

Heredity and Adaptations of Organisms Essential Questions/Test Review

Name: _____ Date: _____ Class Hr: _____ /40

Directions: The following essential question journal gives you the opportunity to reflect on and review what you learn. It is made of only key points and questions. Each essential question will ask to recall something you **should know** or ask you to **demonstrate how to do something**.

Question 1: Show at least **3 differences** and **2 similarities** between acquired and inherited traits by creating your very own *double bubble thinking map* in the space provided below.



Question 2: Show at least **4 differences** and **3 similarities** between asexual and sexual reproduction by creating your very own *double bubble thinking map* in the space provided below.

Question 3: What is a trait?

Question 4: DNA of the three unknown organisms, you find that the DNA of organism C is a combination of the DNA from organism A and organism B. Which statement below is the most logical reason?

- A. Organisms A, B, and C were reproduced asexually
- B. Organisms A, B, and C were siblings
- C. Organism A and B are the parents of C
- D. Organism A, B, and C are unrelated

Question 5: Complete a double bubble map below to compare and contrast the two types of cell division; Mitosis and Meiosis?

Question 6: You are given 3 unknown organisms labeled A, B, C. When looking at the DNA of the three unknown organisms, you find that they all have the exact same sequence of DNA. Which statement below is the most logical explanation?

- A. Organisms A, B, and C were reproduced asexually from a common parent
- B. Organisms A, B, and C were reproduced sexually from a single pair of parents
- C. Organism A and B are the parents of C
- D. Organism A, B, and C are unrelated

Question 7: Explain 2 methods of AS reproduction and 2 methods S and name organisms that use each method.

Type of Reproduction	Methods	Example Organisms
AS:	1.	1.
	2.	2.
S:	1.	1.
	2.	2.

Question 8: Which of these is an example of heredity?

- A. a tree leaning away from a constant wind
- B. a dog able to fetch a ball on command
- C. a sheep with a black face and white body
- D. a student memorizing the names of states and capitals

Question 9: Seeds from the same parent plants were planted in a garden. The average height of these plants was 15cm, but two plants grew twice as tall (30cm). Which sentence explains a logical possibility?

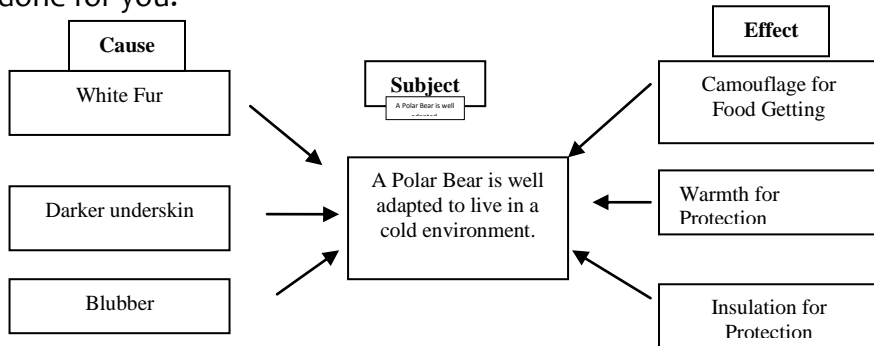
- A. One of the grandparent plants had white blossoms.
- B. The two seeds were not buried as deep as the others.
- C. One of the grandparent plants was tall.
- D. The two seeds were older than the other seeds.

Question 10: Give at least two examples of structural or behavioral adaptations that one organism has to help it in food getting, movement and protection.

Name of organism? _____

<u>Food Getting</u>	<u>Protection</u>	<u>Movement</u>
1.	1.	1.
2.	2.	2.

Question 11: Create 1 **multi-flow thinking map** in the space provided below to illustrate how organisms have adaptations that cause them to be successful in their environments. An example is done for you.



Question 12: Complete the chart below for each organism listed.

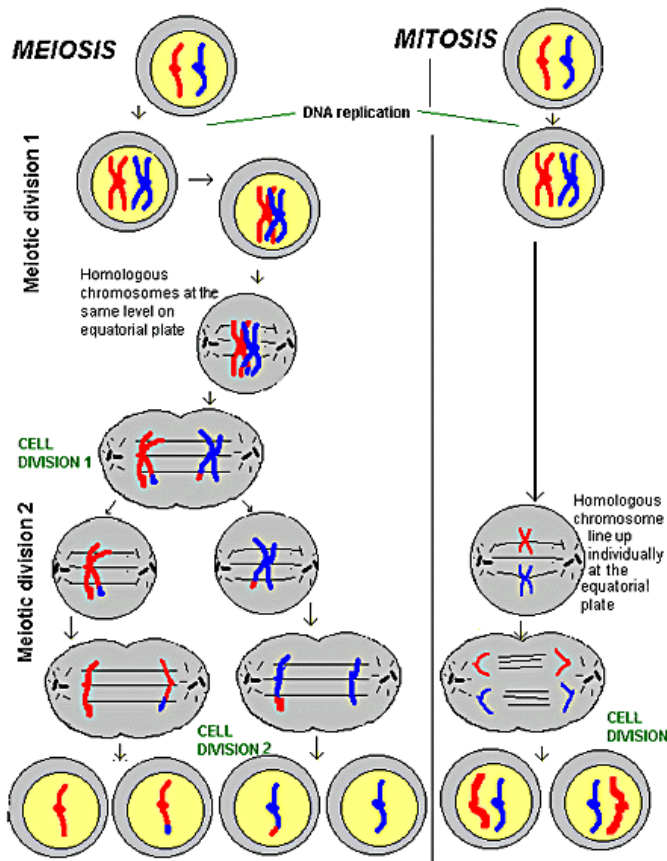
Organism	Successful Environment	Survival Adaptation	How does the survival adaptation listed to the left help this organism survive?	What would be an example of an environment where the survival adaptation listed would not be helpful? Why?
Bird	Air/Sky	Hollow Bones		
Polar Bear	Cold Arctic	White Fur		
Fennec Fox	Africa (Hot)	Big Ears		
Arctic Fox	Cold Arctic	Small Ears		
Trout Fish	Fresh H ₂ O	Gills		

Question 13: Define each term below and provide an example of each.

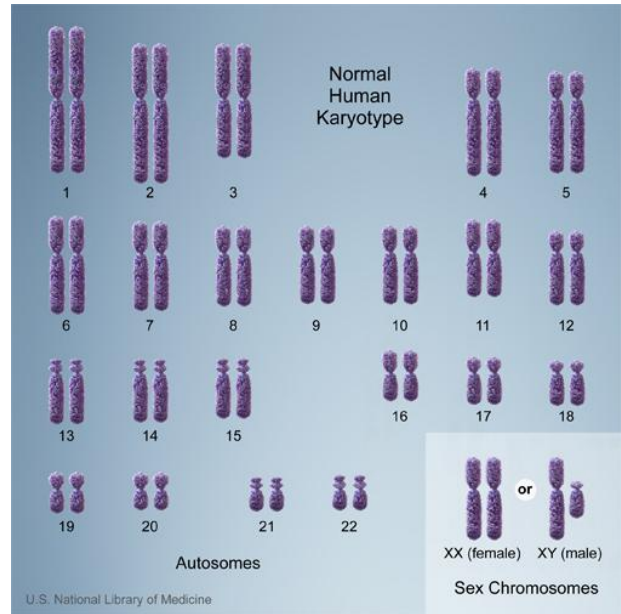
Term	Definition	Example
Adaptation		
Mimicry		
Camouflage		
Natural Selection		
Selective Breeding		
Mutation		

Question 14: What did you enjoy most about this unit (Heredity and Adaptations)?

Steps of Meiosis and Mitosis



Human Map of Chromosomes (Karyotype)



Punnett Square Example

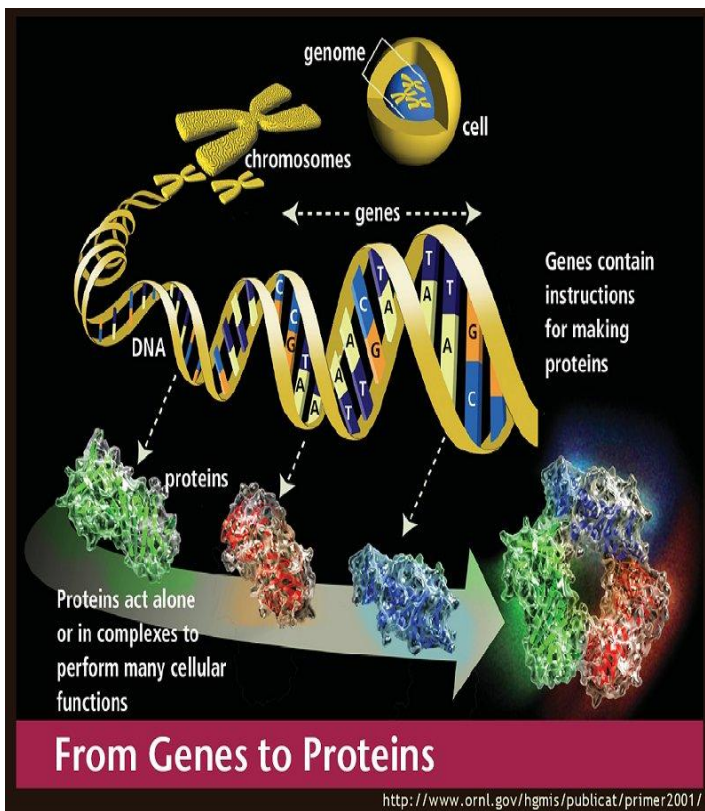
S = Spherical Pea Seeds
s = Dented Pea Seeds

Dad alleles

S s

	S	s
Mom alleles	S S	S s
	s S	s s

Structure of DNA, Genes and Protein



Genotype and Phenotype Results of the Parental Cross Above

