**BIOLOGY 2022-23 November 28, 2022**

**Today’s Agenda (Day 60)**

1. HOUSEKEEPING ITEMS

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1. Homework Check:

🡪 Chapter 9 Reading Guide

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1. Class Activity:

🡪 VIDEO: Osmosis Jones – To be cont’d at a later date

🡪DAY 2: Chapter 9 PPT Review

1. **Section 9.1 – Cellular growth**
2. Section 9.2 – Mitosis and cytokinesis
3. Section 9.3 – Cell cycle regulation

HOMEWORK:

* READ: Chapter 9 – Cellular Reproduction
* COMPLETE: Chapter 10 Vocabulary
* **STUDY**: Chapter 9 Vocabulary Quiz and Chapter Test

**CHAPTER 9 VOCABULARY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Anaphase | Apoptosis | Cancer carcinogen | Cell cycle | Centromere |
| Chromatin | Chromosome | Cyclin | Cyclin-dependent kinase | Cytokinesis |
| Interphase | Metaphase | Mitosis | Prophase | Sister chromatid |
| Spindle apparatus | Stem cell | Telophase |  |  |

**CHAPTER 10 VOCABULARY**

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| --- | --- | --- | --- | --- |
| Allele | Crossing over | Diploid | Dominant | Fertilization |
| Gamete | Gene | Genetic recombination | Genetics | Genotype |
| Haploid | Heterozygous | Homologous chromosome | Homozygous | Hybrid |
| Law of independent assortment | Law of segregation | Meiosis | Phenotype | Polyploidy |
| Recessive |  |  |  |  |

REMINDERS:

* ~~Chapter 9 Reading Guide – Nov. 28~~
* **QUIZ: Ch 9 AND 10 Vocabulary – ~~Nov. 29~~ Dec. 1**
* **TEST: Ch 9 🡪 ~~Dec. 1~~ Dec. 6**
* **TEST:** **Ch 10 🡪 Dec. 8**
* **MIDTERM EXAM: Ch 1 - 10**

**BIOLOGY 2022-23 READING GUIDE**

**Chapter 9 - Cell Reproduction**

DIRECTIONS: Refer to your textbook to respond to the following questions.

1. What is the key factor that limits cell size?
2. Why is it a major problem for a cell if it gets too big (use surface area and volume in your explanation)?
3. What are the benefits to a cell staying small?
4. How does the need for signaling proteins in a cell limit cell size?
5. When a cell reaches its size limit, what are the only two things a cell can do?
6. What happens during **interphase**?
7. What happens during **mitosis**? What happens during **cytokinesis**?
8. What determines how long the cell cycle takes?
9. Describe what happens during G1, S, and G2 stages of interphase.
10. How do prokaryotic cells reproduce?
11. What is **chromatin**? What happens to chromatin in prophase?
12. Label the **chromatids** and **centromere** in the picture below. Describe what both structures do.



1. What is a **centriole**?
2. Label the stages of mitosis shown here.



1. Describe the main feature of each of the phases of mitosis: **prophase**, **metaphase**, **anaphase**, and **telophase**.
2. Compare and contrast cytokinesis in animal cells and plant cells.
3. What monitors a cell’s progress from phase to phase during the cell cycle?
4. Explain the different checkpoints that occur during the cell cycle.
5. How is **cancer** related to the cell cycle?
6. List three **carcinogens**.
7. Why does the risk of cancer increase with age?
8. What is **apoptosis**? Give an example.
9. What is so unique about **stem cells**?
10. Compare and contrast embryonic stem cells and adult stem cells.
11. Describe a possible application for stem cells.