**AP BIOLOGY 2019-20 February 28, 2020**

**Today’s Agenda (Day 116)**

1. HOUSEKEEPING:

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1. Homework Check:

🡪 Chapter 24 Notes & Chapter 25 Vocabulary

🡪 Lab Report: Teddy Graham AND Hardy-Weinberg Practice

🡪 Chapter 25 Notes

🡪 Chapter 26 Vocabulary

🡪 **Coral Reef Campaign:** Phase I & II

🡪 Chapter 26 Notes

🡪 Chapter 27 Vocabulary

1. Class Activity:

**🡪** **BEGIN: Chapter 27 PPT Review**

1. Section 27.1 – Structural and functional adaptations contribute to prokaryotic success
2. Section 27.2 – Rapid reproduction, mutation and genetic recombination promote genetic diversity in prokaryotes
3. Section 27.3 – Diverse nutritional and metabolic adaptations have evolved in prokaryotes
4. Section 27.4 - Prokaryotes have radiated into a diverse set of lineages
5. Section 27.5 - Prokaryotes play crucial roles in the biosphere
6. Section 27.6 - Prokaryotes have both beneficial and harmful impacts on humans

HOMEWORK:

* Read Unit 3 – Chapters 26 & 27
* Complete Chapter 27 Vocabulary and Notes
* Continue working on **Coral Reef Campaign:** Phase III

Chapter 26 – Phylogeny and the Tree of Life

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Basal taxon | Branch points | Clades | Cladistics | Classes | Domains | Family |
| Genus | Homoplasies | Horizontal gene transfer | Ingroup | Kingdoms | Maximum likelihood | Maximum parsimony |
| Molecular clock | Monophyletic paraphyletic | Orders | Orthologous genes | Outgroup | Paralogous genes | Phylogenetic tree |
| Phylogeny | Phylum | Polyphyletic | Polytomy | Rooted | Shared ancestral character | Shared derived character |
| Sister taxa | Systematics | Taxon | Taxonomy |  |  |  |

Chapter 27 – Bacteria and Archaea

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Anaerobic respiration | Biofilms | Bioremediation | Capsule | Commensalism | Conjugation | Decomposers | Endospores |
| Endotoxins | Exotoxins | Extreme halophiles | Extremophiles | F factor | F plasmid | Facultative anaerobes | Fimbriae |
| Gram negative | Gram positive | Gram stain | Heterocysts | Methanogens | Mutualism | Nitrogen fixation | Nucleoid |
| Obligate aerobes | Obligate anaerobes | Parasite | Parasitism | Pathogens | Peptidoglycan | Pilus | Plasmids |
| R plasmids | Symbiont | Symbiosis | Taxis | thermophiles | Transduction | transformation |  |

REMINDERS:

* Chapter 26 Notes – Feb 28
* Chapter 27 Vocabulary – Feb 29
* Chapter 27 Notes – March 1
* **Coral Reef Campaign:** Phase III **– March 2**
* **Chapter 26 & 27 Test 🡪 March 3**
* Chapter 26 & 27 Vocabulary Quiz **🡪 March 4**

**CORAL REEF PROTECTION CAMPAIGN LAUNCH**

**PROJECT IDEA: TENTATIVE GUIDELINES**

Directions: With your team, research and find answers to the prompts listed below. Slowly develop ideas that we, the people of St. Maarten and the Caribbean, could undertake to help protect our coral reefs. Please be sure to cite ALL references (in proper APA format)

**Phase I** [Due: Feb. 27]

* What is a coral/reef?
* How many different types of corals exist in the world?
* Where do corals/reefs exist within the world? Which region has the greatest concentration of it?
* How does it form? What inhibits its formation? What factors harm their continued existence?
* What is its function within the aquatic ecosystem? What is the value of corals/reefs [ie. economically, environmentally, culturally, politically, etc.,]. Who/which groups of people stand to benefit most from the sustained health of coral reefs?

**Phase II** [Due: Feb. 27]

* What is the current state of the world’s corals/reefs? Why? How has the health of corals/reefs changed over the last century?
* What is the current state of the Caribbean coral reefs? How did this come about? What are the top 3 factors threatening them?
* What has the Netherlands historically done to protect coral reefs? Have they been successful? Explain.

**Phase III** [Due: March 2]

* Of the 5 greatest threats to corals/reefs, further investigate any three factors in which you believe you are instrumental in an approach to protect them.
* What are some strategies that nations have undertaken to protect corals/reefs?
* Of the myriad of ways one can protect coral reefs, investigate no less than 3 nations where they have achieved success in maintaining/protecting their coral reefs.

**Phase IV** [Due: March 16]

* With your team members, devise a strategy/approach to protect the Caribbean coral reefs from more than one perspective. Be sure to note which significant people/groups of people you will need to recruit to successfully implement ideas.

-education/awareness (locally, regionally, globally)

-making best use of social media format, targeting towards various demographic groups (youth, teens, early adulthood, middle adulthood, late adulthood)

-from the water/underwater

-changes to our current way of life (ie. how we live)

-economically

-politically

**Phase V** [Due: March 23]

Project products: a) slide presentation (between 5 – 10 minutes in length; must incorporate audio)

b) PSA (no less than 2 minutes in length—audio or video)

c) a working timeline strategy/proposal [3-month, 6-month, 1 year, 18 months, 2 years, 3 years, 5 years implementation]