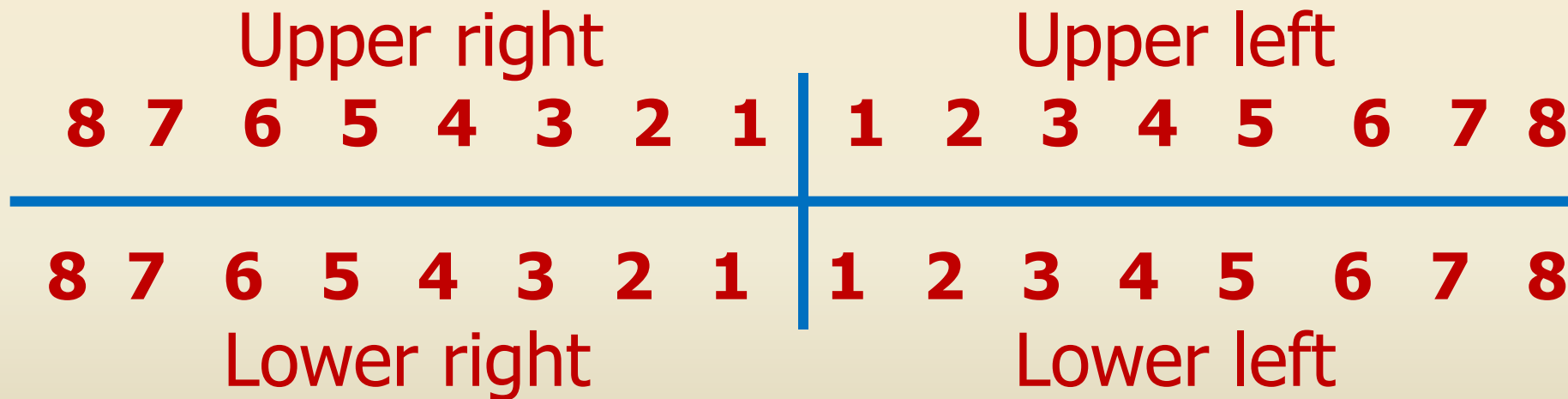


In lower left



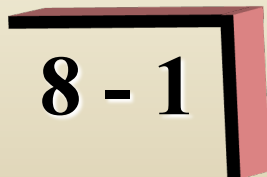
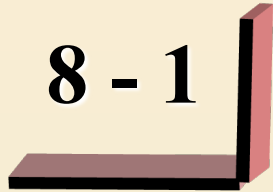
Horizontal and vertical lines = symbol for the quadrant

**The *permanent teeth* are numbered
from 1-8 on each side from the midline**

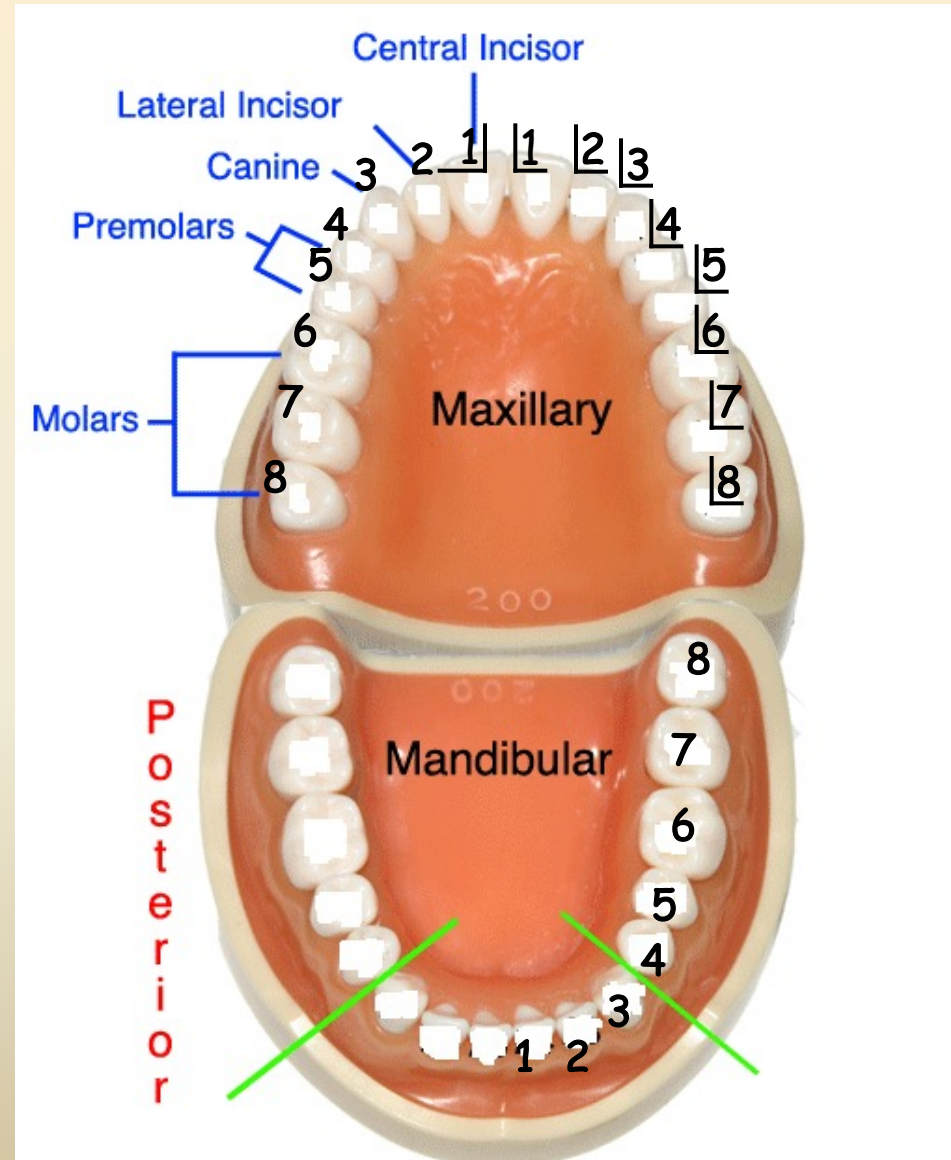
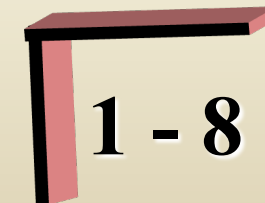
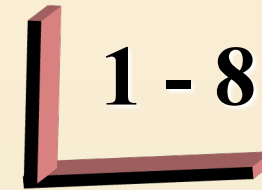


1-Palmer Notation System for Permanent Teeth

Right



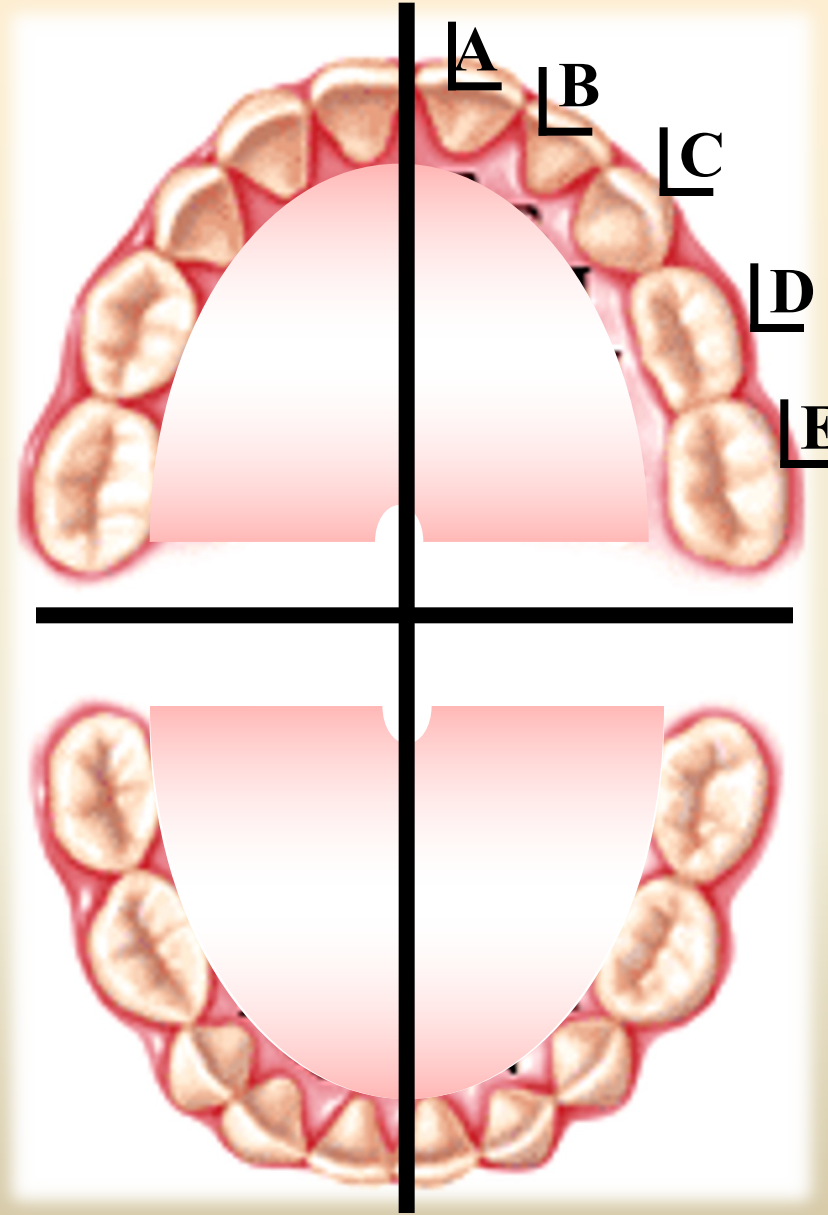
Left



Palmer Notation System

for Primary Teeth

E-A



A-E

E-A

A-E

**The deciduous teeth are lettered
from A-E on each side from the midline**

Upper right

Upper left

E D C B A

A B C D E

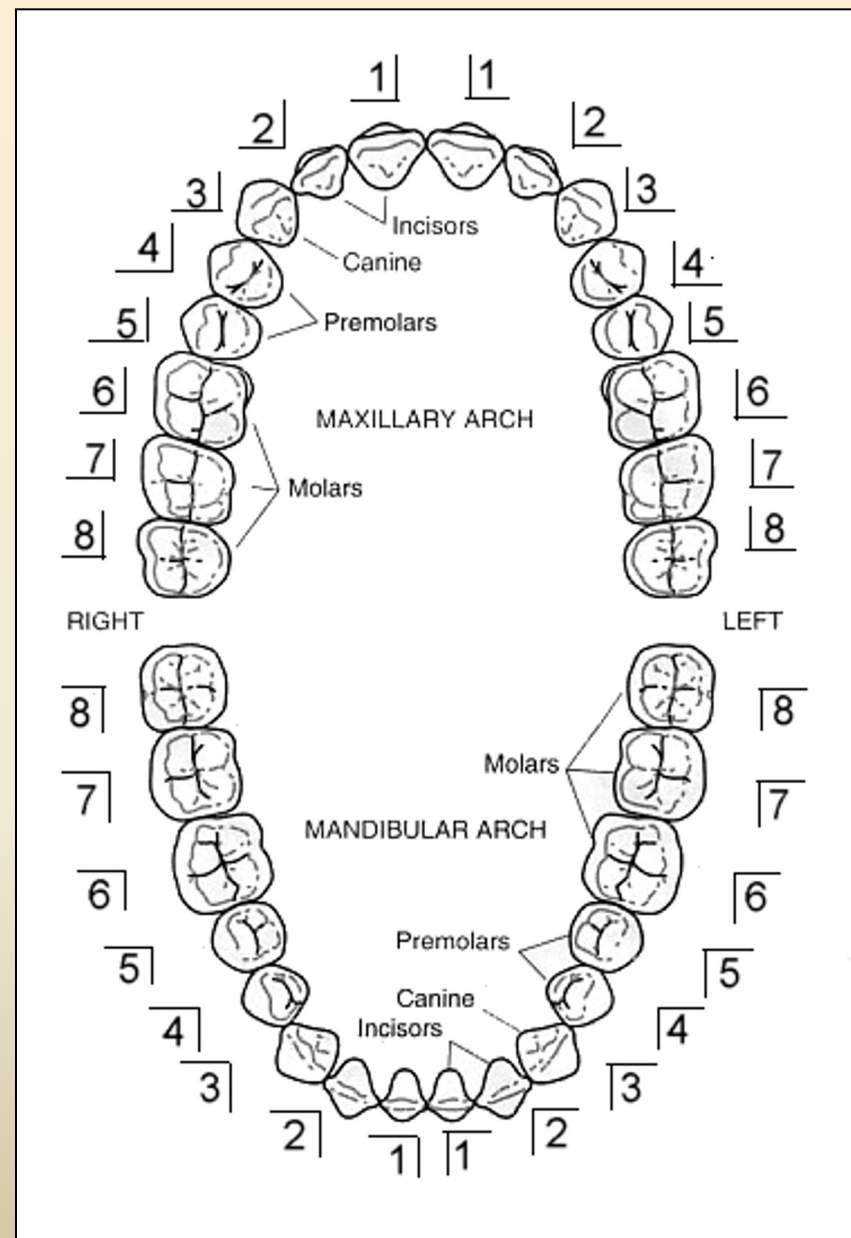
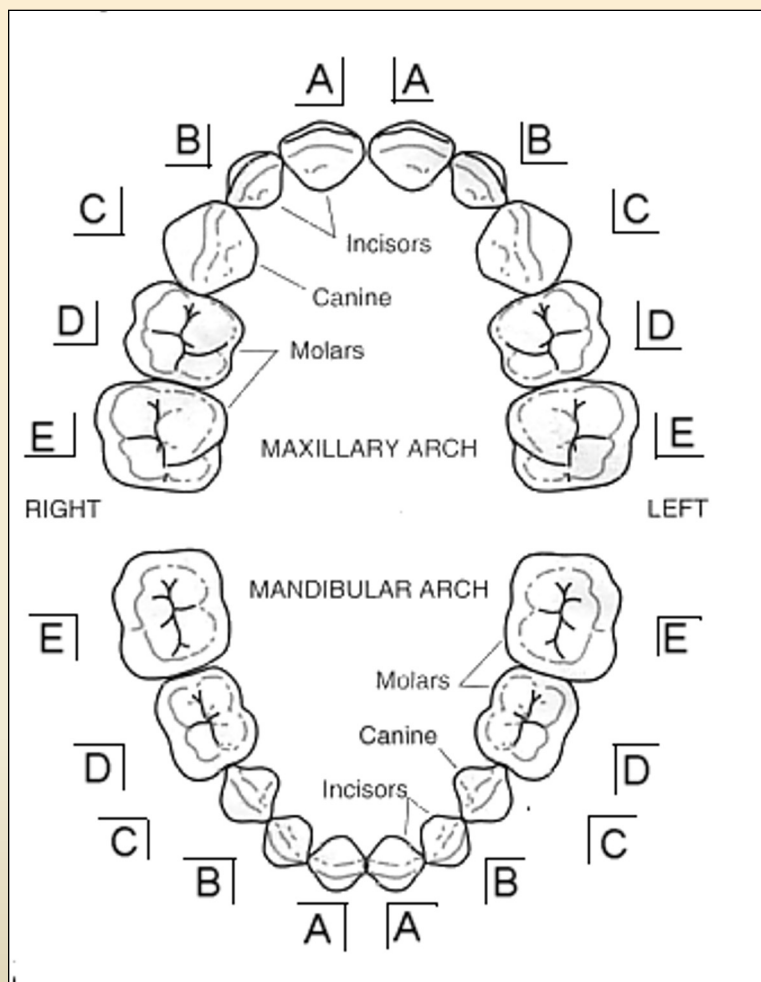
E D C B A

A B C D E

Lower right

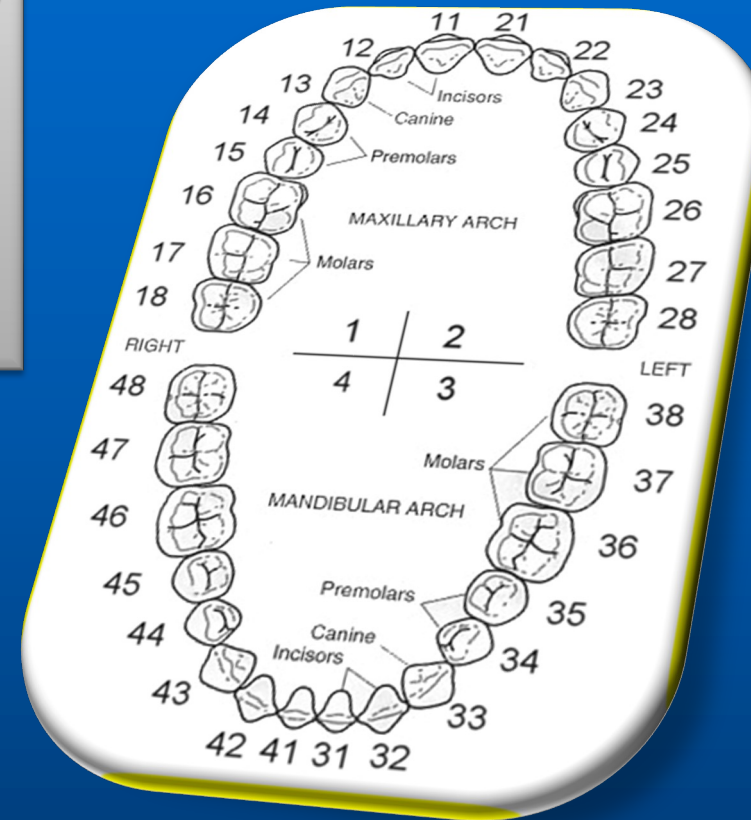
Lower left

Palmer Notation System



2-The International Numbering System

**"FDI" Federation Dentaire
International**
(the two digit system)



FDI notation system

The teeth are designated by using two-digits:

- a. The **first digit** of the code is located at the left side of the number and indicates the **quadrant**:

In permanent dentition

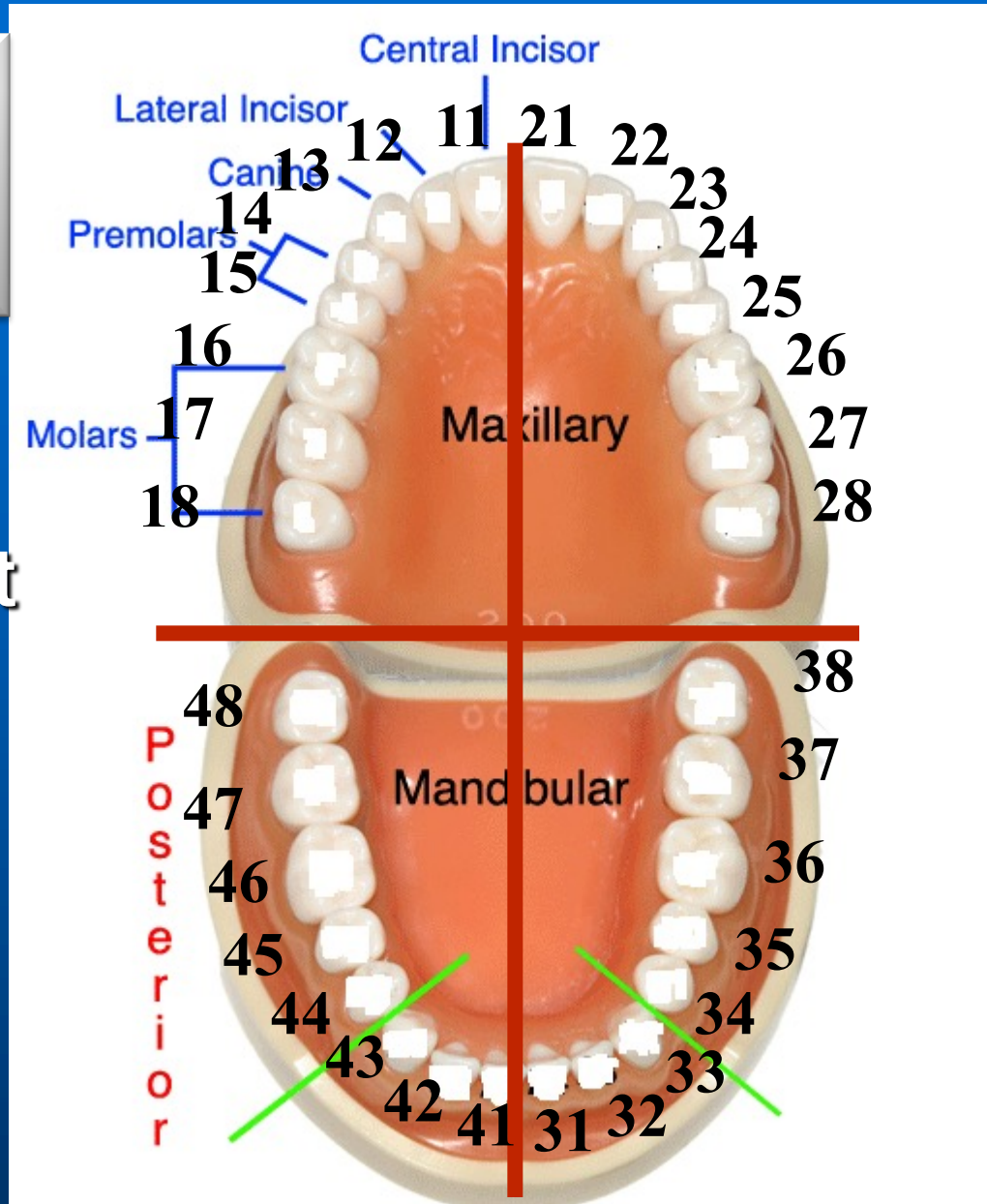
U.R.	1	2	U.L.
L.R.	4	3	L.L.

In deciduous dentition

U.R.	5	6	U.L.
L.R.	8	7	L.L.

For permanent Teeth

First Digit = quadrant



b- The **second digit** is located at the right side of the number and indicates the **number of the tooth** in the quadrant.

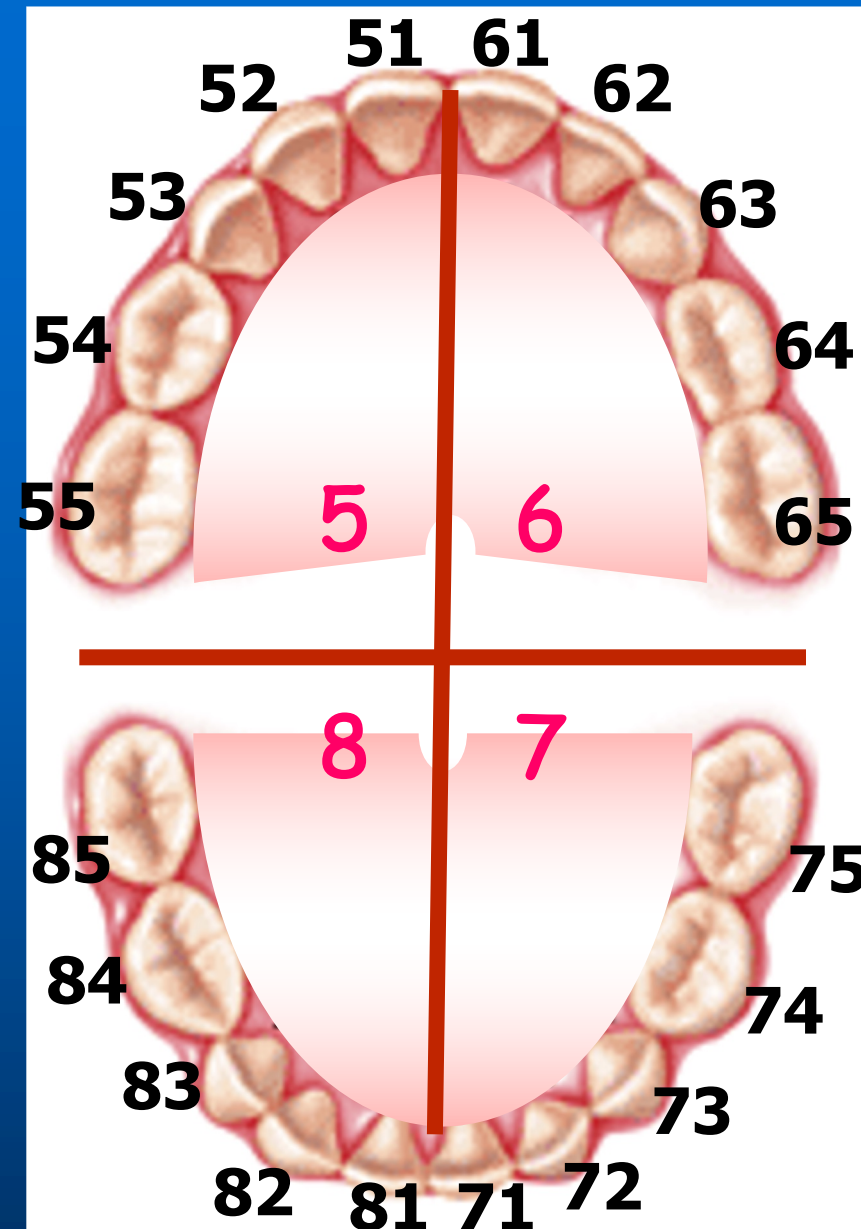
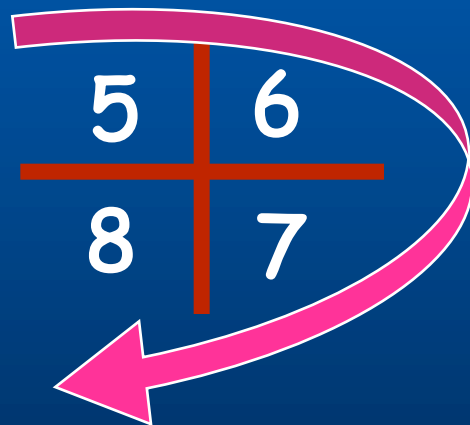
⚙️ The two digits should be pronounced separately.

Permanent teeth

18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38

For Primary Teeth

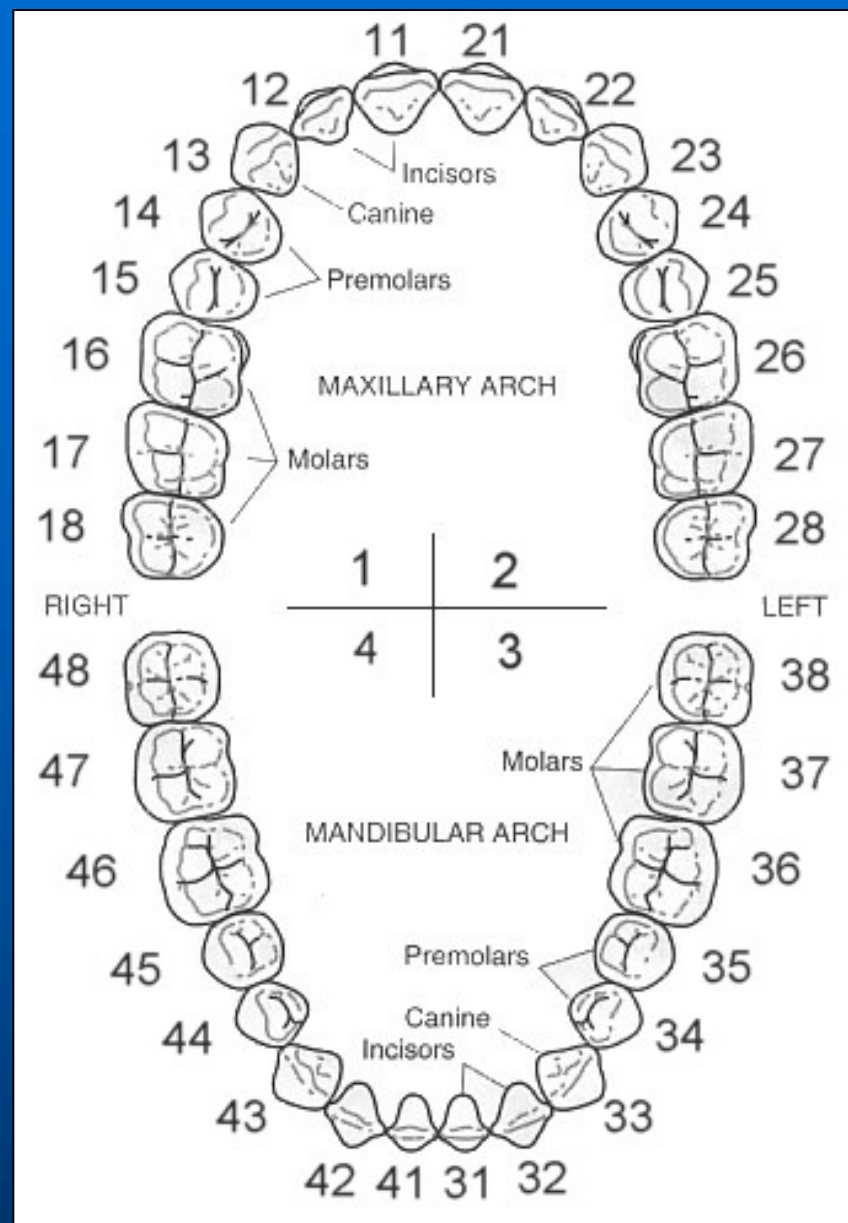
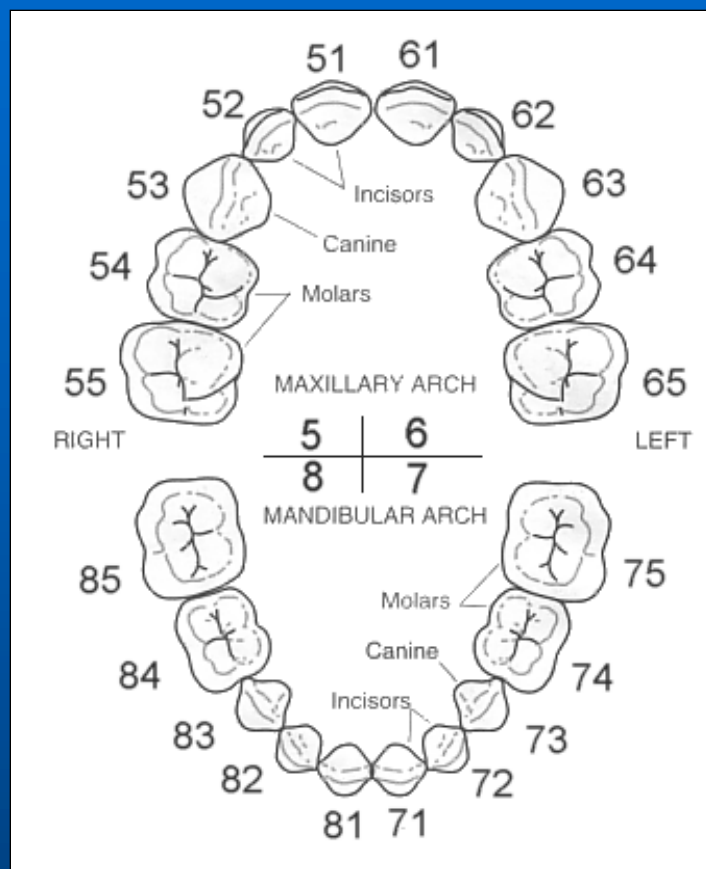
First Digit = quadrant



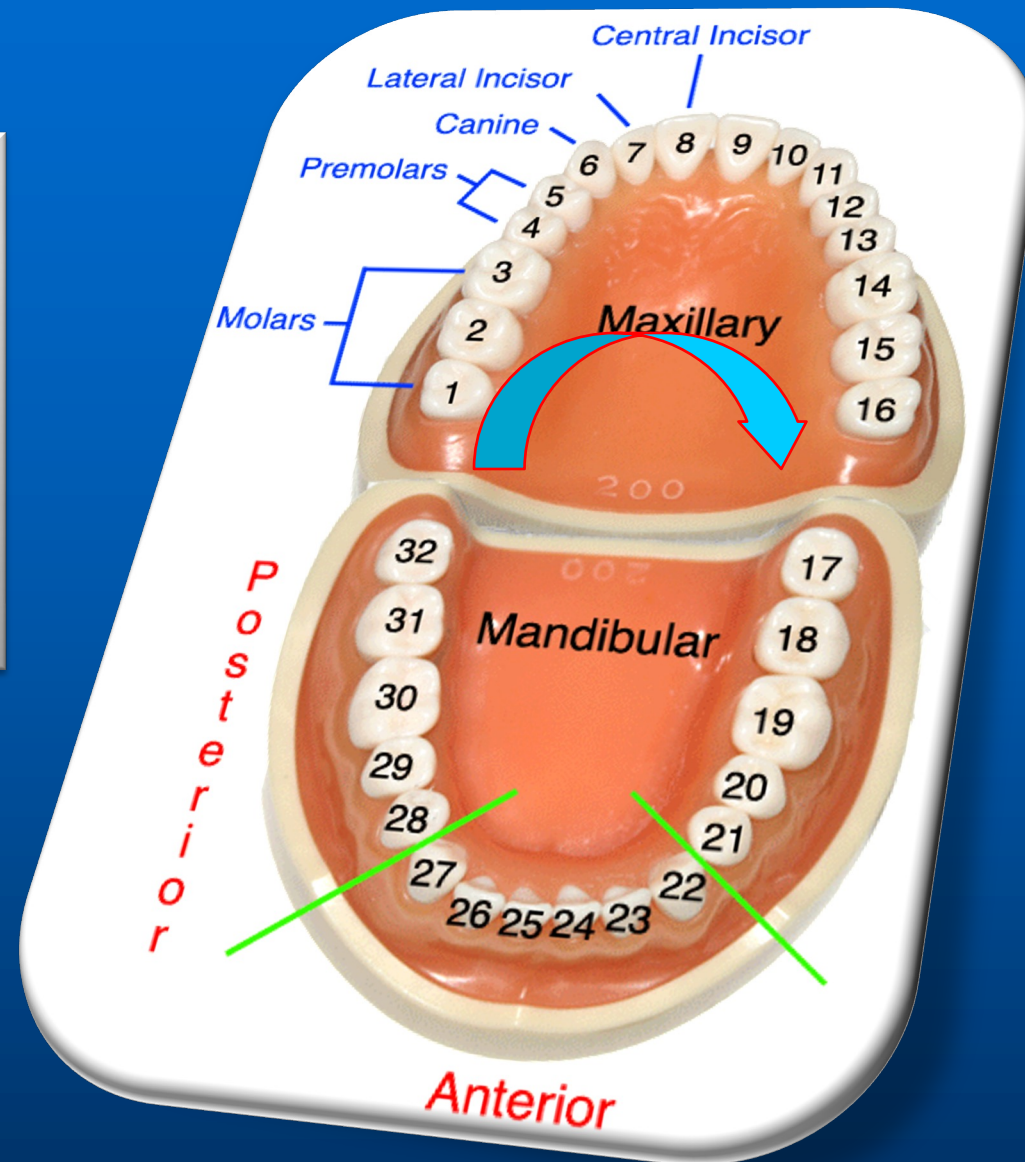
Second Digit = Tooth number in the quadrant

Primary Teeth

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



Universal system for Permanent Teeth



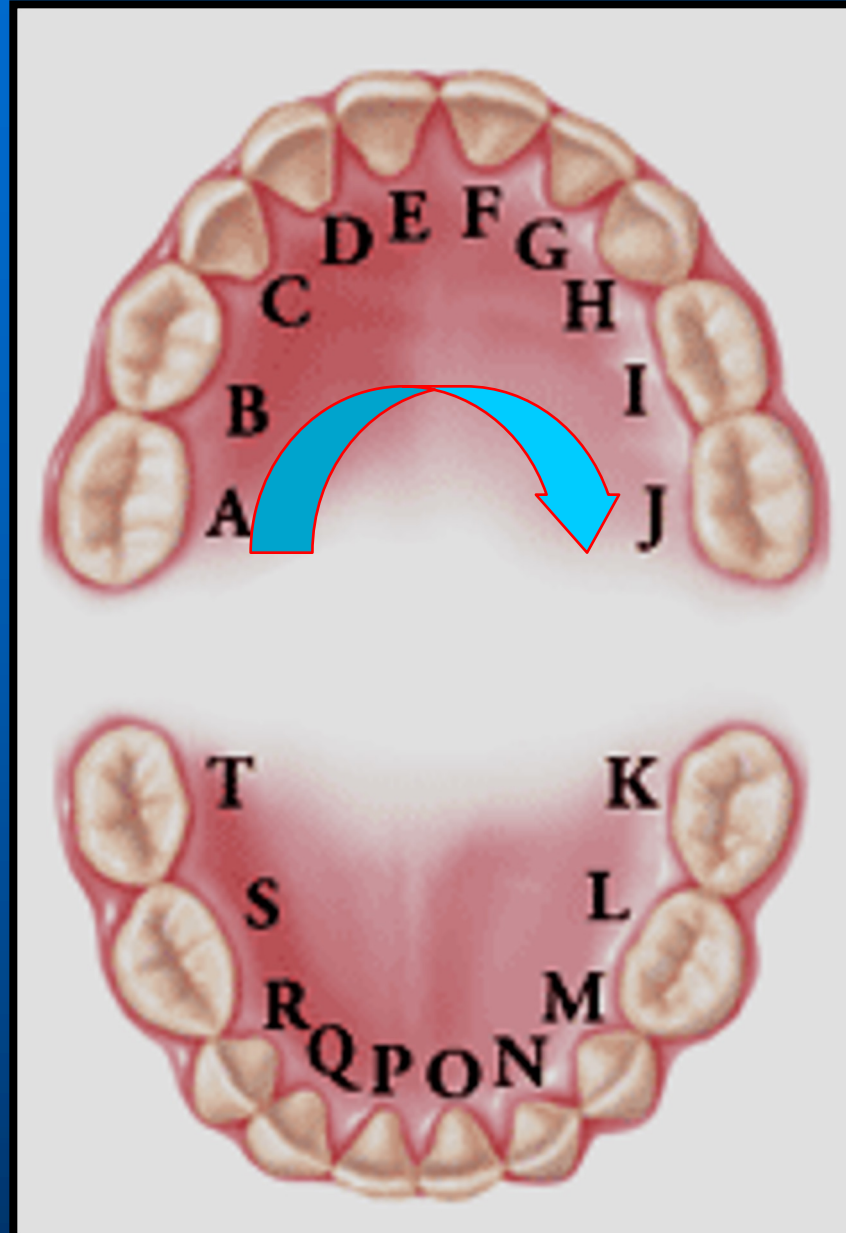
3) The universal numbering system (American numbering system).

- ❖ In the universal system for the permanent dentition, the maxillary teeth are numbered from 1 to 16 beginning with the right third molar.
- ❖ Beginning with the mandibular third molar, the teeth are numbered 17 to 32.

Permanent teeth (1 – 32)

1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25		24	23	22	21	20	19	18	17

Universal System for Primary Teeth



Deciduous teeth (A - T)

- ❖ In the universal system for the deciduous dentition, the maxillary teeth are numbered from **A** to **J** beginning with the right second molar.
- ❖ Beginning with the mandibular second molar, the teeth are numbered **K** to **T**.

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



Thank you