

## **REVIEW OF ASEQUAL AND SEXUAL REPRODUCTION!**

### CHALLENGE!!

This game involves dividing the class in half with roughly equal numbers of participants on both sides. Each of the two teams must come up with their own team name. The rules are that each person is challenged by a member of the opposing team. The first of the two challengers to raise their hand to answer the question correctly, wins a point for their team. The answer must be given immediately after being notified that they may answer. No shouting out or communication within the team to the challenger or points are deducted. If the first challenger answers incorrectly, the other challenger may answer without help from their team and may be awarded a point for the correct answer. If neither challenger answers correctly, the question is opened up to the entire class with the first to raise their hand after the teacher says OPEN ANSWER – allow one answer from each team to be fair and they may discuss as a team at this point to gain the point.

The pictorial challenge portion is used after the verbal answers have been exhausted and all students have been challenged verbally. The two challengers head to the chalk board and try to pictorially represent the stages given or the vocabulary words provided. The first team (they may all work together to answer) to answer correctly wins the point. If incorrect, the opposing team gets a chance to win by a collective answer.

### **Challenge Questions:**

#### **Verbal**

1. At what stage of meiosis do the homologous chromosomes line up at the equator?  
--- Meiosis I
2. At what stage of mitosis do the sister chromatids separate?  
--- Anaphase
3. What type of asexual reproduction is used by planaria?  
--- fragmentation
4. Which type of asexual reproduction is the same as mitosis of a single cell?  
--- Binary Fission
5. Which type of asexual reproduction only occurs in plants?  
--- Vegetative Reproduction
6. Which type of asexual reproduction allows the organism to “hibernate” until conditions improve?  
--- spore formation
7. Which type of asexual reproduction produces a “mini-me” off the parent or may be considered as a descriptive word for romance? ----- Budding
8. At what stage of mitosis does the nuclear envelope disintegrate?  
--- Prophase
9. At what stage of mitosis do spindle fibers pull sister chromatids apart?  
---- Anaphase
10. What types of asexual reproduction do bacteria use?  
---- spore formation and binary fission
11. AT what stage of meiosis do sister chromatids separate?  
--- Anaphase II

12. If the value of a diploid cell is 38, how many chromosomes will be found in the gametes of this organism? ---19
13. If the gametes of an organism have 5 chromosomes, how many chromosomes are in the body cells of the organism? ----10
14. Give 2 differences between mitosis and meiosis – You must state how each differs from the other) mitosis – happens in body cells, 1 cell yields 2 cells, creates identical diploid cells, only one set of stages; Meiosis – happens in sex cells, 1 cell yields 4 cells, creates different haploid cells, has 2 sets of stages
15. What is the purpose of mitosis?  
---- allows for growth and development of an organism, replaces dead or dying cells
16. What is the purpose of meiosis?  
---- allows an animal to reproduce sexually lending half of its genetic make-up to it's offspring
17. Give the function of the ovary.  
---- to produce female gametes and produce estrogen and progesterone
18. Give the functions of the seminal fluid.  
---- to provide lubrication and nutrients for the sperm to travel in, and provide buffers from the acidic female environment

**Pictorial** : Students must be able to draw the correct stage or vocabulary word so that their team are able to guess it correctly.

1. prophase stage of mitosis using 2 sets of chromosomes.
2. anaphase stage of mitosis using 2 sets of chromosomes
3. telophase stage of mitosis using 2 sets of chromosomes
4. metaphase I stage of meiosis using 2 sets of chromosomes
5. telophase I stage of meiosis using 2 sets of chromosomes
6. homologous pair of chromosomes.
7. centromere
8. Sister chromatid
9. spindle fibres
10. Anaphase II of meiosis using 2 sets of chromosomes
11. Crossing over
12. budding
13. uterus
14. epididymis
15. ovaries
16. testes
17. gene
18. allele