

## grading policy

- **Lab = 40% of course grade. Make it count!**
- **8 quizzes worth 20 pts. each, lowest quiz dropped**  
**--each question worth 2 pts = 1 pt for correct ID,**  
**1 pt for correct spelling/format (given correct ID)**

## grading policy

- **Lab = 40% of course grade. Make it count!**
- **8 quizzes worth 20 pts. each, lowest quiz dropped**
  - each question worth 2 pts = 1 pt for correct ID, 1 pt for correct spelling/format (given correct ID)**
  - each quiz will include one extra credit question, over the more challenging specimens**
  - extra credit only applies toward lab grade**
  - quizzes will be given at the beginning of labs**

## grading policy

- **Lab = 40% of course grade. Make it count!**
- **8 quizzes worth 20 pts. each, lowest quiz dropped**
  - each question worth 2 pts = 1 pt for correct ID, 1 pt for correct spelling/format (given correct ID)**
  - each quiz will include one extra credit question, over the more challenging specimens**
  - extra credit only applies toward lab grade**
  - quizzes will be given at the beginning of labs**
- **tip: beginning for lab 4, look at scientific names for upcoming labs in advance of the next week's lab**

## grading policy

- **Lab = 40% of course grade. Make it count!**
- **8 quizzes worth 20 pts. each, lowest quiz dropped**
  - each question worth 2 pts = 1 pt for correct ID, 1 pt for correct spelling/format (given correct ID)**
  - each quiz will include one extra credit question, over the more challenging specimens**
  - extra credit only applies toward lab grade**
  - quizzes will be given at the beginning of labs**
- **presentations will be posted on website 2-3 days after Wednesday's lab**

## nuts and bolts of scientific nomenclature

- **most orders within Class Mammalia end in “a”**  
**most families within Class Mammalia end in “idae”**  
**both orders and families are always capitalized**

## nuts and bolts of scientific nomenclature

- **most orders within Class Mammalia end in “a”  
most families within Class Mammalia end in “idae”  
both orders and families are always capitalized**
- **genus (capitalized) followed by species (not capitalized) constitutes the specific epithet or Latin binomial**

## nuts and bolts of scientific nomenclature

- most orders within Class Mammalia end in “a”  
most families within Class Mammalia end in “idae”  
both orders and families are always capitalized
- genus (capitalized) followed by species (not capitalized) constitutes the specific epithet or Latin binomial
- Latin binomial is written in italics or is underlined, but not both

# nuts and bolts of scientific nomenclature

- for example:

**Order: Carnivora**

**Family: Mephitidae**

**Genus: *Spilogale* or Spilogale**

**Specific epithet: *Spilogale gracilis***

**or Spilogale gracilis**

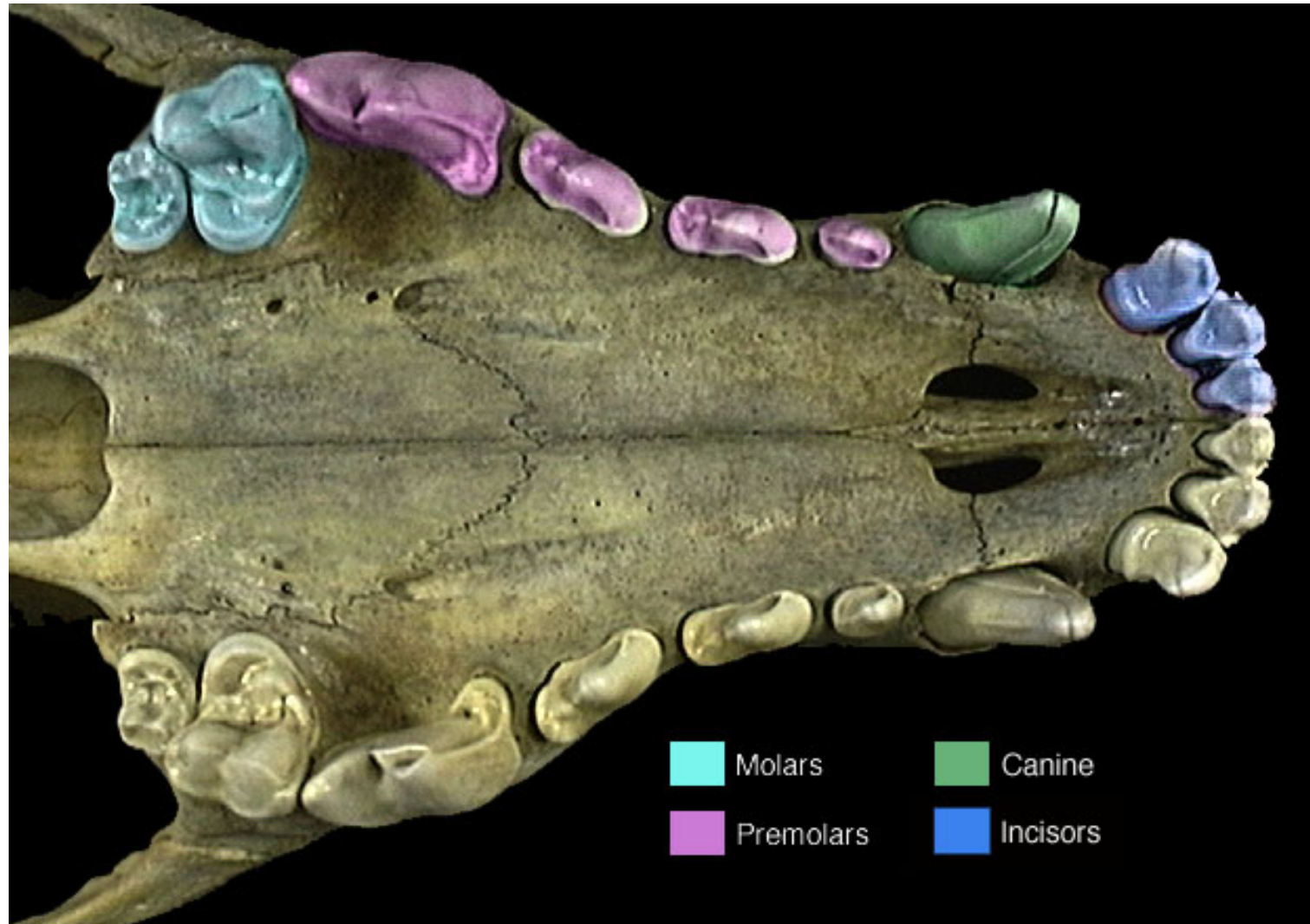




**all-purpose study guide:**  
**Animal Diversity Website at Univ. Michigan**

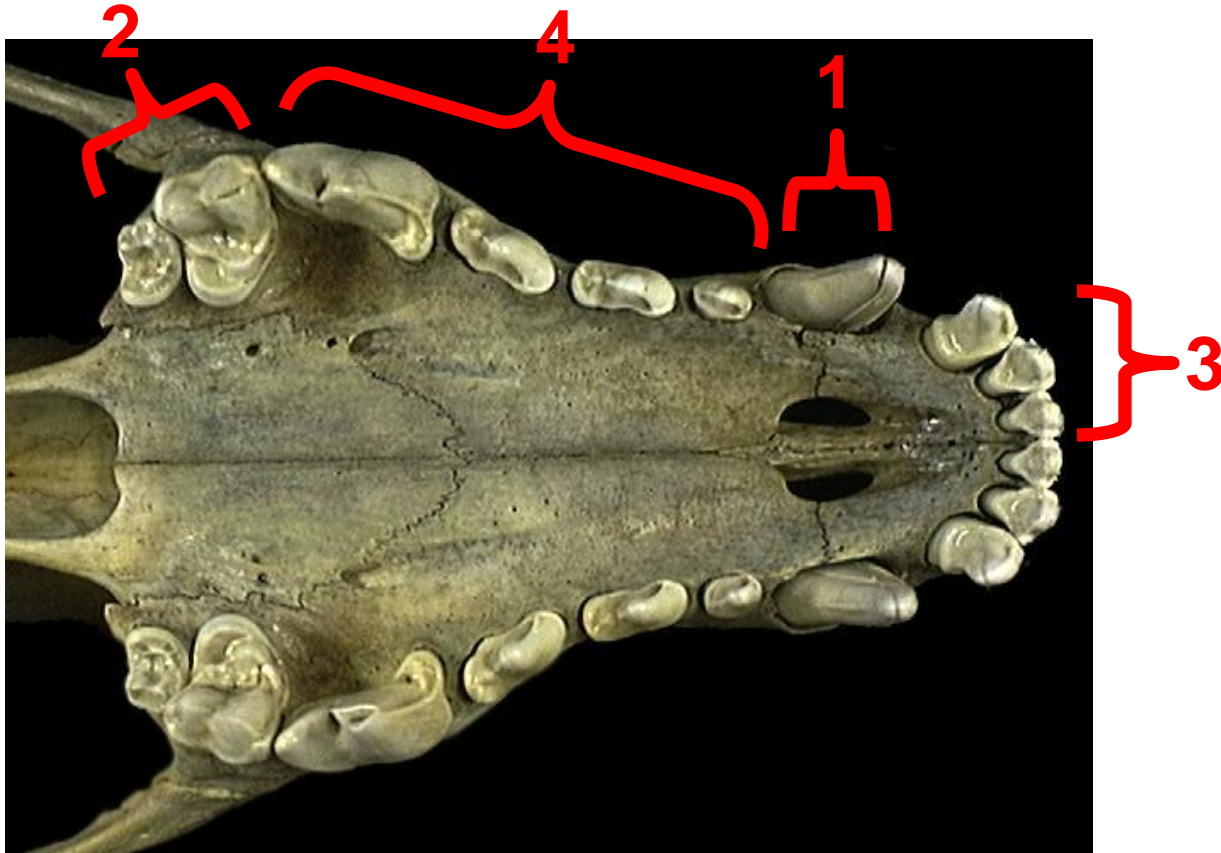
- <http://animaldiversity.ummz.umich.edu/site/index.html>
- Click on “mammals” tab
- <http://animaldiversity.ummz.umich.edu/site/accounts/specimens/Canidae.html>  
general site for skull structures, using canid skulls

# dental formulae: the bare bones



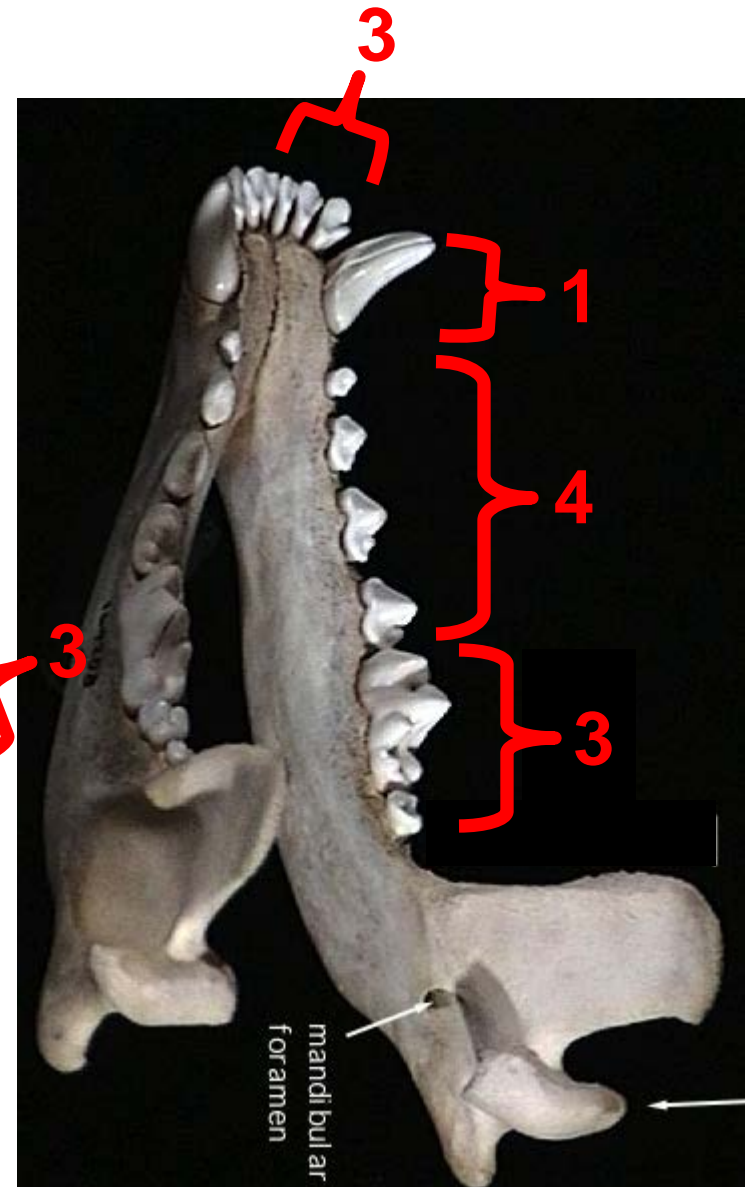
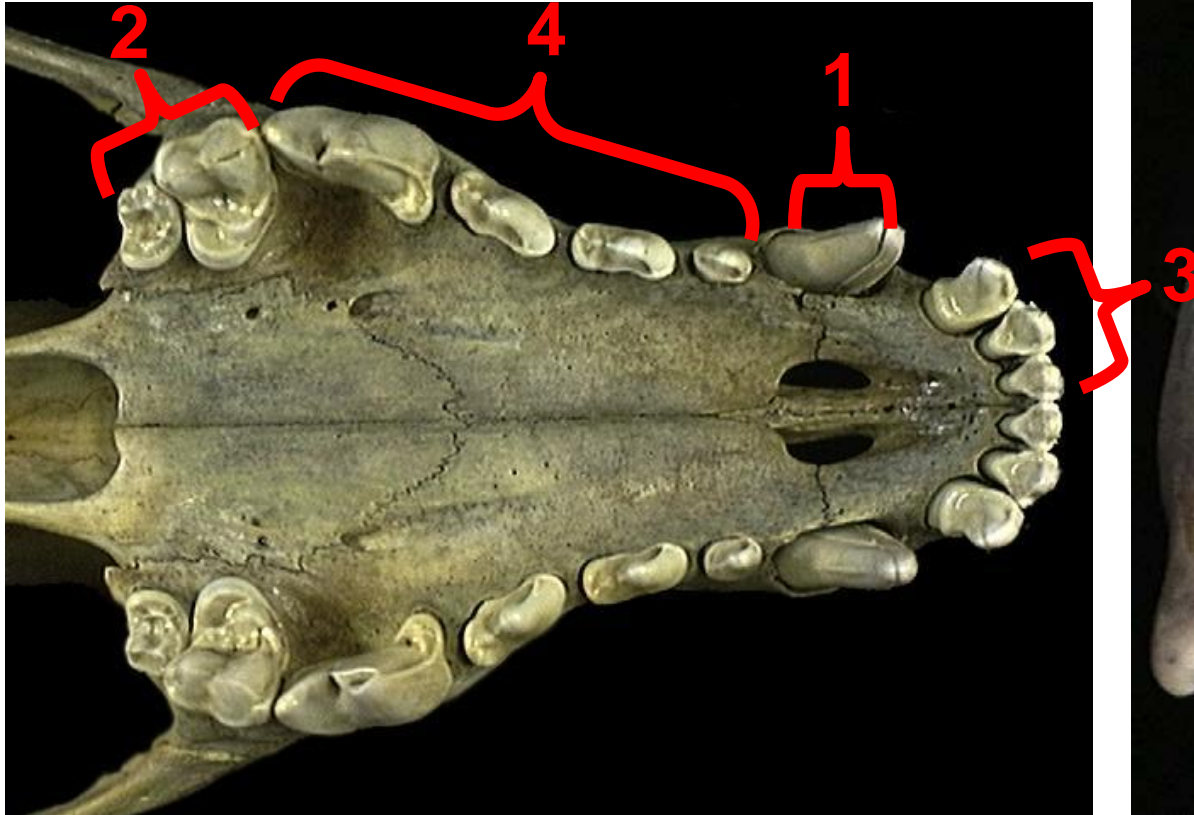
dental formulae: the bare bones

*Canis lupus* = I3 C1 P4 M2



## dental formulae: the bare bones

*Canis lupus* = I3 C1 P4 M2  
i3 c1 p4 m3





## dental formulae: the bare bones

*Canis lupus* = 3/3 1/1 4/4 2/3

\*top/bottom



## dentition and alternative lifestyles

Incisors = unicuspid (usually), often for grasping or cutting

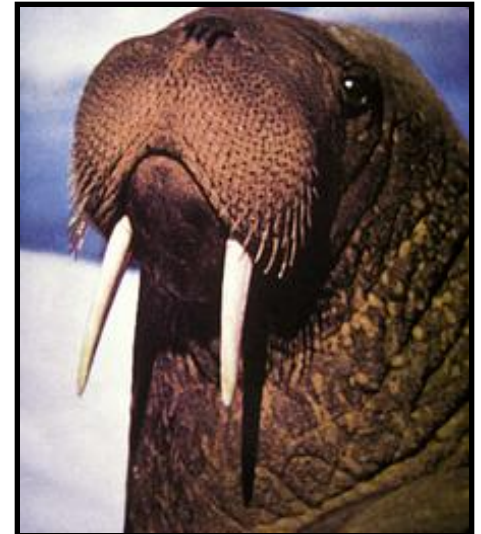
- in primitive eutherians, 3 upper incisors per quadrant
- in metatherians, 5 upper incisors per quadrant
- restricted to premaxilla



## dentition and alternative lifestyles

Canines = unicuspid and single-rooted, often for holding and stabbing

- never more than 1 per side in cranium or mandible
- first teeth in the maxilla



## dentition and alternative lifestyles

Premolars = unicuspid or bicuspid (usually), vary in size and function

- in primitive eutherians, 4 per quadrant
- in metatherians, 3 per quadrant
- typically with only 1 row of cusps



## dentition and alternative lifestyles

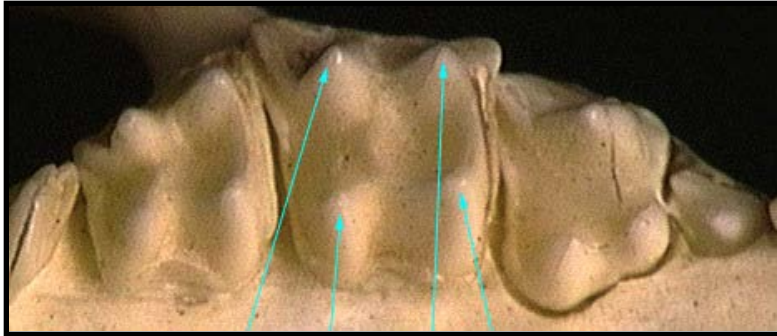
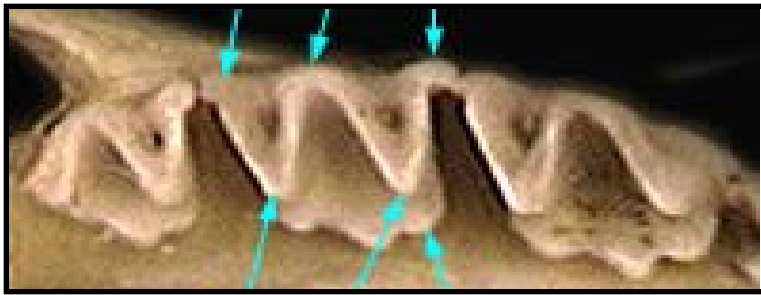
Premolars = unicuspid or bicuspid (usually), vary in size and function

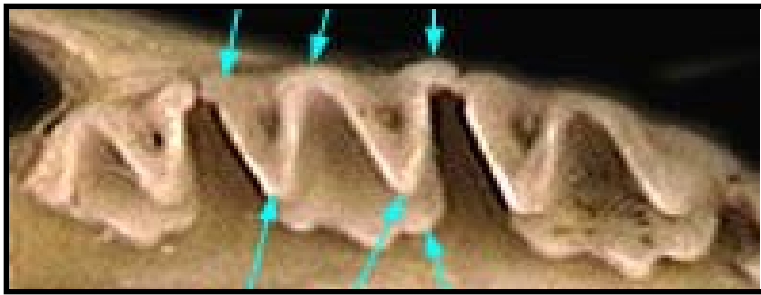
- in primitive eutherians, 4 per quadrant
- in metatherians, 3 per quadrant
- typically with only 1 row of cusps

Molars = bicuspid or multicuspid, vary in size and function

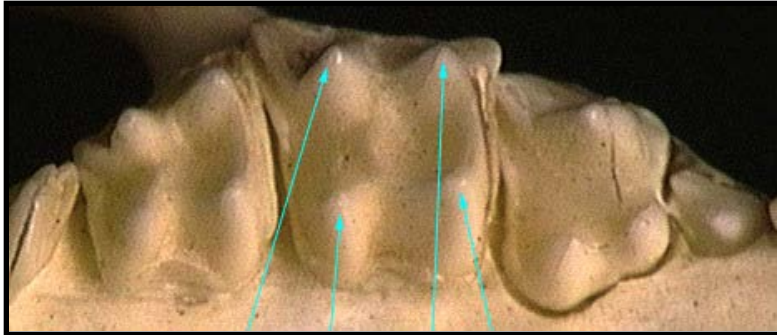
- in primitive eutherians, 4 per quadrant
- in metatherians, 3 per quadrant
- fully erupted only in adults
- typically with >1 row of cusps

**Dilambdodont** = cusps comprised of “V”s or “W”s. Found in bats, shrews, moles.



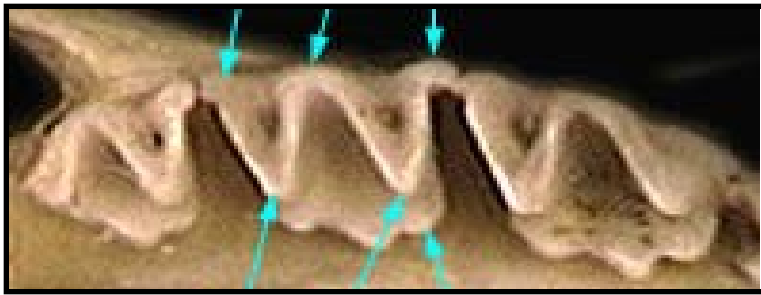


**Dilambodont** = cusps comprised of “V”s or “W”s. Found in bats, shrews, moles.

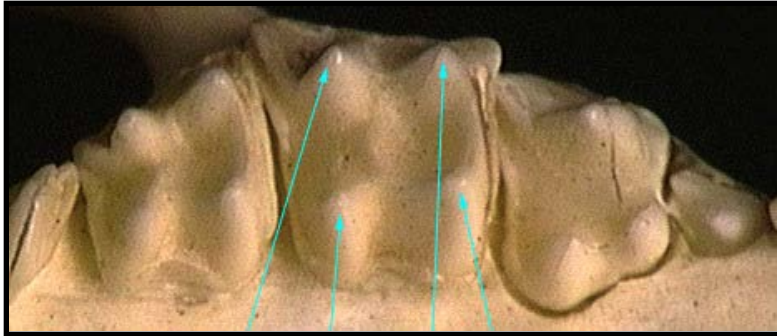


**Bunodont** = 3-4 rounded cusps. Found in pigs, bears, raccoons, humans.





**Dilambdodont** = cusps comprised of “V”s or “W”s. Found in bats, shrews, moles.



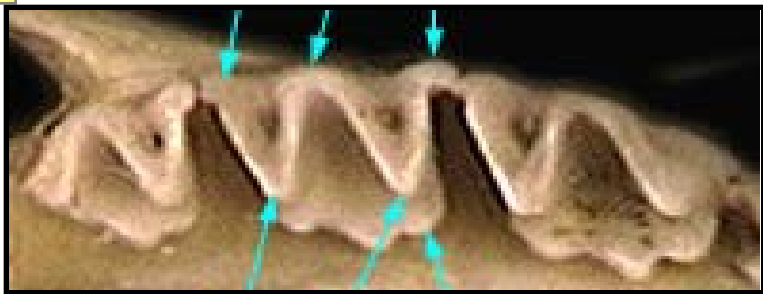
**Bunodont** = 3-4 rounded cusps. Found in pigs, bears, raccoons, humans.



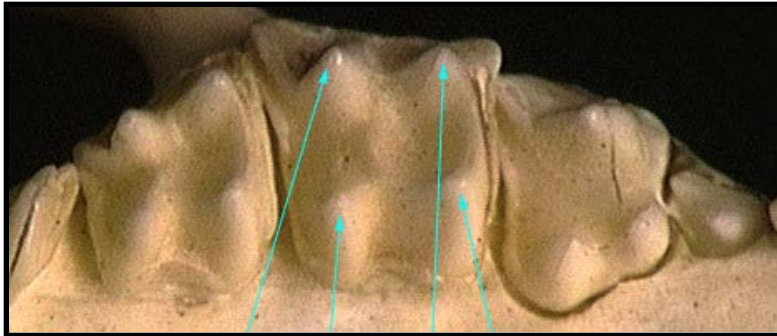
**Lophodont** = elongated, transverse cusps. Found in many rodents.







**Dilambodont** = cusps comprised of “V”s or “W”s. Found in bats, shrews, moles.



**Bunodont** = 3-4 rounded cusps. Found in pigs, bears, raccoons, humans.

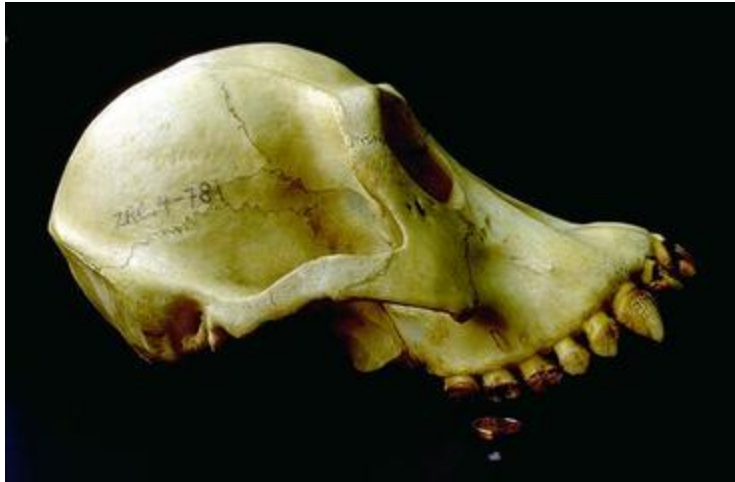


**Lophodont** = elongated, transverse cusps. Found in many rodents.



**Selenodont** = cusps elongated antero-posteriorly. Found in many ungulates.

# skulls: the bare bones

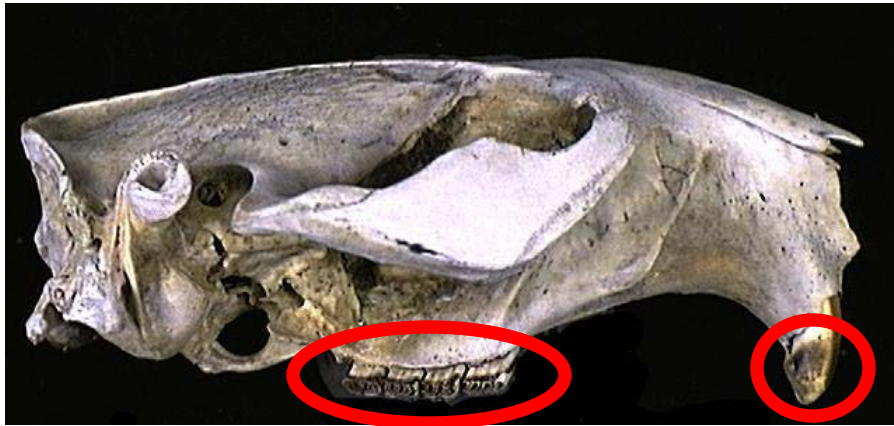


# skulls: the bare bones



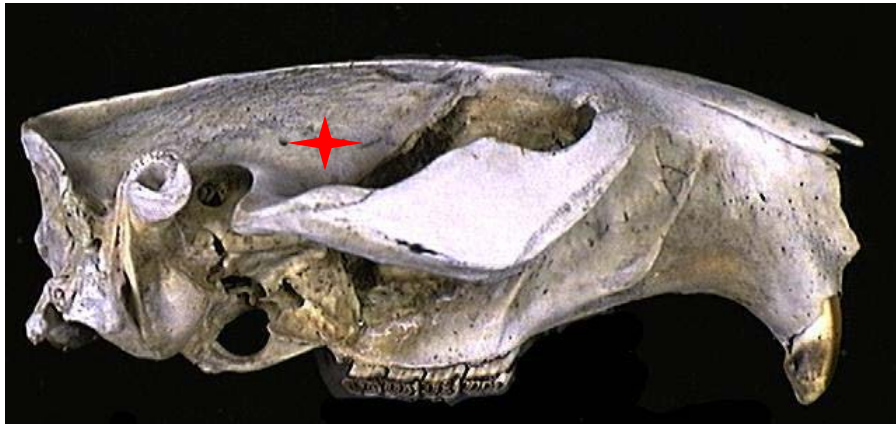


# skulls: the bare bones





# skulls: the bare bones



# skulls: the bare bones



# skull structures (from handout)

Quiz 1: 6-8 questions on skull structures, 1-2 questions on dental formulae, 1-2 questions on types of dentition

*Characteristics of mammalian skulls covered in test 1*