

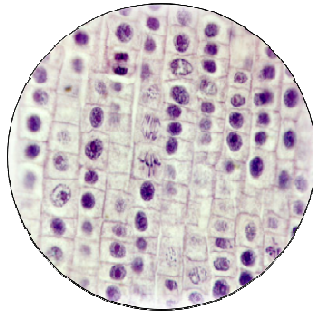
SNC2D BIOLOGY

TISSUES, ORGANS & SYSTEMS OF ...
🔍 Observing the Cell Cycle
(P.35)

Activity: Observing the Cell Cycle

INTRODUCTION

In this activity you will use a microviewer and prepared slides to observe the phases of mitosis in plant and animal cells. Mitosis takes place rapidly. The large cells and stains make it easier to see the nucleus of each cell and identify the phases of mitosis.



March 24, 2013

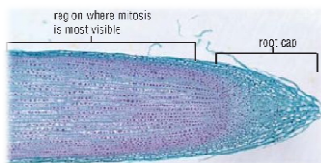
2DBIOL - Observing the Cell Cycle

1

Activity: Observing the Cell Cycle

INSTRUCTIONS

- Obtain a microviewer and the two sets of prepared slides – Animal Mitosis (Set 53) and Plant Mitosis (Set 55) – from the teacher.
- View the slides and read the descriptions provided in the booklet.
- When you are finished return the microviewer and prepared slides to the teacher.



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Activity: Observing the Cell Cycle

QUESTIONS

1. What similarities and differences did you observe between the plant cells and the animal cells undergoing mitosis?

many similarities but the main differences occur with cytokinesis:

- plant cell – new cell wall forms
- animal cell – cell pinches off in the middle

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Activity: Observing the Cell Cycle

QUESTIONS

2. Based upon your understanding of mitosis, which phase takes the longest? Why?

interphase:

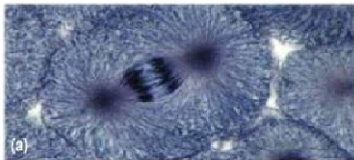
- cell grows and performs all life activities except division
- cell also prepares to divide by duplicating its DNA and organelles so they can be shared between the two new cells

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Activity: Observing the Cell Cycle

QUESTIONS

3. Identify the stages of mitosis shown in each photograph given. Explain how you made this decision.




anaphase – chromatids are separating

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Activity: Observing the Cell Cycle

QUESTIONS

3. Identify the stages of mitosis shown in each photograph given. Explain how you made this decision.



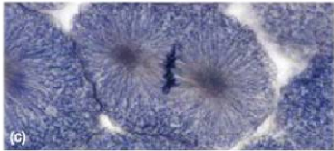
telophase – new membrane is forming

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Activity: Observing the Cell Cycle

QUESTIONS

3. Identify the stages of mitosis shown in each photograph given. Explain how you made this decision.




metaphase – chromatids are lining up

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Activity: Observing the Cell Cycle

QUESTIONS

3. Identify the stages of mitosis shown in each photograph given. Explain how you made this decision.




telophase – new membrane is forming

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Activity: Observing the Cell Cycle

QUESTIONS

3. Identify the stages of mitosis shown in each photograph given. Explain how you made this decision.



(E)

prophase – chromosomes are visible

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Check Your Learning

1. What do you think would happen if the two daughter cells of an organism did not have identical chromosomes after division?

birth defects/abnormalities/death

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Check Your Learning

2. How does mitosis make the growth and repair of cells possible in an organism?

cells replicate to replace worn out/defective cells

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✓ Check Your Learning

3. Explain how mitosis ensures genetic continuity.

identical DNA from the mother cell is passed along to the daughter cells
