

Name: _____

Date: _____

Chemistry-2 Period _____

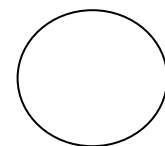
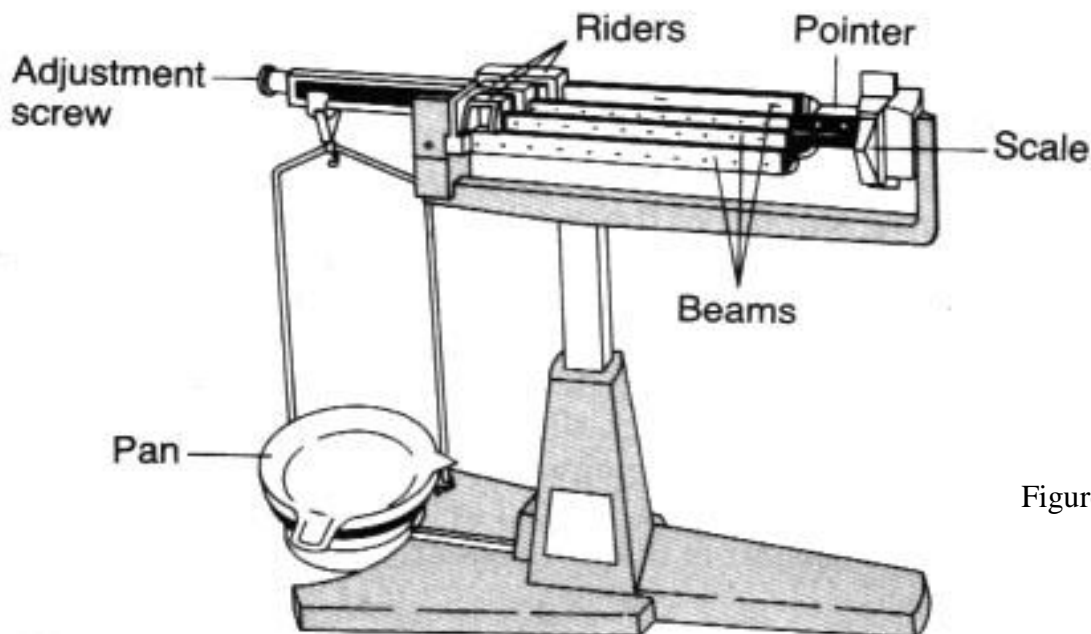
Due Date: _____**We are learning****Chapter 1 Lab: How to Properly Use a 4-Beam Balance****25 points total**

Figure A

When the balance is required for determining mass, you will use a balance like the one shown in Figure A above (a four-beam balance). This balance can read to **0.001g**. This means that whenever you use this balance to mass, your answer should be reported with three decimal places (**0.001 g**).

| Procedures | Observations |
|---|---|
| 1. Make sure the balance pan is hanging on the top hook. | Does the balance pan swing freely or does it hit the bottom? |
| 2. Slide all 4 of the riders all the way to the left so that they are each on zero. | How many riders have to fit securely into v-shaped notches all along the beams? |
| 3. Check to make sure the pointer is aligned with the white mark. | Does the pointer align with the white mark? |
| 4. Slowly and carefully turn the adjustment screw away from you. | What happens to the pointer? |
| 5. Slowly and carefully, turn the adjustment screw towards you. | What happens to the pointer? |

| | |
|--|---|
| <p>6. Slowly and carefully turn the adjustment screw so that the pointer is aligned with the white mark. The balance has now been zeroed.</p> | |
| <p>7. Obtain a massing kit from your teacher's desk. Take the 20-gram mass from the kit and place it on the balance pan.</p> | <p>What happens to the pointer?</p> |
| <p>8. Slide the rider so that it is resting at the 20-gram location.</p> | <p>What happens to the pointer?</p> |
| <p>9. Remove the 20-gram mass and zero the balance once again.</p> | <p>What did you have to do to zero the balance?</p> |
| <p>10. Get a rubber test tube stopper from your middle glassware drawer. Place the stopper on the balance pan and mass it.</p> | <p>What is the mass of the stopper? _____g</p> |
| <p>11. Remove the stopper, and make sure the pointer re-aligns with the white mark. If it doesn't, zero out the balance.</p> | <p>Did the balance zero out?</p> |
| <p>12. Obtain a plastic massing cup from your teacher, and mass it.</p> | <p>What is the mass of the massing cup? _____g</p> |
| <p>13. Bring your massing cup to the teacher's desk and carefully put a scoop of sodium chloride into it from the beaker on your teacher's desk. Determine the mass of the massing cup and sodium chloride together.</p> | <p>What is the mass of the massing cup and sodium chloride together? _____g</p> |
| <p>14. Remove the massing cup from the balance pan return the sodium chloride back into the beaker on your teacher's desk.</p> | <p>What happens to the pointer on the balance?</p> |
| <p>15. Slide all the riders back to zero and remove the hanging balance pan from the hook.</p> | <p>What happens to the pointer?</p> |
| <p>16. Using both hands to hold onto the balance (one hand on the red neck and the other underneath the balance), return the balance to its proper location in your cabinet.</p> | <p>In which cabinet does your balance belong?</p> <p>What other equipment is in the cabinet with the balance?</p> |

Name _____
Period _____

Date _____

Lab: How to Properly Use a Balance

Use the data you collected during the lab to answer the questions that follow. 16 pts

1. When the 20-gram mass was added to the balance, did the balance zero out? _____ 1pt
2. What was the mass of the stopper? _____ 1pt
3. What was the mass of the massing cup? _____ 1pt
4. What was the mass of the massing cup and sodium chloride? _____ 1pt
5. How can you determine the mass of the sodium chloride alone? 2pts
6. Calculate the mass of the sodium chloride alone. Show your work below. 2pts
7. How many decimal places should any mass measurement contain when using a four-beam balance? _____ 1pt

Why??? 2pts

8. How should you hold your balance? 1pt

Why? 2pts

9. If your balance is not reading zero, what can be done to zero the balance? 2pts