

CHAPTER 5	Investigation 5.B: Using Chromatography to Separate Plant Pigments Answer Key	BLM 5.2.3A
ANSWER KEY		

Answers to Analysis Questions

1. The sketch should show the solvent front, the original spot, and three to four pigment circles.
2. The most soluble are the carotenes, which travel the farthest. The least soluble is chlorophyll *b*, which travels the shortest distance. The most soluble is either the smallest or the most polar. The least soluble is either the largest or the least polar.
3. You should provide evidence of comparison in the form of a table. Sources of error may include moving the test tube after set up, allowing the paper to touch the edge of the test tube, not allotting enough time for the experiment, working too slowly, or having too much or too little pigment on the paper.
4. Answers will depend upon the pigment mixture used. You should be able to provide the majority of the names of the pigments using the table provided.

Answer to Conclusion Questions

5. a) Pigments in the coleus: if green and cream leaf, the same as in the green leaf; if the leaf includes red, add anthocyanins. Pigments in the green leaf: carotenes, xanthophylls, chlorophyll *a* and *b*.
b) You may answer yes or no. The hypothesis should include a prediction linking a manipulated variable to a responding variable and an explanation as to why you think the link is valid.