

Mitosis and Meiosis Test Outline (Topic 1.2 and 1.3) (Science 9 Pathways)

Summary of Testable Topics

- Topic 1.2 Concept 2:
 - Cell cycle (interphase, mitosis, cytokinesis)
 - Identifying onion root tip cells based on the stage of the cell cycle
 - What is the purpose of mitosis? Which cells does it occur in? What does it start and end with?
- Topic 1.3 Concept 1: (slides approx. 1-8)
 - Gametes
 - Fertilization (do not need to know details in figure 1.17)
- Topic 1.3 Concept 2:
 - Haploid and diploid
 - Homologous chromosomes
 - Karyotype
 - Meiosis

LEARNING MAP CRITERIA:

Relevance	Extending	Proficient	Developing	Emerging
<input checked="" type="checkbox"/>	<p>Given the diagram of a cell at a stage of mitosis or meiosis, draw the next stage.</p> <p>Evaluate the implications of an error at a given step of mitosis, meiosis, or the cell cycle.</p>	<p>Identify the stages of mitosis and meiosis from diagrams and from onion root tip slides.</p> <p>Match the stages of mitosis and meiosis to key events occurring at each stage.</p> <p>Explain homologous pairs (where they come from, how they are similar). Given a chromosome, draw its homologous chromosome.</p>	<p>Describe key events that occur in each stage of the cell cycle (interphase, mitosis, cytokinesis).</p> <p>Complete a simple comparison of mitosis, meiosis, and fertilization (purpose, number and ploidy of cells produced, location).</p> <p>Define haploid and diploid. Given the number of chromosomes in a haploid or diploid cell in an organism, determine the number of chromosomes in a haploid or diploid cell.</p> <p>Label the following cell structures: nucleus, nuclear envelope, spindle fiber, cell membrane.</p> <p>Label the following: chromosome, sister chromatid, centromere.</p> <p>Identify non-replicated and replicated chromosomes.</p> <p>Count the number of chromosomes in a diagram.</p>	

VOCABULARY:

(Disclaimer: This is not meant to be an exhaustive list. Vocabulary words may appear on the test that are not in this list.)

1.2

- Cell cycle
- Growth and development
- DNA replication
- Mitosis
- Cytokinesis
- Nucleus
- Cytoplasm
- Cell membrane
- Chromosome
- Centromere
- Chromatid
- Sister chromatid
- Interphase
- Chromatin
- Nuclear envelope
- Prophase
- Spindle fiber
- Metaphase
- Anaphase
- Telophase

1.3

- Zygote
- Gamete
- Sperm
- Egg
- Fertilization
- Haploid
- Diploid
- Homologous chromosome
- Meiosis
- Meiosis I
- Prophase I
- Metaphase I
- Anaphase I
- Telophase I
- Meiosis II
- Prophase II
- Metaphase II
- Anaphase II
- Telophase II

PRIMARY STUDY MATERIAL:

- Topic 1.2 Powerpoint (slides 9-27)
- Topic 1.3 Powerpoint (slides 1-32)
- Science Connections 9 Textbook
- Science Connections 9 Workbook
- In-class worksheets and activities