

# **Endodontic Lab 724**

**Laboratory Session III**  
**January 20, 2022**

**Maxillary Premolar and  
Central Incisor Access Part II**



# Plan for the Day

8:00 - 8:15

Quiz

8:15 - 8:45

Lecture: Maxillary premolar  
access preparation

8:45 - 10:00

Lab maxillary premolar

10:00 - 10:30

Lecture: Maxillary central incisor  
access preparation

10:30 - 11:30

Lab maxillary central incisor

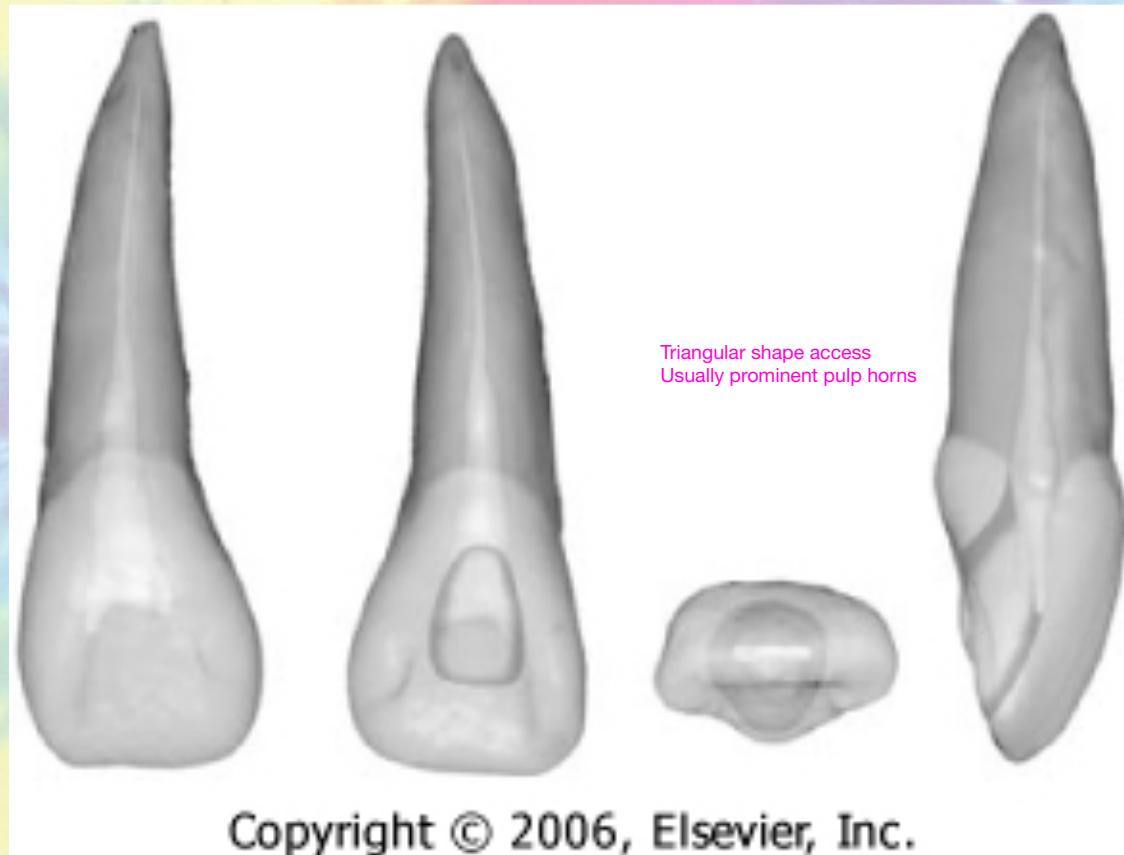
11:30 - 11:45

Review

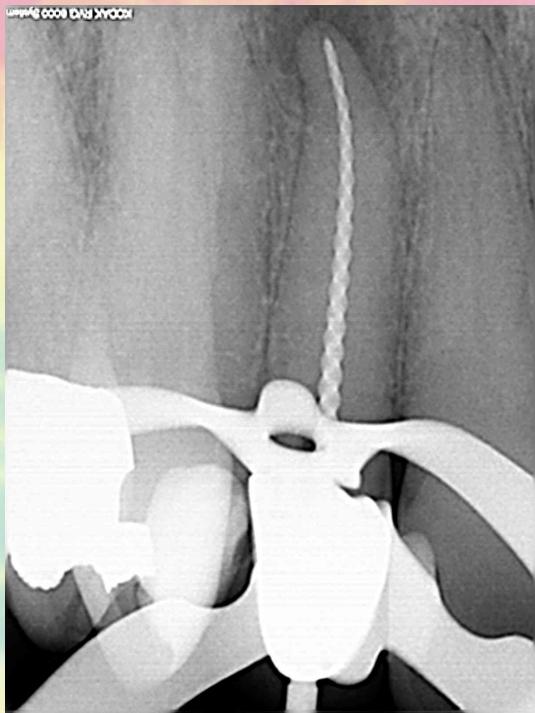
# Morphology of the Maxillary Central Incisor

- “Simplest”
  - One canal, minimal curvature
- Challenges
  - Crowns (can alter normal morphology)
  - Pulp chamber calcifications Pulp stones or completely calcified chambers
  - Root canal system calcifications

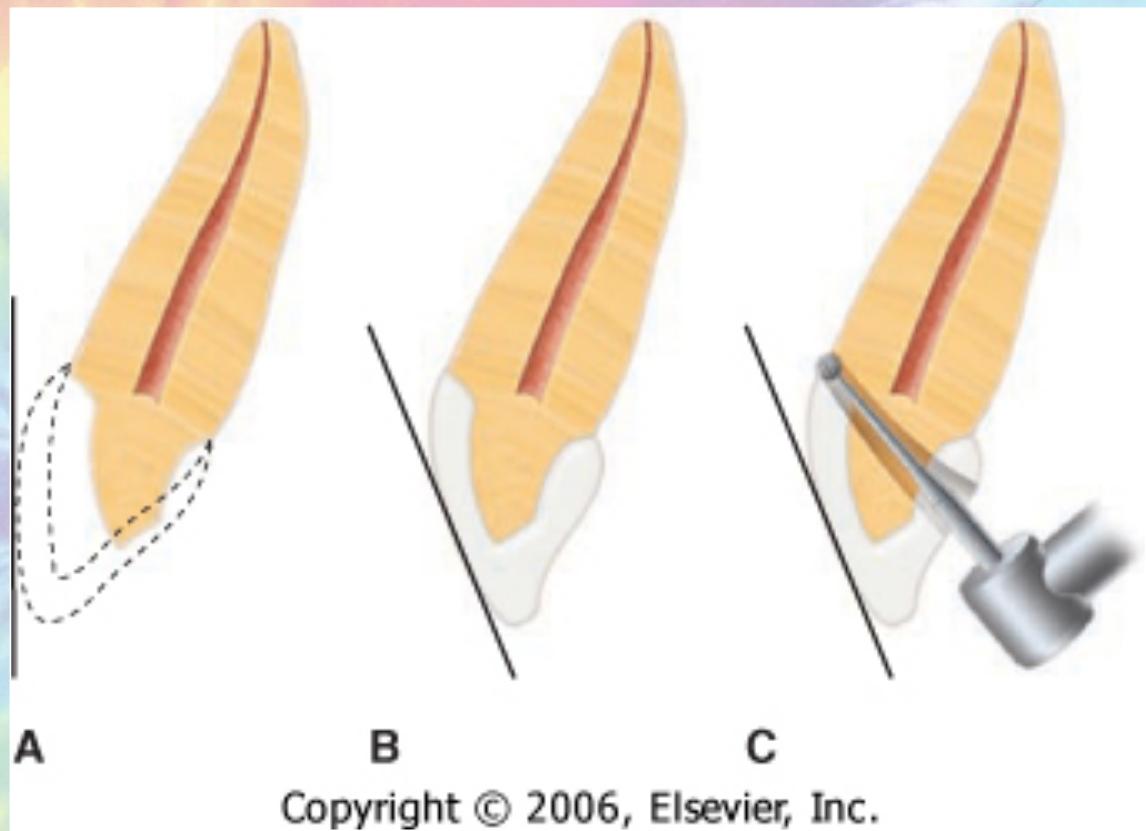
# Maxillary Central Incisor











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# Maxillary Incisor Access Form

- Triangular shape- mimics outline of lingual surface
- Divide lingual surface in thirds
- Initial entry in center of lingual surface with #2 or #4 regular shank high speed RB
- Perpendicular entrance, then redirect to the long axis





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Maxillary Central Incisor

# How? Visualize

- Morphology
- PAX (measure on image)
- Target – Center of the root at the CEJ
- Visualize
  - Centered – Tooth long axis
  - Target – Root canal orifice - CEJ

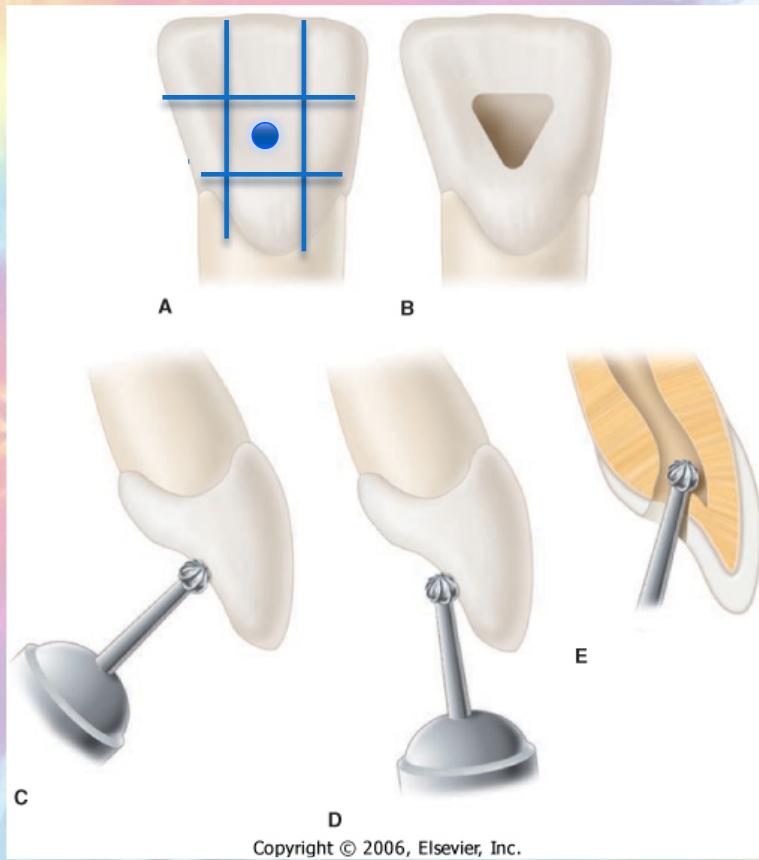
**MEASURE TWICE, CUT ONCE!!!**

# Access Preparation

- Divide the lingual surface into thirds
- Initial entry in mid lingual surface

# Access Preparation

- **MEASURE!!!**
- #2 or 4 reg length round bur perpendicular to lingual surface
- Triangular Outline Form
  - Apex at base of the middle 1/3
  - Reach up to pulp horns
- 2+ mm into dentin
- Rotate and penetrate (can change to surgical length)
  - Triangle apex, funnel shaped (wider coronally)
  - Target root canal orifice
  - Smooth and taper w #269 GK

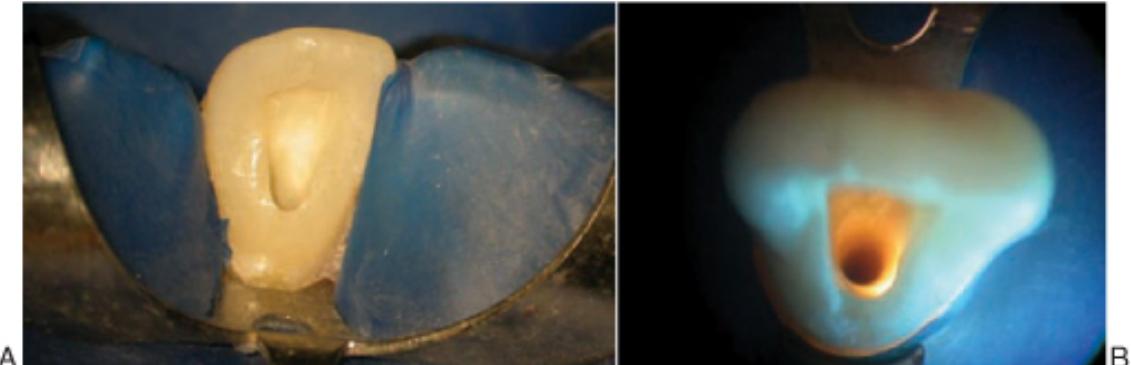


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Maxillary Central Incisor

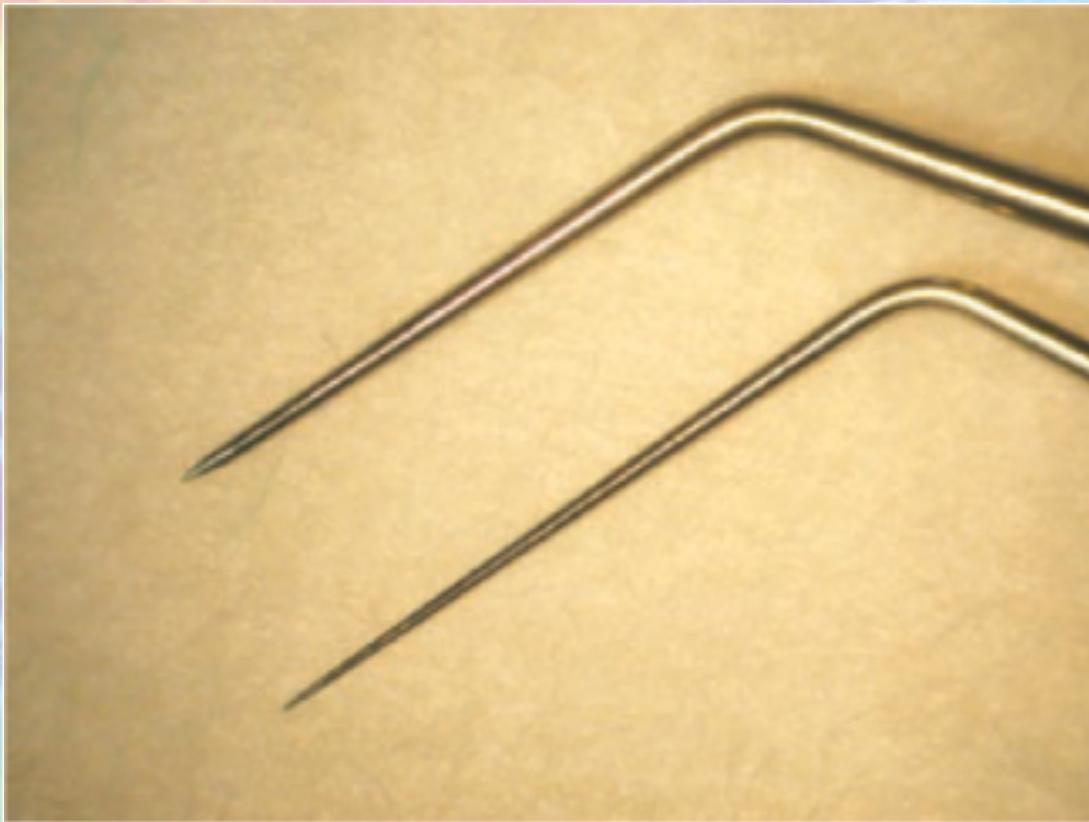


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Maxillary Lateral Incisor

# 2 Common Access Errors

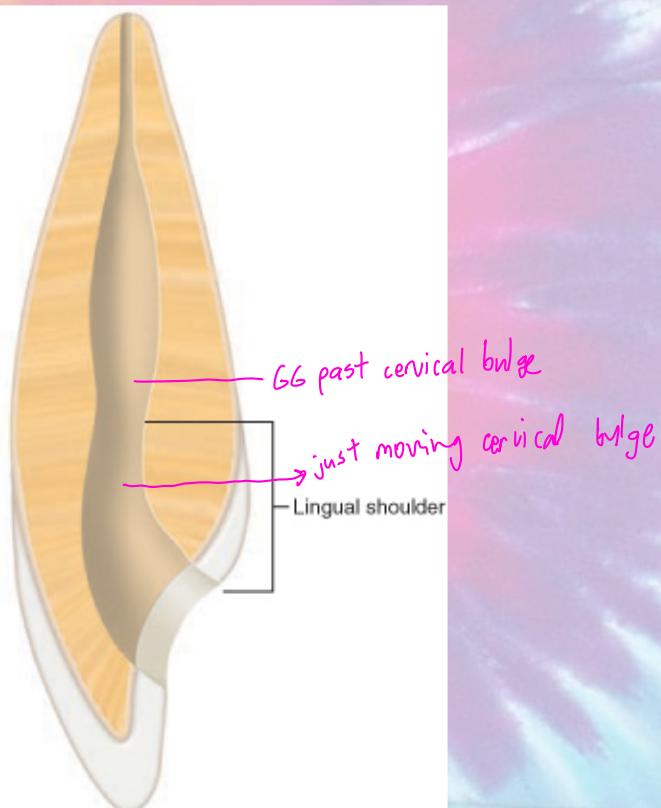
- Pulp horns
- Leaving the cervical bulge (aka- lingual shoulder) preventing SLA



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Check pulp horn - shepards hook  
Feels dif from ledge

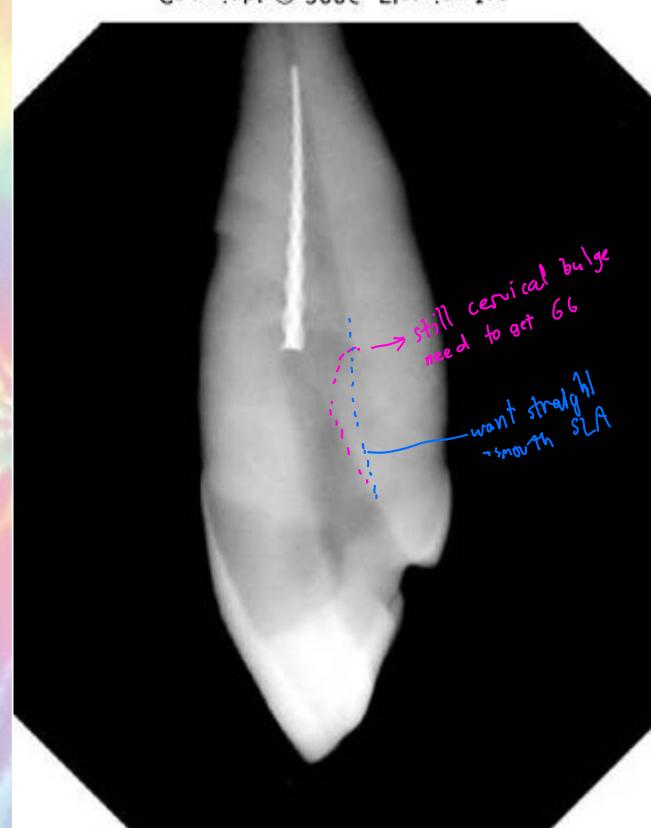


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**REMOVE GATES-GLIDDENS  
FROM THE HANDPIECE  
WHEN DONE!!!**



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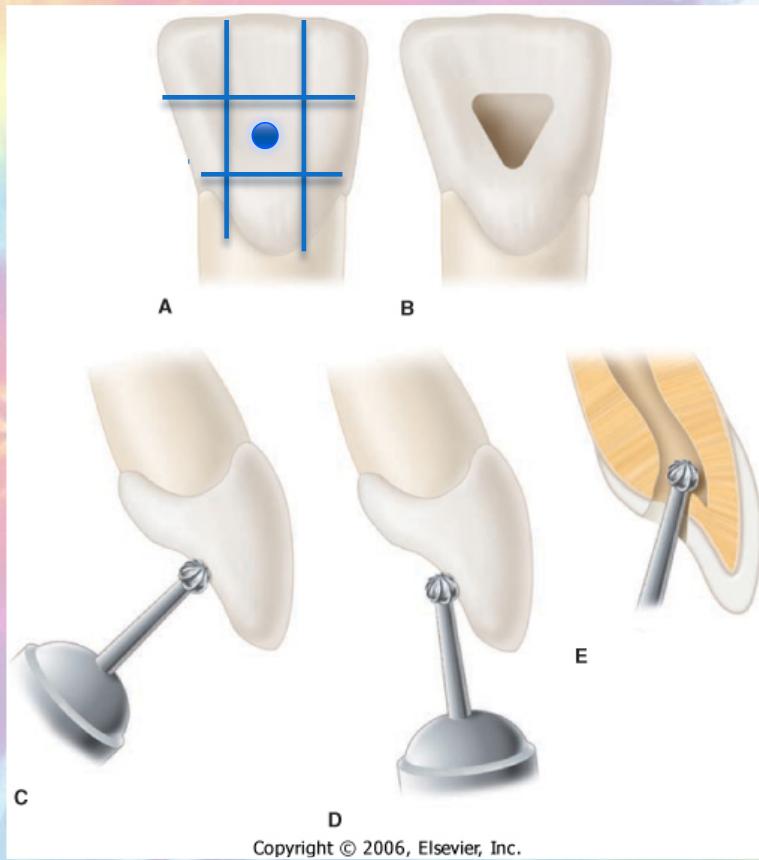


# Laboratory Session

- Section instructor demo
- Access cavity preparation
  - Real – T #8
  - 2-3 maxillary anterior teeth
- Instructor critique teeth
  - $\frac{1}{2}$  way access prep check
  - Evaluate each tooth on completion
- Student self assessment (page 18)

# Laboratory Session

- Ideal outline form
- Real – T Plastic Tooth #8
  - Divide tooth into 1/3's
  - Apex of triangle
- Visualize Target
  - Center –CEJ
  - Begin in middle of lingual surface, perpendicular 2-3 mm into dentin then re-align to long axis of tooth
  - Funnel shaped to orifice



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# Laboratory Session

- **MEASURE!!!**
- Initial access with #2 or #4 round bur to orifice
  - Start with regular length, switch to surgical length
  - Size depends on size of tooth and pulp chamber
- Identify orifice with endo explorer
- Remove pulp horns on pull stroke
- Smooth walls and create funnel shape with #269GK
- Initial K-file instrumentation (glide path file)
  - Short of apex- around 18 mm
  - ISO 10, 15, 20 K files
- 2-4 gates glidden to remove lingual shoulder and attain straight line access (SLA)

**REMOVE GATES-GLIDDENS  
FROM THE HANDPIECE  
WHEN DONE!!!**

# Anterior Access Review

## ○ Goal

- Gain access to the RCS, identify orifice
- Remove the pulp chamber roof
- Smooth,tapered preparation, SLA to RC coronal and middle third
- Different shapes for different teeth
- High Speed Round Bur (#2 or #4)
  - Initial – Short Shank
  - Deeper – Surgical Length

# Anterior Access Review

- Measure incisal edge to pulp chamber distance prior to taking bur to tooth!!
- #2 RB on lateral incisors
- Never use Gates-Gliddens before establishing a glide path
  - le path from coronal to apical 1/3
- Use reciprocal reaming to advance guide path file (watch winding motion with slight apical pressure. p 45)

# Anterior Access Review

- Gates-Glidden drill errors

- Gouge – ledge facial gingivally
- Step/Ledge Lingually
  - Make sure to get the #2 GG past the cervical bulge prior to brushing lingually
- Too deep
- Use guide path file prior to GG!!!!!!



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# Plan for the Day

- |              |   |
|--------------|---|
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| 8:45- 10:00  | Lab maxillary premolar                                |
| 10:00- 10:30 | Lecture: maxillary Central Incisor access preparation |
| 10:30- 11:30 | Lab maxillary central incisor                         |
| 11:30- 11:45 | Review  |

# Next Week

- Man Molars
  - Pathways pp 208 - 219
- Max Molars
  - Pathways pp 188 – 199
- Remember to save your teeth (plastic bag)
- Super Bowl Thursday