STAAR™ Modified

State of Texas Assessments of Academic Readiness Modified

Biology

Modified

2011 Released Test Questions

These released test questions represent how the modification process can be applied to the 2011 STAAR Released Test Questions. Not every STAAR released test question has been modified. These test questions are samples only and do not represent all the TEKS student expectations from each reporting category eligible for assessment. Nor do they represent all the ways in which a test question can be modified.

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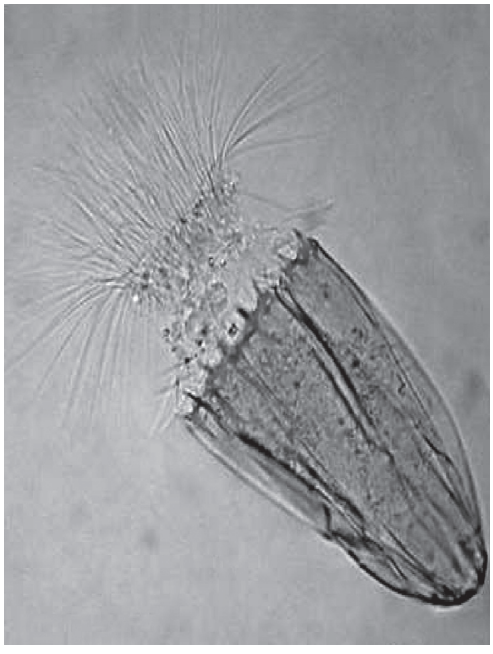
1 Loriciferans are microscopic multicellular animals. A newly discovered Loriciferan, *Spinoloricus* sp. nov., is pictured below.

Spinoloricus sp. nov.



Source: Danovaro et al., 2010. *BMC Biology*.

Organisms of the genus *Spinoloricus* are eukaryotes and not prokaryotes because *Spinoloricus* cells have —

A flagella

B hereditary material

C a nucleus

2 Proteins and complex carbohydrates are molecules produced by living organisms (biomolecules). Biomolecules can be chemically broken down. Both proteins and complex carbohydrates are —

A larger compounds of smaller subunits

B sequences of sugars

C lipids of large molecules

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3 A mutation in a DNA strand is least likely to affect a cell when the mutation —

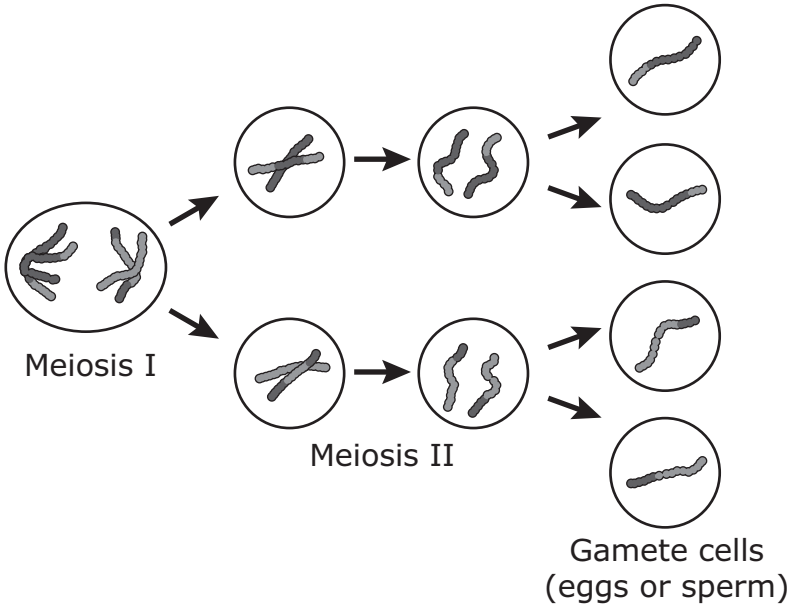
A reverses the order of bases

B replaces a base with its complementary base

C results in the formation of the same amino acid

4 The diagram below shows the process of meiosis.

Production of Gamete Cells



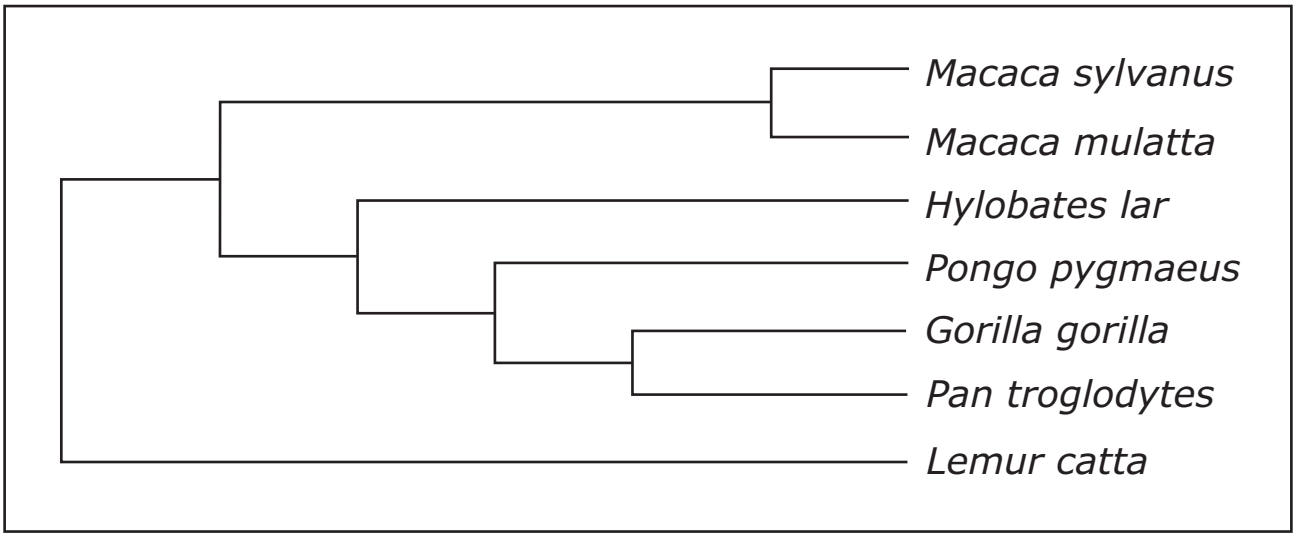
The chromosome separation that occurs during meiosis results in a —

A reduction in the number of chromosomes per cell

B single fertilized egg cell

C group of genetically identical cells

5 The diagram below shows the evolutionary relationship of some species of animals.



Source: Human Ageing Genomic Resources (HAGR)

Based on this model, the greatest genetic differences would be found between which two species?

A *Macaca sylvanus* and *Macaca mulatta*

B *Hylobates lar* and *Pongo pygmaeus*

C *Pan troglodytes* and *Lemur catta*

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6 Genetic variation can help a species survive when the environment changes. What is the best example of an organism with a genetic variation that could improve its chances to survive over time?

A An ant that is resistant to pesticide

B A wasp that is infected with parasites

C A mouse that has learned to avoid mousetraps

7 The list below describes an organism.

Characteristics of an Organism

- Unicellular
- Prokaryotic
- Lives in very harsh environments

Based on this list, in which kingdom should the organism be classified?

A Fungi

B Protista

C Archaebacteria

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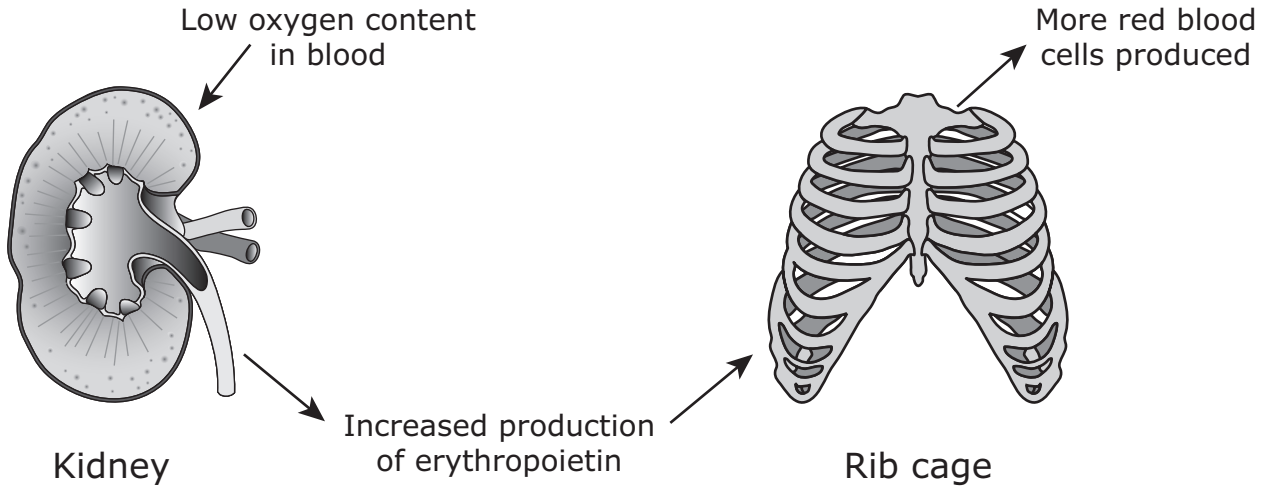
8 Urea is produced when amino acids are broken down in the liver. Urea is removed from the body as urine. After the liver produces urea, which body system is involved in removing the urea from the body?

A Excretory

B Nervous

C Respiratory

9 The diagram below shows part of one of the many feedback loops needed to maintain homeostasis in the human body.



Based on this diagram, what could most likely cause a low red-blood-cell count?

A The growth of new bone tissue

B Chronic kidney disease

C An increased breathing rate

10 A lichen is made up of two organisms, a fungus and a cyanobacterium.

- The fungus provides a growing surface, moisture, and nutrients to the cyanobacterium.
- The cyanobacterium provides food to the fungus.

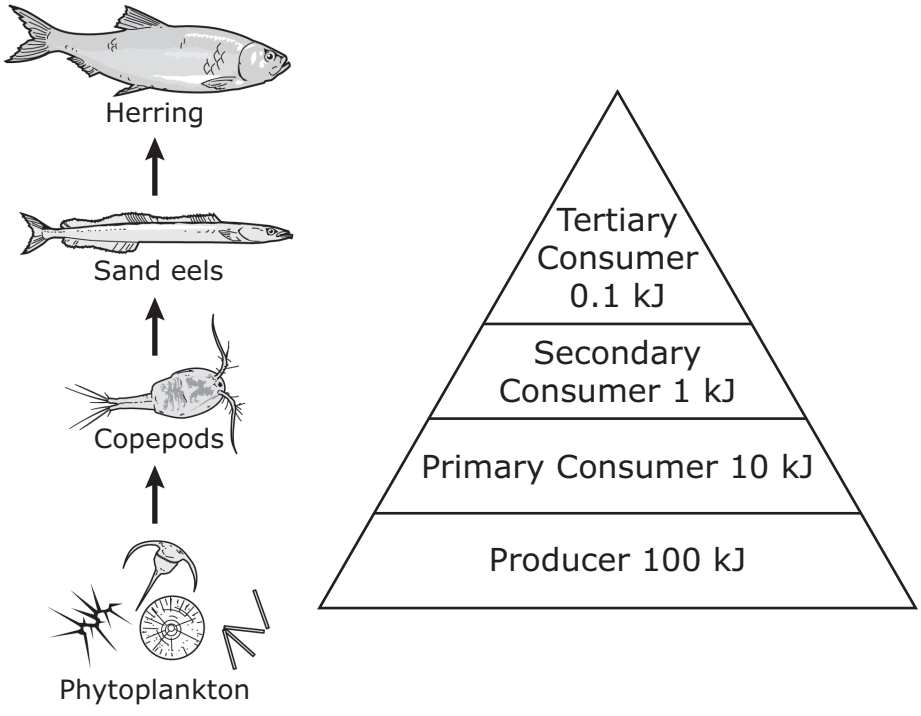
Which term best describes the relationship between the fungus and the cyanobacterium?

A Commensalism

B Mutualism

C Parasitism

11 Look at the diagram of an ocean food chain and the energy pyramid below.



Which organism represents the trophic level containing approximately 1% of the initial amount of solar energy absorbed by the phytoplankton?

A Copepods

B Sand eels

C Herring

Item Number	Reporting Category	Readiness or Supporting	Content Student Expectation	Process Student Expectation	Correct Answer
1	1	Supporting	B.4(A)	B.3(B)	C
2	1	Readiness	B.9(A)		A
3	2	Readiness	B.6(E)		C
4	2	Supporting	B.6(G)		A
5	3	Readiness	B.7(A)	B.3(B)	C
6	3	Supporting	B.7(D)		A
7	3	Supporting	B.8(C)	B.2(G)	C
8	4	Readiness	B.10(A)		A
9	4	Supporting	B.11(A)	B.2(G)	B
10	5	Readiness	B.12(A)		B
11	5	Readiness	B.12(C)		B

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