

CHAPTER 1	Investigation 1.A: Storing Solar Energy in Plants Answer Key	BLM 1.1.3A
ANSWER KEY		

Answers to Analysis Questions

1. The green pigmentation of all leaves exposed to sunlight tested positive for starch (turned purple).
2. Diagrams should shade all green leaves exposed to sunlight to indicate starch detection. For variegated leaves exposed to sunlight, the green pigmentation only should be shaded. Leaves not exposed to sunlight did not turn purple.
3. Starch was present in the green areas only.
4. , 5. Explain why your predictions and hypotheses were (or were not) accurate.

Answer to Conclusion Questions

6. Light exposure is required for starch formation in green leaves.
7. You could suggest factors such as the following: The plants placed in the sunlight may experience warmer conditions than the plants placed in darkness. Indirectly, these plants may also experience more water loss as a result of this temperature difference. These effects could be minimized by measuring the temperature variation in the light conditions and setting up equivalent temperature variations in the dark conditions.

Answer to Extension Questions

8. A typical hypothesis might be: If plants need sunlight to perform photosynthesis and make starch, then the leaves that are exposed to sunlight should show the presence of starch and the leaves that have been covered with foil should not. A typical prediction might be: I predict that the uncovered leaves will show a positive response for starch and the covered leaves will show a negative response for starch.
9. You will observe an image on the leaf, formed as a result of light being blocked by the dark areas of the negative and light passing through the lighter areas.