

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

## DNA Forensics and Color Pigments Activity Worksheet **Answer Key**

Once you have completed the activity, answer the following questions.

**Questions on the DNA Forensics and Color Pigments activity:**

1. What happens to the sample drops? **They separate into color as they travel up the paper.**
2. Which samples have a similar makeup? **Will depend on the food coloring.**
3. Which samples appear dissimilar? **Will depend on the food coloring.**
4. How can you apply your observations to restriction mapping? **Food coloring solutions separate into components. Similar components will map similarly to restriction fragments in DNA fingerprinting.**

**Questions on restriction enzymes:**

1. What does it mean when they say that Restriction Enzymes are “sequence specific”? **They cut DNA when they encounter a specific sequence along the DNA.**
2. What is the purpose for the ligase? **To bond two DNA fragments.**
3. How does electrophoresis separate the DNA fragments? **It separates them based on the length of the DNA fragments.**
4. What is the difference between larger and smaller fragments and their migration distances? **Larger fragments travel slower while shorter fragments travel faster.**