

Name:

Date:

Class:

Pepper Purification Plan

Your Scenario: You are about receive a shipment of 10 grams of metal solutes. They will come to you in a small container, dry and evenly mixed. It is your job to work with your group to write a method to properly extract all the pepper using water to simulate an “acid wash.” You must use the coffee filter to separate the pepper from the water.

1. What shipment of metals did your teacher assign you? Record your answer below.
2. What percentage of each metal is in your shipment? Which metal has the largest percentage? What do you think will make that metal dissolve the fastest? Record your answer below.
3. Your shipment is coming to you dry. How much water will you need to add to your cup to help the metals dissolve? Will you need that water to be hot? Hint: Use the graph from the slides your teacher showed today in class. Record your answer below.

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4. Will you need any tools to help you dissolve the metals? How will you know you have completely dissolved your solutes? Record your answer below.

5. The metals will likely be wet after washing them and filtering. Where will you set your metals to dry overnight, and how will you remember which coffee filter of pepper is yours the next day?

6. How much pepper can you extract from this shipment of metals? Write your answer in grams below.

7. **After testing your plan:** When you tried to dissolve your salt and sugar, what went well? What might you change next time? Answer below.

8. **After the pepper dried overnight,** how much pepper did you keep? _____