**BIOLOGY 2022-23 March 10, 2023**

**Today’s Agenda (Day 122)**

1. HOUSEKEEPING ITEMS

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1. Homework Check:

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1. Class Activity:

🡪 **CONT’D: PRESENTATION: How Many CATs – DNA Profiling Simulation**

🡪BEGIN: Chapter 17 PPT Review

1. **Section 17.1 - The History of Classification**
2. Section 17.2 – Modern Classification
3. Section 17.3 – Domains and Kingdoms

HOMEWORK:

* READ: Chapter 15 – Evolution
* READ: Chapter 17 – Organizing Life’s Diversity
* COMPLETE:
* **STUDY**: Chapter 15 Test

REMINDERS:

* **TEST: Ch 15 🡪 Tuesday, Mar. 9**
* **TEST: Ch 17🡪 March 16**
* **QUIZ: Ch 17 & 18 Vocabulary🡪 March 21**
* **TEST: Ch 18 🡪 March 23**
* **QUIZ: Ch 19 & 20 Vocabulary🡪 April 4**
* **TEST: Ch 19 🡪 March 30**
* **TEST: Ch 20 🡪April 6**
* **TEST: Ch 30 - 31 🡪April 13**
* **QUIZ: Ch 32 Vocabulary🡪 April 18**
* **TEST: Ch 32 🡪April 20**
* **TEST: Ch 33 🡪May 4**
* **QUIZ: Ch 33 & 34 Vocabulary🡪 May 9**
* **TEST: Ch 34 🡪May 11**
* **QUIZ: Ch 35 Vocabulary🡪 May 23**
* **TEST: Ch 35 🡪May 25**
* **QUIZ: Ch 36 Vocabulary🡪 May 30**
* **TEST: Ch 36 🡪June 1**

Chapter 17 – Organizing Life’s Diversity

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| Archaea | Binomial nomenclature | Character | Cladistics | Cladogram | Classification |
| Division | Domain | Family | Fungus | Genus | Kingdom |
| Molecular clock | Order | Phylogeny | Phylum | Protist | Taxon |
| taxonomy |  |  |  |  |  |

Chapter 18 – Bacteria and Viruses

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| Bacteria | Binary fission | Capsid | Capsule | Conjugation | Endospore |
| Lysogenic cycle | Lytic cycle | Nucleoid | Pilus | Prion | Retrovirus |
| Virus |  |  |  |  |  |

**BIOLOGY 2022-23 READING GUIDE**

**Chapter 17 Organizing Life’s Diversity**

DIRECTIONS: Refer to your textbook to respond to the following questions.

1. Why are biologist so concerned with classification?
2. What is taxonomy?  Who was the first person to formally use taxonomic classification?
3. Explain binomial nomenclature.  Give an example.
4. Why is it important that scientists always use an organism’s scientific name rather than its common name?
5. How did the study of evolution affect taxonomy (classification system)?
6. How is genus (define it) an example of a taxon?
7. Which is more inclusive: family or genus?  Explain your answer.
8. How are order, class, and phylum related?
9. How are kingdom and domain related?
10. List and describe the three concepts of species.
11. List a limitation to each of the concepts of species you used in number 10.
12. List a benefit to each of the concepts of species you used in number 10.
13. Compare and contrast analogous and homologous structures?  Which one indicates a shared common ancestor?
14. What are biochemical characters?  How do scientists use them to determine evolutionary relationships?
15. Describe two techniques scientists use to compare DNA sequences.
16. Define cladistics.  What are the two main types of characters used when doing cladistic analyses?
17. In this cladogram (below), which species shares ancestral characteristics with the three organisms being compared?

Diagram

Description automatically generated

1. What is the primary assumption made when constructing cladograms?
2. What does the trunk of Darwin’s tree of life represent?
3. What do the branches of Darwin’s tree of life represent?

23. List AND describe the four kingdoms of Domain Eukarya.  Give an example of each.

**BIOLOGY 2022-23 READING GUIDE**

**CH 18 Bacteria & Viruses Reading Guide**

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| 1. Describe what scientists think the first organisms on Earth were like. 2. Why are prokaryotes now divided into two domains?  What are the two domains? 3. Describe the importance of bacteria to humans. 4. Where do Archae live?  What is another name for Archae? 5. Compare and contrast bacteria and Archae. 6. Compare and contrast thermoacidophiles and halophiles. 7. What are methanogens?  Where do they live? 8. **Using** the picture below, describe the function of all of the labeled structures.   Diagram  Description automatically generated   1. List and describe the three general shapes of prokaryotes. 2. How do Gram-positive bacteria look when they are stained?  Why do they look this way? 3. How do Gram-negative bacteria look when they are stained?  Why do they look this way? 4. Describe two different ways that prokaryotes move. 5. Compare and contrast binary fission and conjugation as reproductive methods for prokaryotes. 6. **What** process is shown in the figure below?   Diagram  Description automatically generated   1. Describe the difference between obligate anaerobes and facultative anaerobes. 2. Describe how each of the following types of prokaryotes obtain food: heterotrophs, photoautotrophs, and chemoautotrophs. 3. How do endospores help bacteria survive? 4. Why is nitrogen fixation essential for life on Earth? 5. List three types of food that are all made with the help of bacteria. 6. Describe two different ways bacteria can cause disease. 7. What is a virus? 8. Describe a theory on how viruses evolved. 9. **Describe** the general structure of a virus (be sure to include the definition of capsid in your answer). 10. How do viruses infect hosts cells? 11. Compare and contrast the lytic cycle and the lysogenic cycle in viruses. 12. What is a retrovirus? 13. What are prions?  Name two diseases caused by prions. 14. **What** type of viruses are illustrated below?  How do you know?   Diagram, radar chart  Description automatically generated  A picture containing text, indoor, table  Description automatically generated |