

# Online Exams!



Search bar containing: how to stop students from cheating on

Search suggestions:

- how to stop students from cheating on **google forms**
- how to stop students from cheating on **online exams**
- how to **prevent** students from cheating online
- how to **prevent** students from cheating online **courses**
- how to stop students cheating online
- how to **prevent** students from cheating on online **tests**
- how to **prevent** students from cheating **in exams**
- how **teachers can prevent** students from cheating on **exams**

Buttons: Google Search, I'm Feeling Lucky

Report inappropriate predictions

# Online Exams

- Talk about Academic Honesty with your class
- Have an Academic Honesty pledge
- Start the exam with a statement on academic honesty
- Define what is and what is NOT acceptable
  - Open notes
  - Open book
  - No outside websites
- Set a time limit scheduled well in advance

# Online Exams

- Add in more "low stake" assessments

## CHE 106 pre-2017

80% exams (4, 20% each)  
20% homework

## CHE 106 Today

50% exams (4 exams, 12.5% each)  
20% homework (pre/post)  
10% weekly recitation problem set  
(10 problem sets, 1% each)  
10% practice exams (4, 2.5% each)  
5% class participation  
5% discussion board participation

# Online Exams

- Base questions on in class experiences/discussions/demonstrations

## Impact of Acid Rain in NY

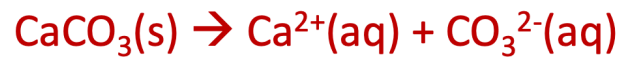
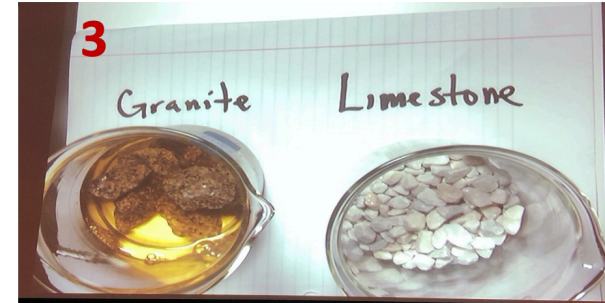


Granite ( $\text{SiO}_2$ ) is the predominant bedrock in the Adirondacks. Limestone ( $\text{CaCO}_3$ ) is the predominant bedrock in CNY

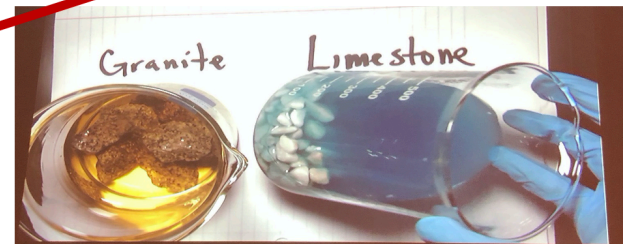


Acid rain is then added to both bedrock samples. The solution contains bromothymol blue, a pH indicator that is **yellow in acidic** conditions and **blue** above pH 7.4

The solution is added to the granite sample and remains acidic because the granite is unable to buffer against the acid



The solution is added to the limestone sample and the acid is neutralized as is indicated by the change of the solution color from yellow to blue. This change occurs because limestone ionizes into calcium and carbonate. Carbonate ( $\text{CO}_3^{2-}$ ) is able to react with and neutralize the acid





# Online Exams

## Create Formula Question

Title: HQ5.19

### Define Formula & Variables

Question: How much heat is liberated (in kJ) from  $\langle a \rangle$  g of silver when it cools from  $\langle b \rangle$  °C to  $\langle c \rangle$  °C? The heat capacity of silver is  $0.235 \frac{\text{J}}{\text{g} \cdot \text{C}}$ . Note, "heat liberated" implies that the change in heat is negative. Enter a positive number.

Define variables by surrounding them in brackets (eg.  $\langle x \rangle$ )

[Attach Image](#)

Answer Formula:  $((\langle a \rangle * 0.235 * (\langle c \rangle - \langle b \rangle)) / 1000) * -1$

Variables for use in formula:  $\langle a \rangle, \langle b \rangle, \langle c \rangle$

Operations supported:  $+, -, *, /, ^, ()$  log ln

### Define variables

☒ Require answers to a given number of significant figures Beta

Set a min and max range for your variables

<b>a</b>	Min: 245	Max: 260	Significant Figures: 3
<b>b</b>	Min: 80	Max: 90	Significant Figures: 4
<b>c</b>	Min: 25.5	Max: 27	Significant Figures: 3

[Cancel](#) [Save](#)

HQ5.19

[Edit](#) [Export](#) [Delete](#)

Respond with the correct number of significant figures in scientific notation (Use E notation and only 1 digit before decimal e.g. 2.5E5 for  $2.5 \times 10^5$ )

Example Question

How much heat is liberated (in kJ) from 2.45E2 g of silver when it cools from 9.000E1 °C to 2.55E1 °C? The heat capacity of silver is  $0.235 \frac{\text{J}}{\text{g} \cdot \text{C}}$ . Note, "heat liberated" implies that the change in heat is negative. Enter a positive number.

- Formula questions with defined variables
- Creates different variables each time the question is generated

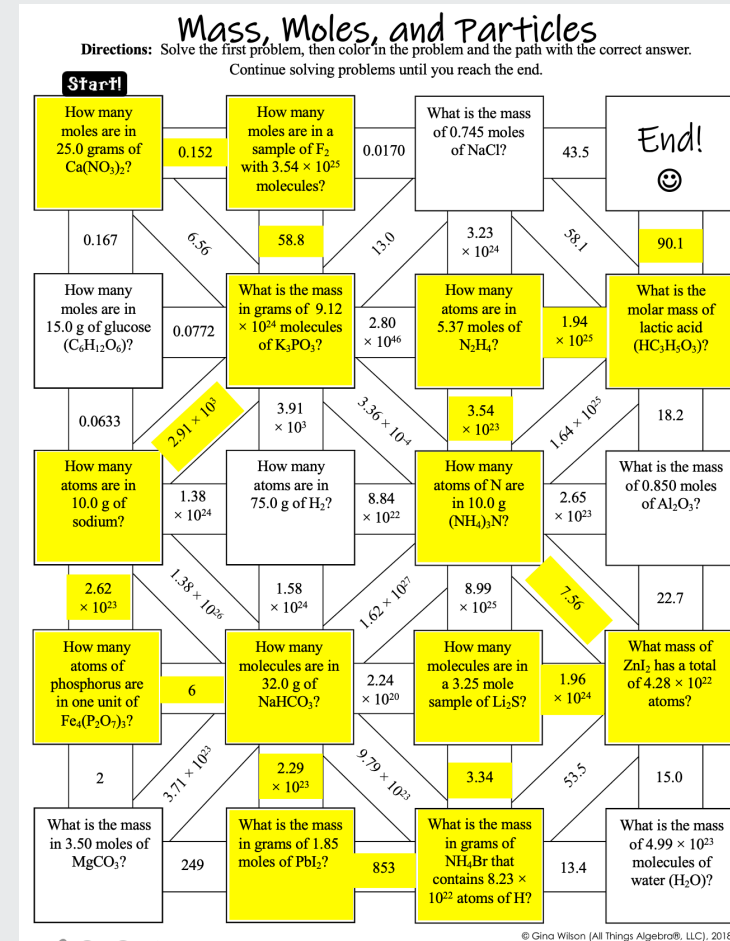
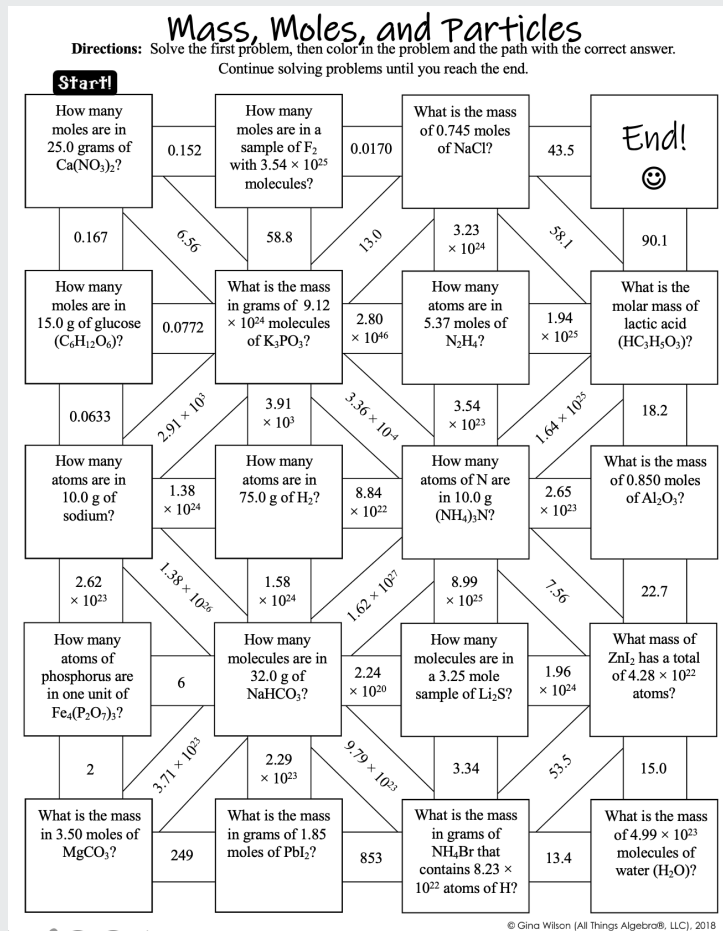
# Online Exams

- Don't use publisher provided test banks!
- Hack to creating multiple versions of questions w/ excel

fx										
A	B	C	D	E	F	G	H	I	J	
	Reagent	grams	moles	mole product	mass product	wrong moles	wrong conversion 1	wrong conversion 2	wrong mass	
	C2H2	51	1.96	3.92	172.39	86.37	43.10	344.78	101.92	
	C2H2	38	1.46	2.92	128.45	64.35	32.11	256.89	75.94	
	C2H2	62	2.38	4.76	209.57	105.00	52.39	419.14	123.90	
	C2H2	43	1.65	3.30	145.35	72.82	36.34	290.70	85.93	
	C2H3	17	0.65	1.31	57.46	28.79	14.37	114.93	33.97	

# Problem Sets

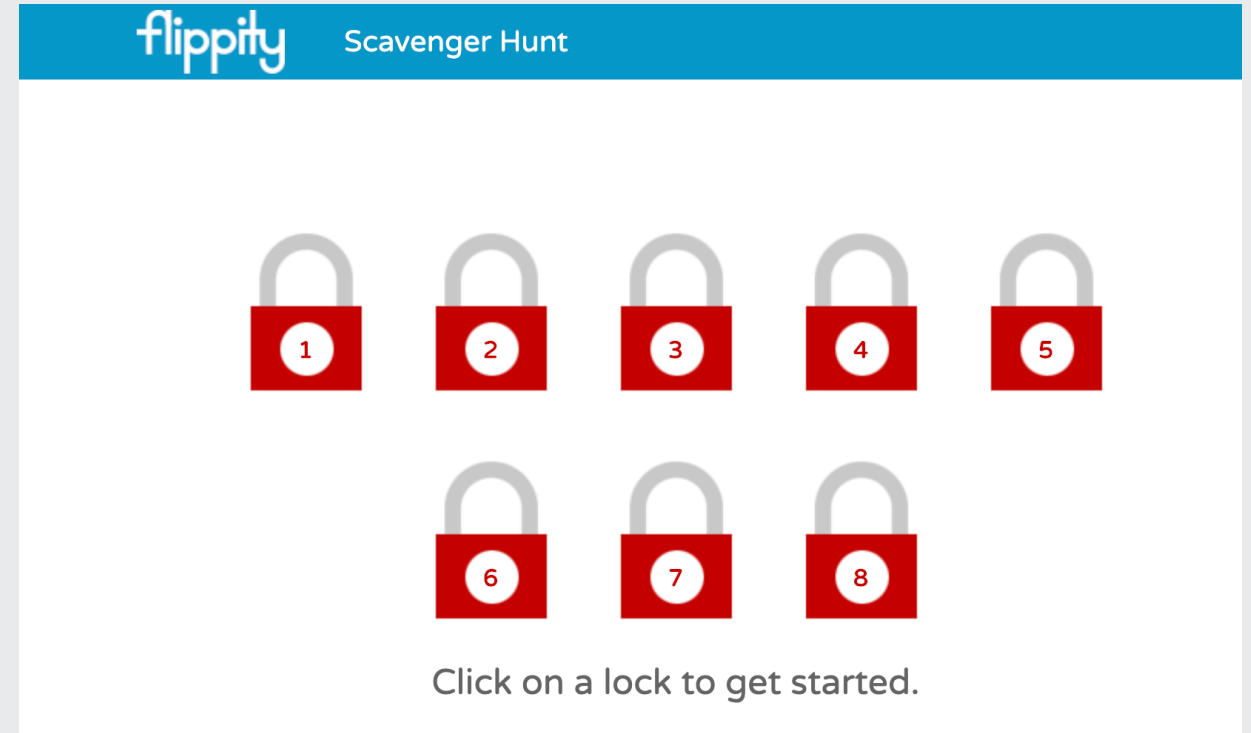
- Fun and easy to grade problem sets



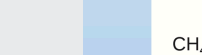
# Problem Sets

- Flippity.net – free, google forms for different activities

	World Capitals	The Simpsons	Movies	En español	Bees	Potpourri
Team 1 0	100	100	100	100	100	100
Team 2 0	200	200	200	200	200	200
Team 3 0	300	300	300	300	300	300
Team 4 0	400	400	400	400	400	400
	500	500	500	500	500	500



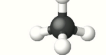
- 1-page infographic diving into the chemistry of something from your life, hobby, major, etc.



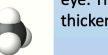
(a)

$\text{CH}_4$   
 $\begin{array}{c} \text{H} \\ | \\ \text{H}-\text{C}-\text{H} \\ | \\ \text{H} \end{array}$   

(b)



(c)

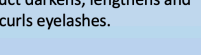


(d)

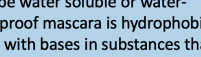
### Components

Although there are different forms of mascara, which include liquid, cake, or cream, they all contain 4 basic components. These components include pigments, oils, waxes and preservatives.

Mascara can be water soluble or water-proof. Water-proof mascara is hydrophobic and nonpolar with bases in substances that rebuff water, for example dodecane. The non-water-proof mascara is hydrophilic and tends to have weak hydrogen bonds. In the presence of water, the mixture can dissolve in the solution and allow it to come off or smear.



hydrophobic



hydrophilic

# Chemistry of a Latte

Megan McNally

Syracuse University College of Arts & Sciences - Chemistry



# Online Exams

- Change your mode of assessment
- “Chemistry in the News”
- 2-3 page essay on a current science article
- Limit the source of the article