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Topic: Mitosis & Meiosis Worksheet

Summary: Students answer introductory questions about the similarities and differences between mitosis and meiosis.

Goals & Objectives: Students will be able to compare and contrast between the cell cycle and meiosis. Students will be able to remember important facts about mitosis and meiosis.

NGSS Standards: *HS-LS3-2.* Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and /or (3) mutations caused by environmental factors.

Time Length: 15 minutes

Materials:

Class notes or textbook or online textbook

- <https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/section/2.35/primary/lesson/asexual-vs.-sexual-reproduction-bio/>
- <https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/section/2.34/primary/lesson/mitosis-and-cytokinesis-bio/>
- <https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/section/2.36/primary/lesson/meiosis-bio/>

Procedures:

1. Tell the students which section they are to use in the textbook or their associated lecture notes. Students are then going to read the section and answer the questions on the worksheet.

Accommodations: Students who cannot read at a high school level can be shown pictures in the book that help explain the answer. Give these students fewer problems to complete but they need to at least fill in the Venn diagram. Students with an IEP can take the handout home if they need extra time.

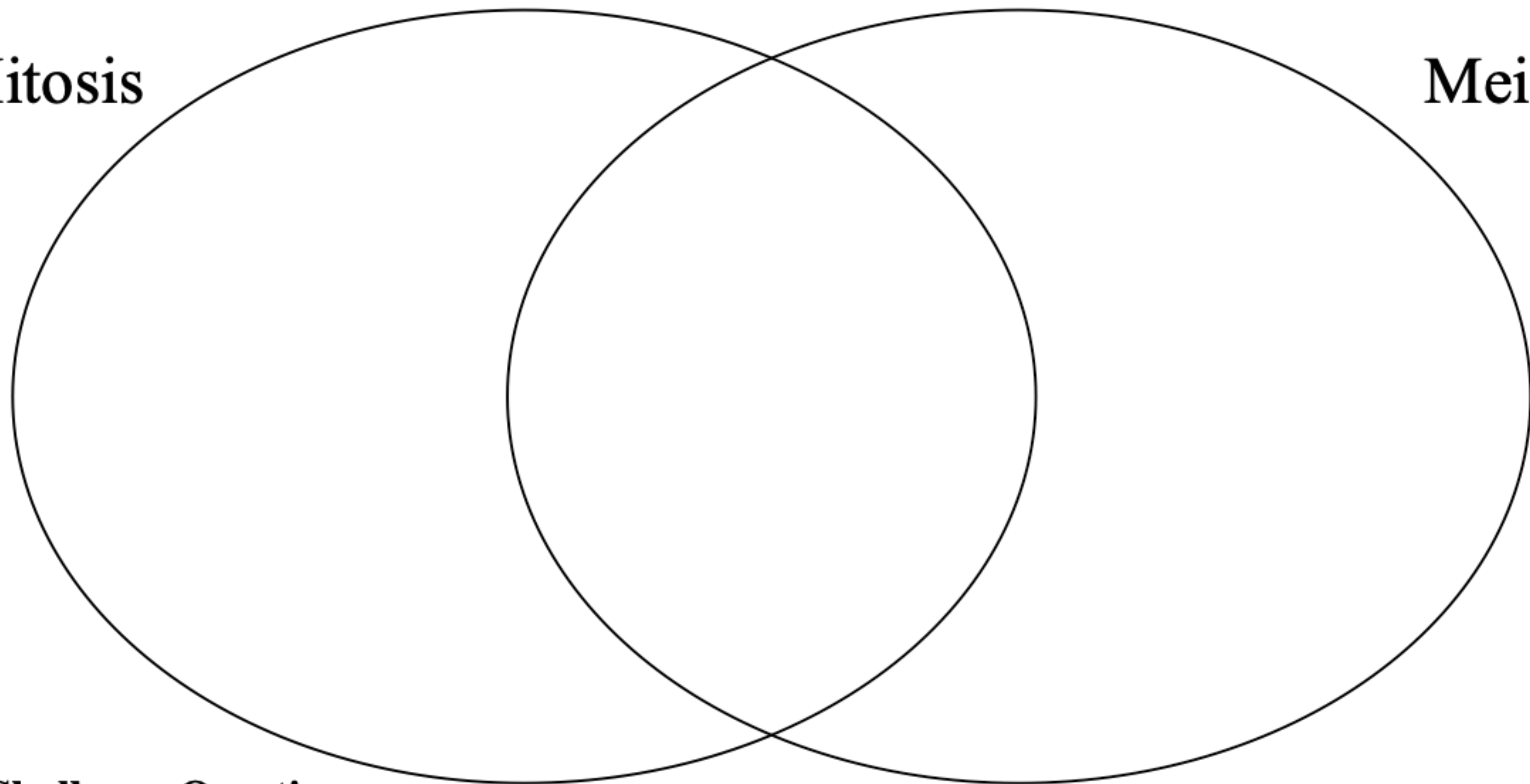
Editable DOCX File and Answer Key:

Available at www.ngsslifescience.com

Mitosis & Meiosis WS

1. What are the two main purposes of the cell cycle? _____
2. What type of cell undergoes mitosis? **Circle one:** sex cells or somatic body cells
3. How does a daughter cell compare to the parent cell after undergoing mitosis?
Circle one: identical to the parent or different than the parent
4. Does mitosis make haploid or diploid cells? **Circle one:** haploid or diploid
5. Are chromosomes paired in cells *made by* mitosis? **Circle one:** paired or separated
6. What type of cell undergoes meiosis? **Circle one:** sex cells or somatic body cells
7. What are the two main types of gametes? _____
8. What are gametes used for? _____
9. Does meiosis make haploid or diploid cells? **Circle one:** haploid or diploid
10. Are chromosomes paired in cells *made by* meiosis? **Circle one:** paired or separated
11. How does a daughter cell compare to the parent cell after undergoing meiosis?
Circle one: identical to the parent or different than the parent
12. What process in prophase 1 of meiosis makes every gamete different? _____
13. Compare and contrast mitosis and meiosis by filling in the Venn diagram below.

Mitosis



Meiosis

Challenge Questions:

14. Predict: Which came first? **Circle one:** sexual reproduction or asexual reproduction
15. Scientists think that meiosis evolved from mitosis. What evidence would scientists use to support that idea? _____