

Name: \_\_\_\_\_ Per \_\_\_\_\_

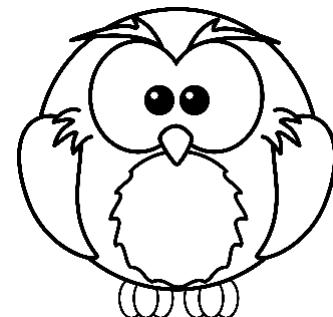
### OWL Candy Activity

**Purpose:** Write the purpose at the end of the activity, after you have answered all questions

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**Procedure:**

1. Record the number of items in each bag,
2. Measure the mass of each bag.
3. Record any other observations for each bag.

Candy Type	Number of items in bag	Mass of the bag	Other observation(s)

**Analysis:**

1. Were there any similarities between each candy type?
2. Were there any differences between each candy type?

As you know from the DO NOW, a dozen represents 12 items. Since I did not have enough items to make a dozen I decided to make a new counting unit. I called this unit an **OWL**. Each of your packages contains \_\_\_\_\_ items. We will call this an OWL.

**Therefore 1 OWL = \_\_\_\_\_ items**

**Questions:**

1. An OWL of oranges will have \_\_\_\_\_ oranges.
2. An OWL of pretzels will have \_\_\_\_\_ pretzels.
3. An OWL of desks will have \_\_\_\_\_ desks.

4. How many Hershey's Kisses are in 2 OWLs?

5. How many caramels are in 10 OWLS?

6. How many strawberries in 400 OWLS?

7. How many carrots in  $\frac{1}{2}$  an OWL?

- Write overall directions for finding the number of items if given the number of OWLS.

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8. How many OWLS are in 16 Hershey's kisses?

9. How many OWLs are in 100 pretzels?

10. How many OWLs are in 400 desks?

11. How many OWLs is 3 oranges?

- Write overall directions to find the number of OWLs if given a number of items.

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Now that you have a better understanding of different counting units (for example the dozen, and the OWL), do you think that there is a counting unit that would be relevant or convenient for chemists to use in their calculations? Explain why or why not. \_\_\_\_\_

If there is a counting unit for chemists, do you think this unit is large or small? Explain your reasoning? \_\_\_\_\_

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Scientists have devised such a unit to represent for calculations in chemistry, and this unit is the **MOLE!**

Now have one member in your group pull up the following video titled *The Mole is a Unit* on their phone. Have all members in your group watch the video about the mole. While you are watching the video keep the following question in mind

*How big is a mole? How big would a mole of molecules be?*

<http://tinyurl.com/themoleisaunit>

One MOLE = \_\_\_\_\_ items  
(write number in expanded notation)

This number is called **Avogadro's** number is usually written in scientific notation, write this number in scientific notation. \_\_\_\_\_

Look at your calculations and data above. Does the mass of an item affect the counting unit such as the dozen, OWL, or the mole? \_\_\_\_\_

Now look at your rules that you have written for the calculations using OWLs to answer the below question about moles.

**Questions (part 2):**

1. How many Hershey's kisses make up 1 mole?
2. How many caramels make up 10 moles?
3. Find the number of strawberries in 4 moles.
4. Find the number of rubber bands in 0.5 moles.
5. How many moles are in  $6.0 \times 10^{23}$  caramels?
6. How many moles are in  $12.045 \times 10^{23}$  pens?
7. How many atoms of potassium make up one mole?

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**Conclusion:** Fill out the following graphic organizer about the mole. Make sure to color your graphic organizer!

