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Dental Anatomy

Dental Anatomy Trends

This worksheet will help you notice patterns by drawing comparisons between teeth.

1. Fill out the root depressions for each of the teeth below. Indicate the convexity of the root if it applies.

	Mesial	Distal
Max CI		
Max LI		
Mand CI		
Mand LI		
Max Canine		
Mand Canine		
Max PM1		
Max PM2		
Mand PM1		
Mand PM2		

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2. Indicate the comparisons between the mesial marginal ridge and the distal marginal ridge for each of the following.

	MMR vs. DMR
Max CI	
Max LI	
Mand CI	
Mand LI	
Max Canine	
Mand Canine	
Max PM1	
Max PM2	
Mand PM1	
Mand PM2	
Max M1	
Max M2	
Mand M1	
Mand M2	

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3. Indicate whether the mesiodistal dimension or the facial-lingual dimension is larger for each of the following.

	MD vs. FL
Max CI	
Max LI	
Mand CI	
Mand LI	
Max Canine	
Mand Canine	
Max PM1	
Max PM2	
Mand PM1	
Mand PM2	
Max M1	
Max M2	
Mand M1	
Mand M2	

4. Indicate the position of the facial cusp relative to the root axis line from the facial view for each of the following.

Max Canine	
Mand Canine	
Max PM1	
Max PM2	
Mand PM1	
Mand PM2	

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5. Indicate whether the mesial cutting arm is larger or smaller than the distal cutting arm for each of the following.

Max Canine	
Mand Canine	
Max PM1	
Max PM2	
Mand PM1	
Mand PM2	

6. What is the incisal outline geometry for each of the following?

Max CI	
Max LI	
Mand CI	
Mand LI	
Max Canine	
Mand Canine	

7. What are the occlusal outlines and occlusal table geometries for each of the following?

	Occlusal Outline	Occlusal Table
Max PM1		
Max PM2		
Mand PM1		
Mand PM2		

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8. What is the occlusal outline geometry for each of the following?

Max M1	
Max M2	
Max M3	
Mand M1	
Mand M2	
Mand M3	

9. What is the proximal geometry for each of the following?

Max PM1	
Max PM2	
Mand PM1	
Mand PM2	
Max M1	
Max M2	
Max M3	
Mand M1	
Mand M2	
Mand M3	

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10. Indicate the position of the occlusal table in relation to the root from the proximal view for each of the following.

Max PM1	
Max PM2	
Mand PM1	
Mand PM2	
Max M1	
Max M2	

11. What are the contact areas for each of the following when viewed from the facial aspect?

	Mesial	Distal
Max CI		
Max LI		
Mand CI		
Mand LI		
Max Canine		
Mand Canine		
Max PM1		
Max PM2		
Mand PM1		
Mand PM2		
Max M1/M2		
Mand M1/M2		
Max M3		
Mand M3		

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12. Indicate the position of the cingulum from the lingual view for each of the following.

Max CI	
Max LI	
Mand CI	
Mand LI	
Max Canine	
Mand Canine	

13. Indicate the position of the lingual cusp from the lingual view for each of the following.

Max PM1	
Max PM2	
Mand PM1	
Mand PM2	

14. Indicate the locations of the cusps in relation to the root from the proximal view for each of the following.

	Facial cusp	Lingual cusp
Max PM1		
Max PM2		
Mand PM1		
Mand PM2		

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15. Indicate the position of the facial cusp in the facial-lingual dimension from the occlusal view.

	Facial cusp
Max PM1	
Max PM2	
Mand PM1	
Mand PM2	

16. Indicate the grooves that you would see on the occlusal surface for each of the following.

Max PM1	
Max PM2	
Mand PM1	
Mand PM2	
Max M1	
Max M2	
Mand M1	
Mand M2	

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ANSWER KEY

1. Fill out the root depressions for each of the teeth below. Indicate the convexity of the root if it applies.

	Mesial	Distal
Max CI	Flat, depression	Convex, no depression
Max LI	Flat, depression	Flat, no depression
Mand CI	Convex, depression	Flat, more depression
Mand LI	Convex, depression	Flat, more depression
Max Canine	Depression	More depression
Mand Canine	Depression	More depression
Max PM1	More depression	Depression
Max PM2	Depression	More depression
Mand PM1	Depression (uncommon)	Depression (often)
Mand PM2	Depression (uncommon)	Depression (often)

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2. Indicate the comparisons between the mesial marginal ridge and the distal marginal ridge for each of the following.

	MMR vs. DMR
Max CI	MMR > DMR
Max LI	MMR > DMR
Mand CI	MMR = DMR
Mand LI	MMR > DMR
Max Canine	MMR > DMR (length) DMR > MMR (elevation)
Mand Canine	MMR > DMR (length) DMR > MMR (elevation)
Max PM1	DMR > MMR (length) MMR > DMR (elevation)
Max PM2	DMR ~ MMR (length) MMR > DMR (elevation)
Mand PM1	DMR > MMR (elevation)
Mand PM2	MMR > DMR (elevation)
Max M1	MMR > DMR
Max M2	MMR ~ DMR
Mand M1	MMR 2x> DMR
Mand M2	MMR ~ DMR

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3. Indicate whether the mesiodistal dimension or the facial-lingual dimension is larger for each of the following.

	MD vs. FL
Max CI	MD > FL
Max LI	MD ≥ FL
Mand CI	FL > MD
Mand LI	FL > MD
Max Canine	FL > MD
Mand Canine	FL > MD
Max PM1	FL > MD
Max PM2	FL > MD
Mand PM1	FL > MD
Mand PM2	FL > MD
Max M1	FL > MD
Max M2	FL > MD
Mand M1	MD > FL
Mand M2	MD > FL

4. Indicate the position of the facial cusp relative to the root axis line from the facial view for each of the following.

Max Canine	In line
Mand Canine	In line
Max PM1	Distal
Max PM2	Mesial
Mand PM1	Mesial
Mand PM2	Mesial

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5. Indicate whether the mesial cutting arm is larger or smaller than the distal cutting arm for each of the following.

Max Canine	D > M
Mand Canine	D > M
Max PM1	M > D
Max PM2	D > M
Mand PM1	D > M
Mand PM2	D > M

6. What is the incisal outline geometry for each of the following?

Max CI	triangle
Max LI	round
Mand CI	diamond
Mand LI	diamond
Max Canine	diamond
Mand Canine	diamond

7. What are the occlusal outlines and occlusal table geometries for each of the following?

	Occlusal Outline	Occlusal Table
Max PM1	hexagonal	trapezoidal
Max PM2	oval	trapezoidal/rectangular
Mand PM1	diamond	triangle
Mand PM2	Oval or square	Oval or square

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8. What is the occlusal outline geometry for each of the following?

Max M1	rhomboid
Max M2	4 cusp: square/twist rhomboid 3 cusp: heart
Max M3	heart
Mand M1	pentagonal
Mand M2	rectangular
Mand M3	ovoid

9. What is the proximal geometry for each of the following?

Max PM1	Trapezoid
Max PM2	Trapezoid
Mand PM1	Rhomboid
Mand PM2	Rhomboid
Max M1	Trapezoid
Max M2	Trapezoid
Max M3	Trapezoid
Mand M1	Rhomboid
Mand M2	Rhomboid
Mand M3	Trapezoid

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10. Indicate the position of the occlusal table in relation to the root from the proximal view for each of the following.

Max PM1	Centered over root
Max PM2	Centered over root
Mand PM1	Over root towards lingual
Mand PM2	Centered over root
Max M1	Centered over root
Max M2	Centered over root

11. What are the contact areas for each of the following when viewed from the facial aspect?

	Mesial	Distal
Max CI	Incisal	Junction
Max LI	Junction	Middle
Mand CI	Incisal	Incisal
Mand LI	Incisal	Incisal
Max Canine	Junction	Middle
Mand Canine	Incisal	Junction
Max PM1	Junction	Junction
Max PM2	Junction	Junction
Mand PM1	Junction	Junction
Mand PM2	Junction	Junction
Max M1/M2	Occlusal	Middle
Mand M1/M2	Junction	Middle
Max M3	Middle/Junction	
Mand M3	Junction	

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12. Indicate the position of the cingulum from the lingual view for each of the following.

Max CI	distal
Max LI	center
Mand CI	center
Mand LI	distal
Max Canine	center
Mand Canine	distal or center

13. Indicate the position of the lingual cusp from the lingual view for each of the following.

Max PM1	Mesial
Max PM2	Mesial
Mand PM1	Mesial
Mand PM2	Mesial

14. Indicate the locations of the cusps in relation to the root from the proximal view for each of the following.

	Facial cusp	Lingual cusp
Max PM1	Centered over root	Centered over root
Max PM2	Centered over root	Centered over root
Mand PM1	Centered	In line with root
Mand PM2	Not centered	In line with root

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15. Indicate the position of the facial cusp in the facial-lingual dimension from the occlusal view.

	Facial cusp
Max PM1	Over crown/root
Max PM2	Over crown/root
Mand PM1	Centered FL
Mand PM2	F cusp in facial 3rd

16. Indicate the grooves that you would see on the occlusal surface for each of the following.

Max PM1	Central groove; MMG
Max PM2	Central groove
Mand PM1	No central groove; ML groove
Mand PM2	(2) Central groove; H and U patterns (3) Central fossa, central pit; Y pattern
Max M1	Facial: from central pit to facial surface Central: from mesial pit to central pit Distal oblique- from distal oblique fossa to lingual groove Transverse groove of the oblique ridge- from central pit to distal oblique fossa Groove of the cusp of Carabelli- is only present when the cusp of Carabelli is significantly large
Max M2	4 cusp type: Facial: from central pit to facial surface Central: from mesial pit to central pit Distal oblique- from distal oblique fossa to lingual groove Transverse groove of the oblique ridge- from central pit to distal oblique fossa 3 cusp type: Facial groove: from central pit to facial surface Central groove: from mesial pit to central pit
Mand M1	MF groove= extend from central groove to between the MF and DF cusps DF groove= extend from central groove to the between DF and D cusps Central= zigzag line connecting the three fossae Lingual= extends from central fossa to between ML and DL cusps
Mand M2	Facial groove= separates MF and DF cusps Central groove= connects the three fossae Lingual= separates ML and DL cusps