Number:\_\_\_\_\_\_\_Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Pennies of a Different Sort Lab**

Important Information:

* Pennies made before 1982 were made of copper and weighed approximately 3.1 grams apiece.
* Pennies made during and after 1982 were and are made mostly of zinc and weigh about 2.5 grams each.

Lab:

You will be given a container along with 10 pennies produced at various times in history.

Your job is to decide how many pennies were produced before 1982 and how many were produced during or after 1982.

Supplies: a weight scale, graph paper, pencil, computer, and a calculator

**The one RULE: YOU ARE NOT ALLOWED TO OPEN THE CONTAINERS!**

1. What do you know? Make a list.

2. What do you *need* to know? Make a list.

3. What should you consider when weighing your containers?

4. What will you do once you know a weight?

5. Could you use algebra to help you? Try to make an equation that represents this situation. Could you make more than one equation?

6. What are the possible answers for how many pennies of each kind? Fill in the table.

|  |  |
| --- | --- |
| Before 1982 Pennies | After 1982 pennies |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

7. What is your final answer?

Ask Mrs. O’Mara to initial here:\_\_\_\_\_\_\_\_\_

THEN open up the container and see if you were correct.

8. Were you correct? How close or far away were you if you weren’t correct?

9. Did you use a graph at all? Why or why not?

10. Did you use an equation at all? Why or why not?

11. What was *successful* about your group’s problem solving process?

12. How could you change your process next time to be even more successful?

13. What is another real-life situation where you could this same problem-solving method?