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**Plant Hormone Activity**

Refer to your notes to answer the following questions in full sentences.

**Knowledge and Understanding**

1. What problem would a plant have if it did not have enough gibberellins? Explain.

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2. How are cytokinins used commercially in tissue cultures in biotechnology labs?

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3. List the three advantages that abscisic acid gives a plant. Explain when these advantages might be particularly valuable.

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**Inquiry**

4. Some people place fresh fruit in bags to increase the speed of ripening. Which hormone is being concentrated by this action and what three things are influenced by this hormone?

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5. Cold storage of fresh fruit often slows the ripening process. Explain what the colder temperatures must do in the plant.

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**Plant Hormone Activity**

**Answer Key**

**Specific Curriculum Expectation**

F3.4 Describe the various factors that affect plant growth.

1. Plant growth would be inhibited and so it would be a dwarf due to a lack of cell elongation. Bolting may be reduced.
2. Cytokinins are used commercially in tissue cultures to allow the production of new plants which have the identical genotype as an original, genetically altered cell.
3. Abscisic acid promotes the closure of stomata, induces seed and bud dormancy, and providing resistance to water stress. It is particularly valuable for perennial plants that produce seeds for the next season and plants in dry environments.
4. Ethylene. The three things that are influenced by ethylene are fruit softening, change in the color of fruit, and the conversion of starch into sugars.
5. Lengthen the reaction time of ripening hormones.

Adapted from: Ritter, Bob, Christine Adam-Carr, and Douglas Fraser. Nelson Biology 11. Upper Saddle River: Nelson Education Limited, 2001. Print.