

Learning Targets – Chromosomes and Cell Reproduction

Background Knowledge:

1. Identify the parts of the cell nucleus and tell the function of each part.
2. Describe the role of protein, lipids, and nucleic acids in the structure of the cell nucleus.

Chromosomes

1. Describe the structure of a chromosome.
2. Identify the differences in structure between prokaryotic chromosomes and eukaryotic chromosomes.
3. Compare the numbers of chromosomes in different species.
4. Distinguish between haploid and diploid cells.

Cell Division

1. Describe the events of cell division in prokaryotes.
2. Name the two parts of the cell that are equally divided during cell division in eukaryotes.
3. Summarize the events of interphase.
4. Describe the stages of mitosis.
5. Compare cytokinesis in animal cells with cytokinesis in plant cells.
6. Explain how cell division is controlled.
7. Explain what can happen during the cell cycle to cause cancer.

Study Suggestions:

1. Sketch a diagram of a chromosome. Label all the parts.
2. Draw a sketch of the cell cycle, as a cycle. Clearly label the main stages. Tell what happens in each.
3. Put your mitosis cutouts in order from memory. Practice naming the structures and describing each.
4. Pretend you are a piece of chromatin. Write a story or draw a cartoon describing your journey to becoming part of the nucleus of a new daughter cell.
5. Make a chart that shows the similarities and differences in haploid and diploid cells. Include their structure, how they are produced, and their function.