

ONION ROOT TIP MEIOSIS LAB

ANSWERS

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Why onion root tip for lab experiment? Answer and Explanation: Onion root tips are commonly used to study mitosis. They are sites of rapid growth, so the cells are dividing rapidly. When an onion root tip is evaluated under a microscope, you can generally see all of the phases of mitosis within one field.

What is the hypothesis of the onion root tip mitosis lab? Hypotheses: The experimental hypothesis is that in root tips slices that have been treated with nocodazole, a chemical that interferes with microtubular polymerization, all of the cells will be arrested at the same stage of the cell cycle and that in untreated onion tip slices all of the different stages of the cell ...

What is the conclusion of the onion root tip mitosis experiment? The chromosomes are not visible and the DNA appears as uncoiled chromatin. Conclusion We, therefore, conclude that mitosis is the process in which a eukaryotic cell nucleus splits in two, followed by division of the parent cell into two daughter cells.

How to fix onion root tip for mitosis? For this, take onion bulb carefully removed dried roots and place on glass jar filled with water for 3 to 6 days to grow. o Cut 1 cm long freshly grown roots and transfer them to freshly prepared aceto-alcohol fixative. Keep it for 24 hrs. o Transfer root tips to 70% ethanol for use (root tip is preserved).

What is the hypothesis for the onion cell experiment? A hypothesis for this onion lab report could be: If onion cells are placed in a hypotonic solution, then the cells will swell and become turgid. This hypothesis is based on the understanding that in a hypotonic solution, the concentration of solutes outside the cell is lower than inside

the cell.

What is the principle of the onion root tip experiment? Onion root-tip cells have a cell cycle of approximately 24-hour duration, i.e., they divide once in 24 hours, and this division usually takes place about two hours after sunrise. Therefore, roots grown on water should be cut only at that time to score maximum number of dividing cells.

How to identify mitosis stages in onion root tip? The slide containing the stained root tip cells is placed on the stage of the compound microscope, changes taking place are noted and sketched. The different phases of mitosis, such as prophase, metaphase, anaphase and telophase can be observed.

Why is the aim to study mitosis in the onion root tip? Mitosis can be observed from onion (*Allium cepa*) root tips. The roots are easy to grow in large numbers and can be grown by keeping the root region of an onion immersed in water for a few days. The cells at the tip of the root are actively dividing, hence many cells will be in stages of mitosis.

What is the shortest phase of mitosis based on your observations of the onion root slide? Based on your observations of the onion root slide, what is the shortest phase of mitosis? Here's the best way to solve it. The shortest phase of mitosis is anaphase.

Why would the tip of an onion root have many cells undergoing mitosis? The onion root tip is made of germ cells and not sex cells, so when these cells need to reproduce, they undergo mitosis. The reason for onion root tips undergoing mitosis is increasing the number of cells in the root tips, growing the root tip and the root in general.

What is the conclusion of onion experiment? Conclusion: As cell walls and large vacuoles are clearly observed in all the cells, the cells placed for observation are plant cells. - Onion epidermal peel is made up of rectangular shaped cells. A nucleus, a central vacuole, a thin layer of cytoplasm, and a cell wall make up each cell.

What is the main purpose of mitosis in the onion root? Expert-Verified Answer.

Some cells in the onion root tip are undergoing mitosis because this tissue is growing quickly. Mitosis is a type of cellular division by which a parent cell produces two genetically identical daughter cells.

Why do onion root tip cells divide quickly? Because the root tip is a fast growth area of the onion plant, cells are rapidly dividing.

How long does it take for onion root tip to complete mitosis? In the apical meristem region of an onion root tip one complete cell cycle is typically completed in approximately 24 hours. Of that time, between 2–4 hours is spent in the mitotic phase of nuclear and cellular division.

Why are onion root tips excellent for mitosis observation? The root tip of a plant contains actively dividing cells, making root tips excellent observation points for mitosis. Each plant cell is surrounded by a cell wall, making the identification of cells easy. Also, the cells near the root tip are highly organized into concentric layers, making them easy to see and count.

What is the hypothesis of mitosis in onion root tip? To observe mitosis in onion root tip cells and record the different phases of mitosis. Hypothesis: It is expected that the most common phase of mitosis seen will be interphase as the cell spends around ninety percent of its time in this phase.

What are the observations of the onion cell experiment? Observations There are a large number of regularly shaped cells lying side by side and each cell has a distinct cell wall. A distinct nucleus is present on the periphery of each cell. Lightly stained cytoplasm is observed in each cell.

What is the best explanation for why the onion cells do not burst? the onion cells have a cell membrane, which can protect them from bursting 4. the red blood cells have a cell wall, which does not protect them from bursting Page 4 7. A cell is represented in the diagram below.

What was the conclusion of the onion root tip lab? The conclusion of this lab was that Mitosis is essential for the production of new cells. In the case of the onion root sample, the cells were damaged leading to the tester to undergo Mitotic cell

division and it was found that mainly Interphase and Prophase were the stages that occurred in this lab.

What is the function of the root tip of an onion? Onion Root Tips The root tip of a plant is responsible for a plant's growth downward into the soil. Cells are therefore actively dividing and/or elongating, which makes root tips excellent observation points for mitosis.

How do you investigate an onion root tip? In order to examine cells in the tip of an onion root, a thin slice of the root is placed onto a microscope slide and stained so the chromosomes will be visible. The cells you'll be looking at in this activity were photographed with a light microscope and then digitized so you can see them on the computer.

How to do mitosis in onion root tip experiment?

Can meiosis occur in onion root tip? The cells of an onion root tip can only undergo mitosis and not meiosis. The cells of an onion root tip are body (somatic cells) and not sex cells, and body cells could only carry out mitosis. So, these cells divide via mitosis for the purpose of root growth and elongation.

What happens if the tip of an onion root is cut off? The roots of the onion stop to grow once we cut their tips because the meristematic growth is stopped. The growth of plant occurs only in certain specific regions. This is because the dividing tissue, also known as meristematic tissue, is located only at these points.

How will you describe the process of mitosis in the onion root? Mitotic stages (interphase, prophase, metaphase, anaphase, telophase and cytokinesis) in onion root tip cells. DNA replication occurs at interphase during the so-called S phase (S = synthesis). This stage is followed by the G2 phase (G=gap) during which structures required for division begin to assemble.

What are the phases of mitosis in the onion root tip? During the process of mitosis, the chromosomes pass through several stages known as prophase, metaphase, anaphase and telophase. The actual division of the cytoplasm is called cytokinesis and occurs during telophase.

What happened at the root tip? At the very tip, the root cap protects the rapidly dividing cells known as the meristematic region or meristem (zone of cell division). Behind the meristem, cells elongate and push the meristem and root cap forward into the soil so the root can explore and mine new soil (zone of elongation).

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Why is using the tip of the onion root a good place to observe the cell cycle of this organism? Because the root tip is a fast growth area of the onion plant, cells are rapidly dividing. Also, the cells are large, so they are relatively easy to see, and the 16 chromosomes stain easily.

Why are only the tips of the roots examined? There are many reasons why root tips may be regarded as the ideal plant tissue in which to study the effect of chemical substances on chromosomes. Root tips are easy to handle, and in the root meristem a large number of dividing cells may readily be obtained.

Why must the onion root tip be stained before viewing under a light microscope? Onion root tips also grow quickly and are only a few cells thick. A stain is used to dye condensed chromosomes—like those undergoing mitosis—a very dark color. By viewing the onion root tip using a light microscope, it is easy to determine if a particular cell is in interphase or mitosis.

What is the purpose of the root tip? The major role of the root tip structure is as follows- It aids in communicating with the microbes present in the soil and is involved in many crucial mechanisms of the plant.

Why would there be a lot of mitosis at an onion root tip? The reason for onion root tips undergoing mitosis is increasing the number of cells in the root tips, growing the root tip and the root in general. That leads to the plant having a larger root that increase its stability and decreases the possibility of the plant getting uprooted.

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so the chromosomes will be visible. The cells you'll be looking at in this activity were photographed with a light microscope and then digitized so you can see them on the computer.

What was the conclusion of the onion root tip experiment? Observations and Conclusion The slide containing the stained root tip cells is placed on the stage of the compound microscope, changes taking place are noted and sketched. The different phases of mitosis, such as prophase, metaphase, anaphase and telophase can be observed.

What is the hypothesis of the onion root tip lab? To observe mitosis in onion root tip cells and record the different phases of mitosis. Hypothesis: It is expected that the most common phase of mitosis seen will be interphase as the cell spends around ninety percent of its time in this phase.

Why is onion root tip used to demonstrate mitosis in this experiment? It is because of the meristematic cells that are situated in the tip of the roots that render the most desirable and suitable raw material to study the different stages of mitosis.

What is the function of the root tip cell? The root cap, a small tissue at the tip of the root, protects the root from environmental stress and functions in gravity perception. To perform its functions, the position and size of the root cap remains stable throughout root growth.

Why are root tips so useful for observing mitosis? The root tip of a plant contains actively dividing cells, making root tips excellent observation points for mitosis. Each plant cell is surrounded by a cell wall, making the identification of cells easy. Also, the cells near the root tip are highly organized into concentric layers, making them easy to see and count.

How to observe mitosis in onion root tip?

Why is the root tip a suitable part of the onion plant for the observation of mitosis? The root tip is rapidly growing, so there are many cells in all stages of mitosis within a short space, conducive to showing multiple stages on one slide.

Why onion root tips were used to view cells undergoing mitosis? Final answer: Onion root tips are used to observe mitosis because they have a large number of

actively dividing cells. The chromosomes in these cells are easily visible under a microscope, providing a clear image of cell division.

How long does it take for the onion root tip to mitosis? In the apical meristem region of an onion root tip one complete cell cycle is typically completed in approximately 24 hours. Of that time, between 2–4 hours is spent in the mitotic phase of nuclear and cellular division.

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When was Politics by Andrew Heywood published?

Who wrote the book New Aspects of Politics? New Aspects of Politics is a 1925 book by Charles Merriam. It is considered to be one of the early contributions to the behaviouralist movement in politics.

Who wrote the book politics in which year? Politics (????????, Politiká) is a work of political philosophy by Aristotle, a 4th-century BC Greek philosopher.

What is the political novel of 1844? Coningsby, or The New Generation is an English political novel by Benjamin Disraeli, published in 1844.

Who is the author of the book Aspects of Political Development?

Which decade witnessed the end of ideology? The End of Ideology: On the Exhaustion of Political Ideas in the Fifties is a collection of essays published in 1960 (New York, 2nd ed.

Who is the politician who writes novels? Jeffrey Howard Archer, Baron Archer of Weston-super-Mare (born 15 April 1940) is an English novelist and former politician. He was Member of Parliament (MP) for Louth (Lincolnshire) from 1969 to 1974, but did not seek re-election after a financial scandal that left him almost bankrupt.

When was political theory published? The journal was established in 1973 and is published by SAGE Publications.

When was the politics of reality published? The Politics of Reality: Essays in Feminist Theory is a 1983 collection of feminist essays by philosopher Marilyn Frye. Some of these essays, developed through speeches and lectures she gave, have been quoted and reprinted often, and the book has been described as a "classic" of feminist theory.

When was the concept of the political written? Publication. The Concept of the Political was first published in 1932 by Duncker & Humblot (Munich). It was an elaboration of a journal article of the same title, published in 1927. The 1932 version has significant, and controversial, revisions, likely made in response to the reaction of Leo Strauss.

When was politics among nations written? Politics Among Nations: The Struggle for Power and Peace is a political science book by Hans Morgenthau published in 1948. The book introduces the concept of political realism, presenting a realist view of power politics.

When was one hundred great essays published?

What was the first essay written? In 1580, French philosopher Michel de Montaigne originated the essay genre when he published his multivolume work titled *Essays*. Montaigne wrote familiar essays on topics such as death, friendship, virtue, education, politics, friendship, and human nature.

When was 50 essays 6th edition published?

When was the One Hundred Years of Lenni and Margot published?

When was the essays published? *Essays*, work by the French writer and philosopher Michel de Montaigne (1533–92) that established a new literary form, the essay. The first two volumes of the *Essais* (*Essays*) were published in 1580; a third volume was published in 1588, along with enlarged editions of the first two.

When was 101 essays written? *101 Essays That Will Change the Way You Think* is a book of short essays by Brianna Wiest, published in 2016. It is in the genre of self-help and personal development, touching on topics related to philosophy and mindfulness.

When was EB White essays published? White. Published: New York : Harper & Row, c1977.

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