

Essential Question: How do living things inherit their genetic characteristics?

Activity 2: Types of Reproduction

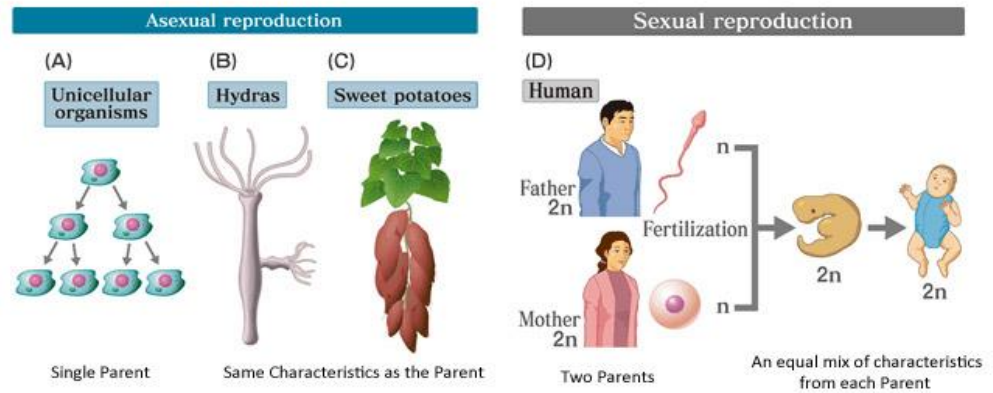
Purpose: I am able to explain why offspring from sexual reproduction have more diverse characteristics compared to offspring from asexual reproduction.

Instructions:

a. First watch this video and take complete notes in

your portfolio: https://www.youtube.com/watch?v=O4aiBi_ontE

b. Next read & study the material in Activity 57 together. Then answer all questions in complete, quality and correct sentences reflecting the questions.



1. Define asexual reproduction using your own words.

2. Tell if it possible to determine which cell is the parent and which is the offspring in the asexual reproduction of a bacterial cell or an amoeba. Explain your answer.

3. Explain what has occurred when an organism asexually reproduces and one of the resulting cells does not have identical traits as the other. (Use technical terms please)

4. The text/video explains that Hydra and Geckos can reproduce asexually. However, these organisms can also reproduce sexually. Each is advantageous at different times.

a. Tell 3 reasons why it would be advantageous for these organisms to reproduce asexually.

b. Tell 3 reasons why it would be advantageous for organisms to reproduce sexually.

c. Explain when the above organisms would be best to reproduce BOTH asexually as well as sexually.

Two individuals share as much as 99.9% of the same genetic material, differing in only 0.1% of their DNA!.

Student Review: 1-Below Standard, 2-Approaching Standard, 3-Standard, 4-Above Standard
Use the scale to evaluate completeness & correctness of the job. Put score, Initial & date in boxes.

Score

Initial/Date

5. Define fertilization using technical terminology.

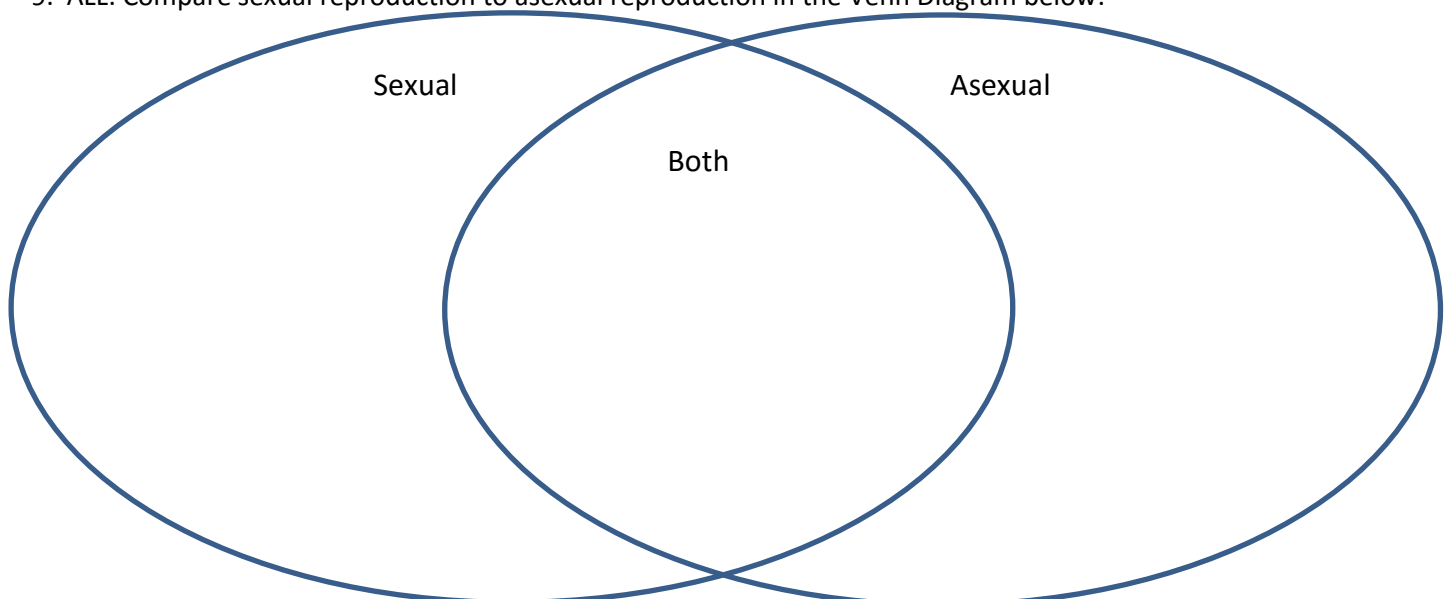
6. Tell why, using technical terms, identical twins are much more similar than fraternal twins.

7. How is a clone different from an identical twin?

8. Classify each scenario as either asexual or sexual reproduction or neither.

Scenario		Sexual or Asexual Reproduction or Neither?
a.	An orange cat is mated with a black cat, in hopes of producing a tortoiseshell cat.	
b.	A cutting is taken from a red-flowered geranium and placed in water to develop roots. Once roots have grown, the new plant is placed in soil and grows to produce another red-flowered geranium.	
c.	A red-flowered geranium with dull leaves is bred with a white-flowered geranium with shiny leaves, with a goal of producing a red-flowered geranium with shiny leaves.	
d.	A Sea Star has two legs chopped off and regrows both within a month.	
e.	Challenge: A small worm that lives in water splits in two and each half grows to normal size. The head end grows a tail, and the tail end grows a head.	
f.	Challenge: Sheep reproduce only by sexual reproduction in nature. Using modern technology, a clone of an adult sheep is produced.	

9. ALL: Compare sexual reproduction to asexual reproduction in the Venn Diagram below.



Activity 2 - Part B: INSTRUCTIONS: Nature has many organisms that reproduce asexually, sexually, or both. This leads to the diversity of life we see in our world. While in the Outdoor Learning Center, your job is to find evidence of different organisms that reproduce asexually, sexually, or both. You will need to draw two examples of these organisms and explain how they reproduce using evidence you find in the field.

Organisms that reproduce <u>sexually</u>	
Organism 1. _____	Organism 2. _____
Drawing:	Drawing:
Label Evidence Observed (circle): PLANTS: Flowers Spores Cones Rhizomes Stolons ANIMALS: Budding Fragmentation Sex organs	Label Evidence Observed (circle): PLANTS: Flowers Spores Cones Rhizomes Stolons ANIMALS: Budding Fragmentation Sex organs

Organisms that reproduce <u>asexually</u>	
Organism 1. _____	Organism 2. _____
Drawing:	Drawing:

Label Evidence Observed (circle):

PLANTS: Flowers Spores Cones Rhizomes Stolons

ANIMALS: Budding Fragmentation Sex organs

Label Evidence Observed (circle):

PLANTS: Flowers Spores Cones Rhizomes Stolons

ANIMALS: Budding Fragmentation Sex organs