RAVEN CHAPTER 37 GUIDED NOTES: PLANT TRANSPORT

1. Explain the forces that drive transpiration in the xylem.

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2. What cellular structures are responsible for the rapid water exchange in plant cells?

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3. Explain the meaning of the terms “turgor pressure” and “turgid”.

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4. What is the adaptive value of root hairs?

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5. How are mineral ions transported into the roots of plants?

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6. List the two main adaptations that reduce water loss in plants.
   a. ________________________________________________________________
   b. ________________________________________________________________

7. Explain how the need to regulate water loss and the need for a constant supply of CO₂ can be conflicting requirements.

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8. Describe the structural adaptations of guard cells.

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9. Describe the cellular mechanism that enables guard cells to open and close stomates.

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10. Movement of sugars through the phloem is called ____________________________?

11. In what direction do sugars move in the phloem? ________________________________

12. Describe the bulk flow mechanism of sugar transport in the phloem.

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13. Summarize transport in plants by explaining this diagram.