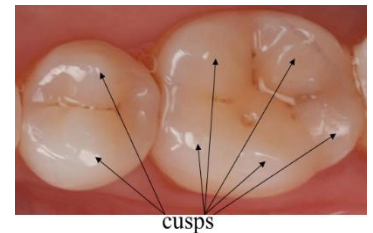


**Anatomical Landmarks**

All tooth landmarks must be known and studied well for each single tooth. Therefore, it is necessary to become familiar with additional terms, such as the following:

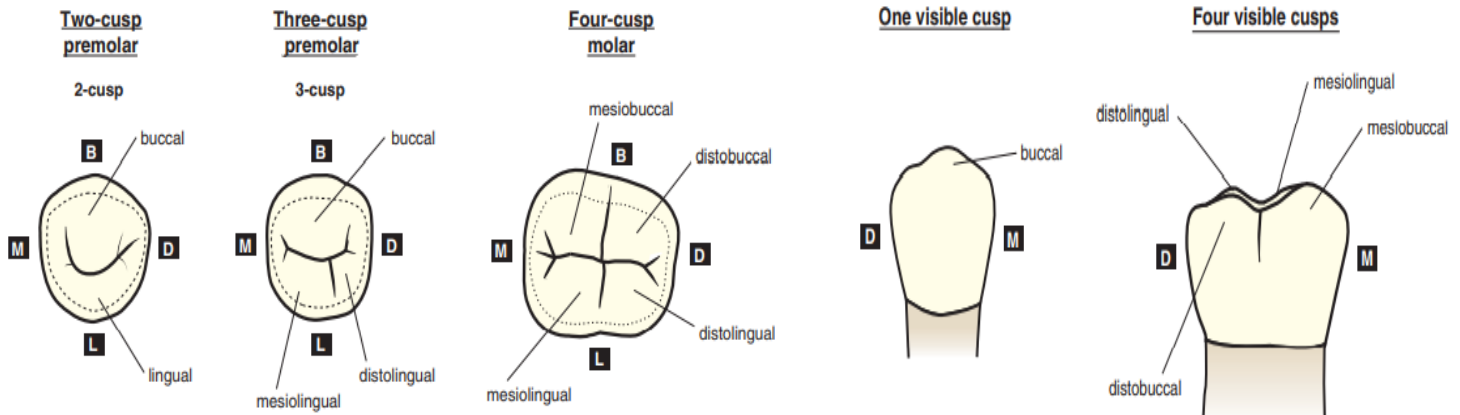
- 1. Cusp.
- 2. Tubercle
- 3. Cingulum.
- 4. Ridge.
- 5. Fossa
- 6. Sulcus.
- 7. Developmental groove.
- 8. Supplemental groove.
- 9. Pit.
- 10. Lobe.
- 11. Mamelon.



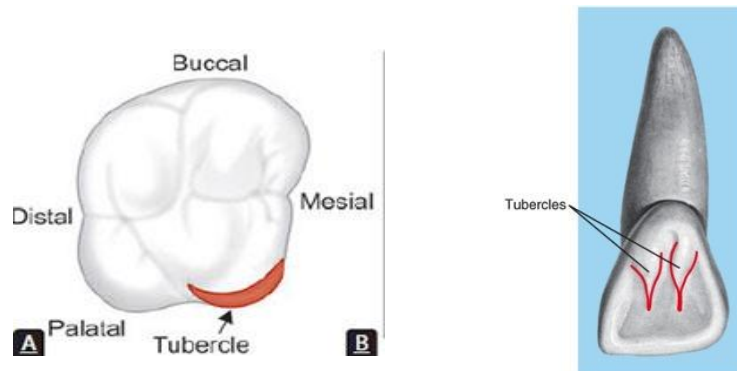
**1. A Cusp:** is an elevation or mound on the crown portion of a tooth making up a divisional part of the occlusal surface.

**VIEWED FROM OCCLUSAL**

**VIEWED FROM BUCCAL**

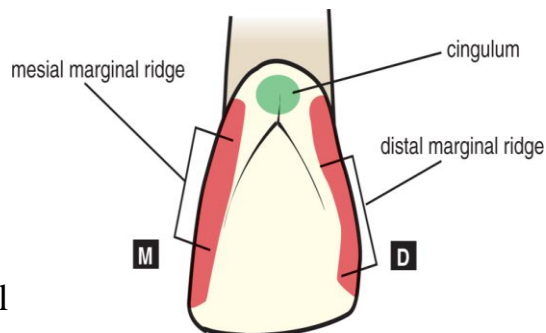


**2. A tubercle:** it is a smaller elevation on some portion of the crown produced by an extra formation of enamel. These are deviations from the typical form.



**3. A cingulum** (Latin word for “girdle”) is the lingual lobe of an anterior tooth. It makes up the bulk of the cervical third of the lingual surface. Its convexity mesiodistally resembles a girdle encircling the lingual surface at the cervical third.

**4. A ridge:** is any linear elevation on the surface of a tooth and is named according to its location (e.g., buccal ridge, incisal ridge, marginal ridge).

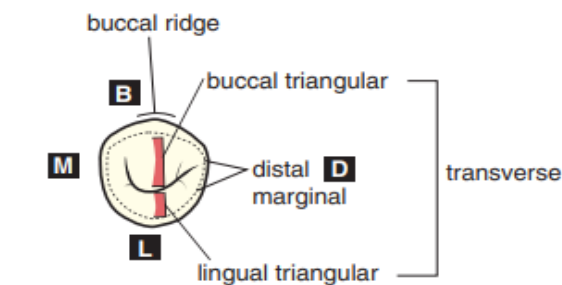


*a. Marginal ridges:* are those rounded borders of the enamel that form the mesial and distal margins of the occlusal surfaces of premolars and molars, and the mesial and distal margins of the lingual surfaces of the incisors and canines.

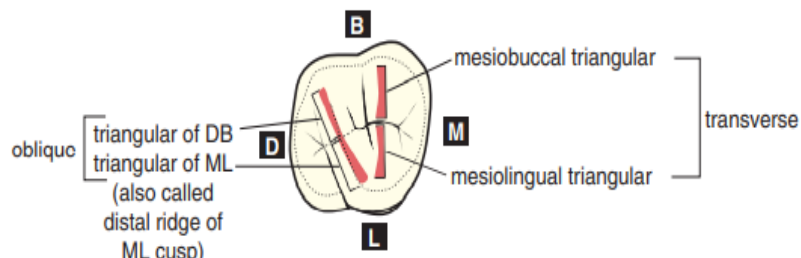
*b. Triangular ridges:* are descend from the tips of the cusps of molars and premolars toward the central part of the occlusal surfaces. They are so named because the slopes of each side of the ridge are inclined to resemble two sides of a triangle. They are named after the cusps to which they belong, for example, the triangular ridge of the buccal cusp of the maxillary first premolar.

*c. A transverse ridge:* is the union of two triangular ridges crossing transversely the surface of a posterior tooth.

*d. The oblique ridge:* is a ridge crossing obliquely the occlusal surfaces of maxillary molars and formed by the union of the triangular ridge of the distobuccal cusp and the distal cusp ridge of the mesiolingual cusp.



**Premolar, two cusp type**



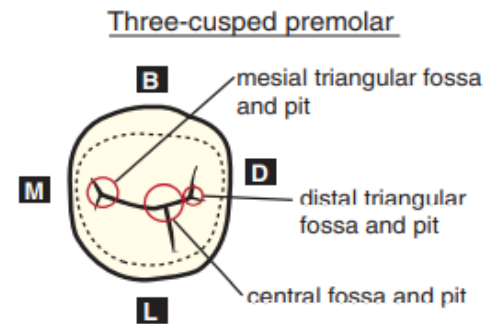
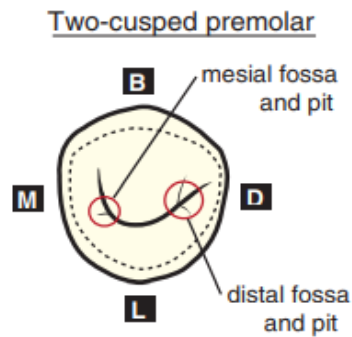
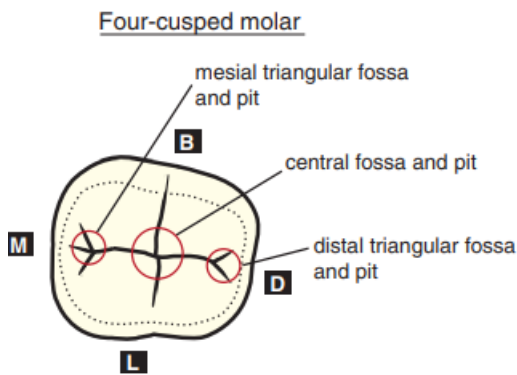
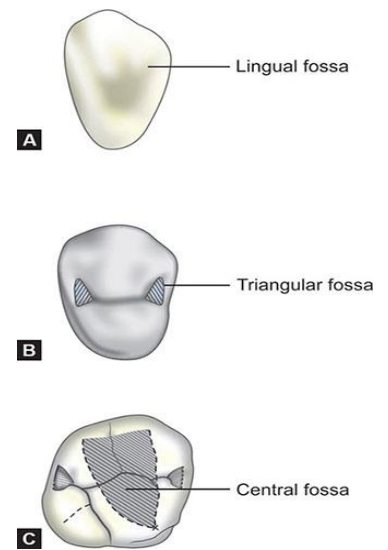
**Maxillary molar**

**5. A fossa:** is an irregular depression or concavity.

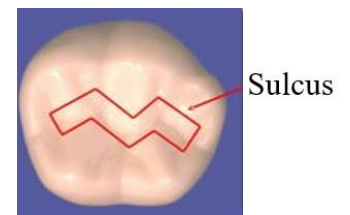
a. *Lingual fossae:* are on the lingual surface of incisors.

b. *Central fossae:* are on the occlusal surface of molars. They are formed by the convergence of ridges terminating at a central point in the bottom of the depression where there is a junction of grooves.

c. *Triangular fossae:* are found on molars and premolars on the occlusal surfaces mesial or distal to marginal ridges. They are sometimes found on the lingual surfaces of maxillary incisors at the edge of the lingual fossae where the marginal ridges and the cingulum meet.

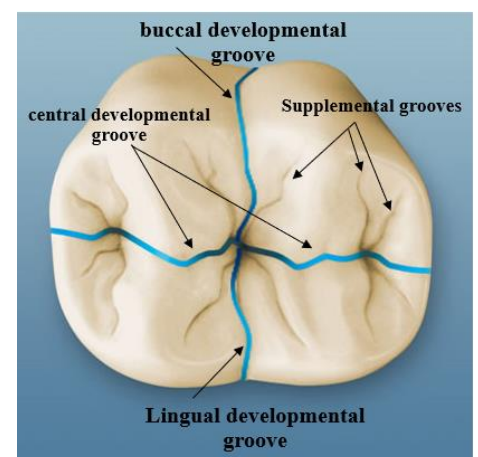


**5. A sulcus:** is a long depression or valley in the surface of a tooth between ridges and cusps, the inclines of which meet at an angle. It has a developmental groove at the junction of its inclines.

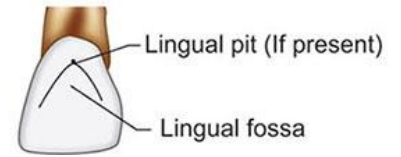
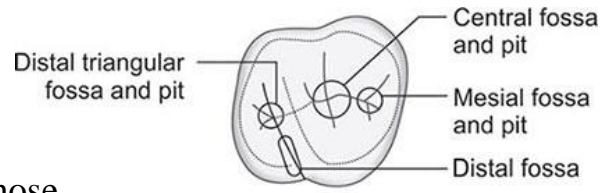


**6. A developmental groove:** is a shallow groove or line between the primary parts of the crown or root.

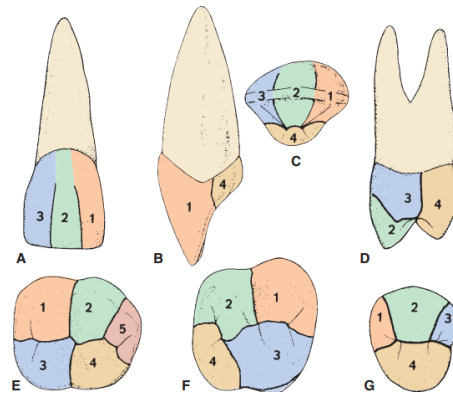
**7. A supplemental groove:** less distinct, is also a shallow linear depression on the surface of a tooth, but it is supplemental to a developmental groove and does not mark the junction of primary parts.



**8. Pits:** are small pinpoint depressions located at the junction of developmental grooves or at terminals of those grooves. For instance, central pit is a term used to describe a landmark in the central fossa of molars where developmental grooves Join.



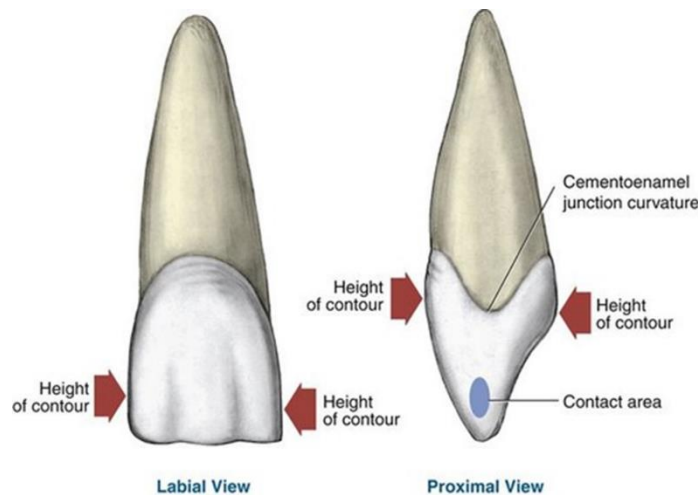
**10. A lobe:** is one of the primary sections of formation in the development of the crown. Cusps and mamelons are representative of lobe.



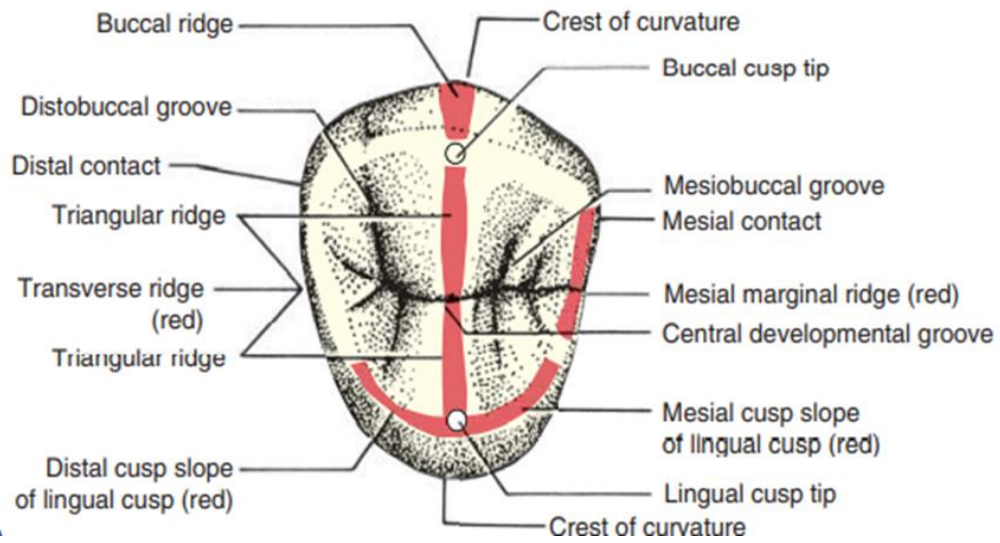
**11. A mamelon:** is any one of the three rounded protuberances found on the incisal ridges of newly erupted incisor teeth.

**Height of contour (crest of curvature):**

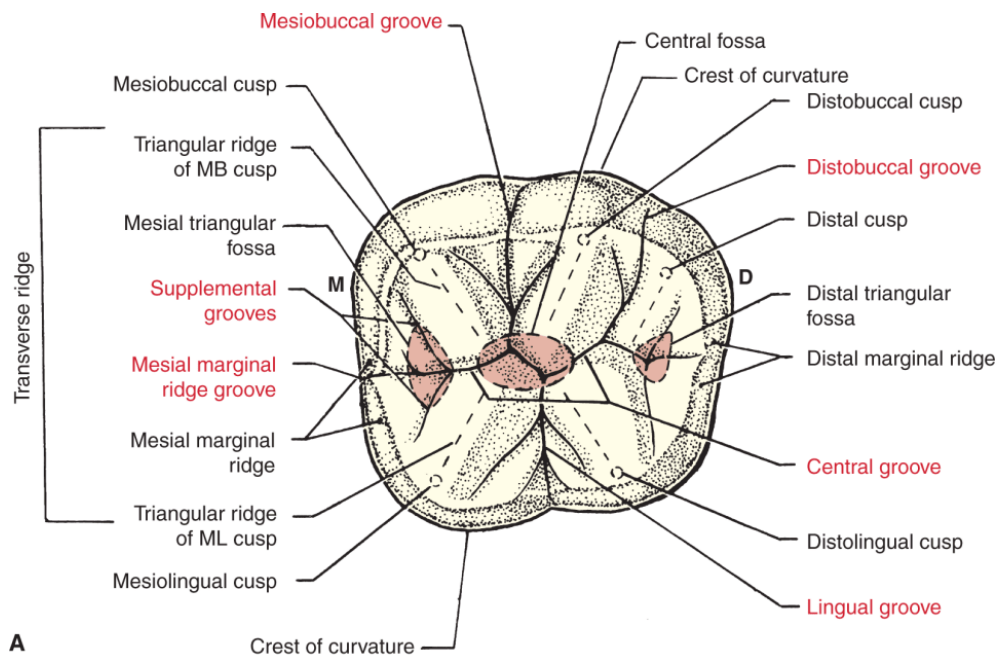
Is an imaginary line encircling the tooth at its greatest bulge or diameter.



Most of above-mentioned landmarks are shown and illustrated in the following figures of maxillary first premolar and mandibular first molar:



Permanent maxillary first premolar



Permanent mandibular first molar