Physical and Chemical Experiments

1. Plaster Experiment
    a. Need: plaster, cups, sticks, spoons, paper towels, water
    b. Directions:
        i. Put a couple of spoonfuls of plaster into the cup.
        ii. Squirt some water into the plaster.
        iii. Stir the plaster so it looks like a milk shake.
        iv. Feel the side of the cup after a while.
        v. Let it sit.
    c. Questions:
        i. What did the plaster do? _____

        ii. Why did it do it? _____

        iii. What kind of a reaction was it? _____

        iv. What are the indicators? _____

2. Shells in Vinegar Experiment
    a. Need: shells, bottle, balloon, vinegar, funnel, graduated cylinder
    b. Directions:
        i. Put the shells in the bottle.
        ii. Put vinegar into the bottle.
        iii. Put a balloon over the bottle.
        iv. Feel the bottom of the bottle for temperature change.
        v. Put your ear against the bottle.
        vi. Let it sit.
    c. Questions:
        i. What did the balloon do? _____

        ii. What do you see happening in the water? _____

        iii. Why did the balloon do this? _____

        iv. What kind of a reaction was it? _____

        v. What are the indicators? _____

3. Colors and Water Experiment
    a. Need: water-base markers, cone coffee filters, water, small glass cups

b. Directions:
    i. Put five different color dots on the filter in rainbow style near the top.
    ii. Put water about half way in the bottle.
    iii. Roll the filter in a loose roll and put the end opposite the dots in the water.
    iv. Sit and wait.

c. Questions:
    i. What did you see the colors do? _____

    ii. Why did they do it? _____

    iii. What kind of a reaction was it? _____

    iv. What were the indicators? _____

4. Alka Seltzer Experiment
    a. Need: Alka Seltzer, water, balloon, string, test tubes
    b. Directions:
        i. Break up the Alka Seltzer and put the pieces into the balloon.
        ii. Fill up the test tube with water.
        iii. Put the balloon over the beaker of water.
        iv. Pour the water into the balloon.
        v. With the test tube up and the balloon down, tie the string around the mouth of the balloon and take the test tube off.
        vi. Put your ear against the balloon.
        vii. Feel the balloon for temperature change.
        viii. Sit and wait
    c. Questions:
        i. What did you see happen? _____

        ii. Why did this happen? _____

        iii. What kind of a reaction was it?

        _____

        iv. What were the indicators? _____

5. Pennies and Vinegar Experiment
    a. Need: dingy penny, small plastic cup, salt, vinegar, stir stick, paper clip
    b. Directions
        i. Put some vinegar into the plastic cup.
        ii. Put some salt in the plastic cup and stir it in.

iii. Put a penny into the vinegar solution.
iv. Feel the bottom.
v. Sit and wait.

c. Questions:
   i. What did you see happen to the penny? _____

   ii. Why did this happen? _____

   iii. What kind of a reaction was it?
   _____

   iv. What were the indicators? _____

6. The Slime Experiment
   a. Need: Borax and water (sodium borate), white glue, stir sticks, heavy quart Baggie, paper towels, graduated cylinders, 9 oz cup
   b. Directions:
      i. Pour ½ inch of glue into a cup.
      ii. Pour 25 ml of water into the glue cup.
      iii. Pour 20 ml of sodium borate into a quart Baggie.
      iv. Pour the glue/water solution into the quart Baggie with the sodium borate.
      v. Seal the bag.
      vi. Knead the solution with your hand for a while.
      vii. When it has all missed in and solidified, take it out with your hands and start to knead it with your hands over a paper towel on your desk.
   c. Questions:
      i. What did you see happen to the solution with it was mixed with your hands?

      _____

      ii. Why did this happen? _____

      iii. What kind of reaction was this? _____

      iv. What were the indicators? _____