



<https://goo.gl/7Fb7yk>



# Apps & Programs to Support Independence & Mastery in a Blended Learning Model

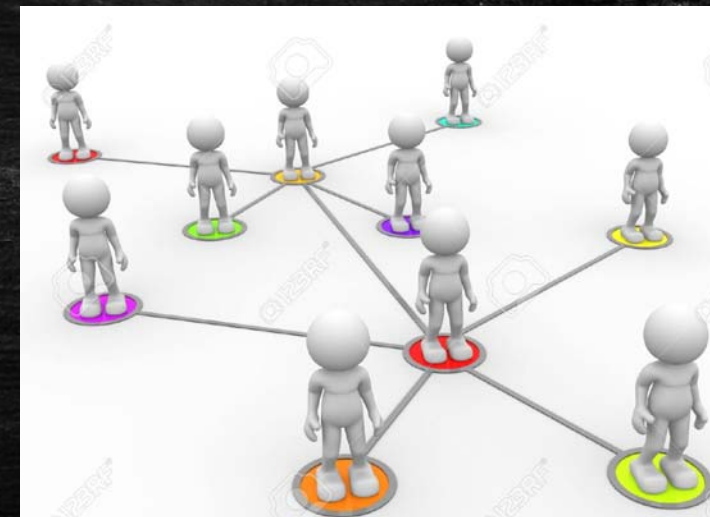
Heather Loree  
Connect 2017



*Images from [dreamstime.com](http://dreamstime.com) & [www.123rf.com](http://www.123rf.com)*



<https://goo.gl/7Fb7yk>



Images from [www.123rf.com](http://www.123rf.com) & CanStockPhoto





<https://goo.gl/7Fb7yk>



## Paul Andersen Analogy



Images from [www.clipartpanda.com](http://www.clipartpanda.com), [www.dreamstime.com](http://www.dreamstime.com), [www.canstockphoto.com](http://www.canstockphoto.com), [www.acclaimclipart.com](http://www.acclaimclipart.com), [interactioninstitute.org](http://interactioninstitute.org)



# What Does It Look Like...



<https://goo.gl/7Fb7yk>





# Cups



## Show Me A Cup

### GREEN:

I'm focused & learning



### YELLOW:

I have a question, but can keep going until it is answered



### RED:

Emergency, I can't move forward without help



### BLUE:

I have something ready to be checked



### PURPLE:

I want to tell you something, but it may not be related to the course



<https://goo.gl/7Fb7yk>



# EDpuzzle



<https://goo.gl/7Fb7yk>

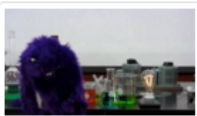

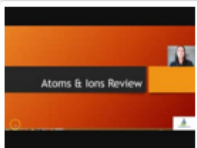





- Lesson/Content Delivery
- Interactive
- Self-paced
- Accountability
- Make your own or pre-made







<https://goo.gl/7Fb7yk>

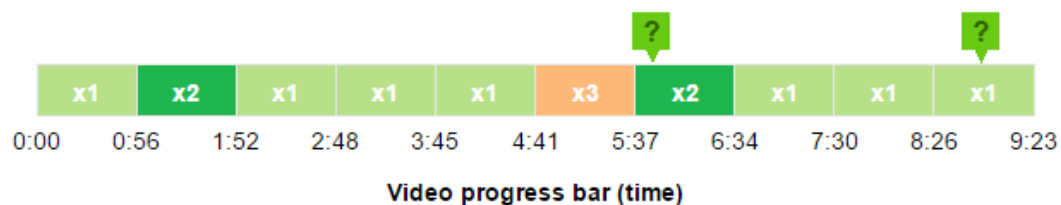
Assignment	Due	Completed
 <p>The Safety Song</p> <p>Watch as a student   Allow Skipping   Delete</p>	 <p>29 Mar</p>	<div>90%</div> <div>Progress</div> <div>Archive</div>
 <p>Atom &amp; Ion Review.mp4</p> <p>Watch as a student   Allow Skipping   Delete</p>	 <p>4 Apr</p>	<div>95%</div> <div>Progress</div> <div>Archive</div>
 <p>Solving the puzzle of the periodic table - Eric Rosado</p> <p>Watch as a student   Allow Skipping   Delete</p>	 <p>4 Apr</p>	
<div>Upcoming</div> <div>Type Assignment</div> <div>   The strengths and weaknesses of acids and bases - George Zaidan and Charles M </div>		

STUDENT NAME	WATCHED	GRADE ▾	LAST SEEN	TURNED IN	RESET
Student 1	×	0 / 100	-	-	
Student 2	×	0 / 100	-	-	
Student 3	×	0 / 100	3 days ago	-	↺
Student 4	×	0 / 100	2 days ago	-	↺
	✓	50 / 100	5 days ago	On Time	↺
	✓	50 / 100	3 days ago	Late	↺
	✓	50 / 100	5 days ago	On Time	↺
	✓	50 / 100	4 days ago	On Time	↺
	✓	100 / 100	5 days ago	On Time	↺
	✓	100 / 100	5 days ago	On Time	↺
	✓	100 / 100	5 days ago	On Time	↺



<https://goo.gl/7Fb7yk>

Number of times a student watched a video portion



Video Watched

Correct responses

Grade

100%

2/2

100/100

submitted responses: 2/2

Quiz #1 at 5:48

Question #1 What is the name of BeF<sub>2</sub>?

- ☒ beryllium fluoride  
☐ beryllium difluoride  
☐ monoberyllium difluoride  
☐ fluorine beryllide

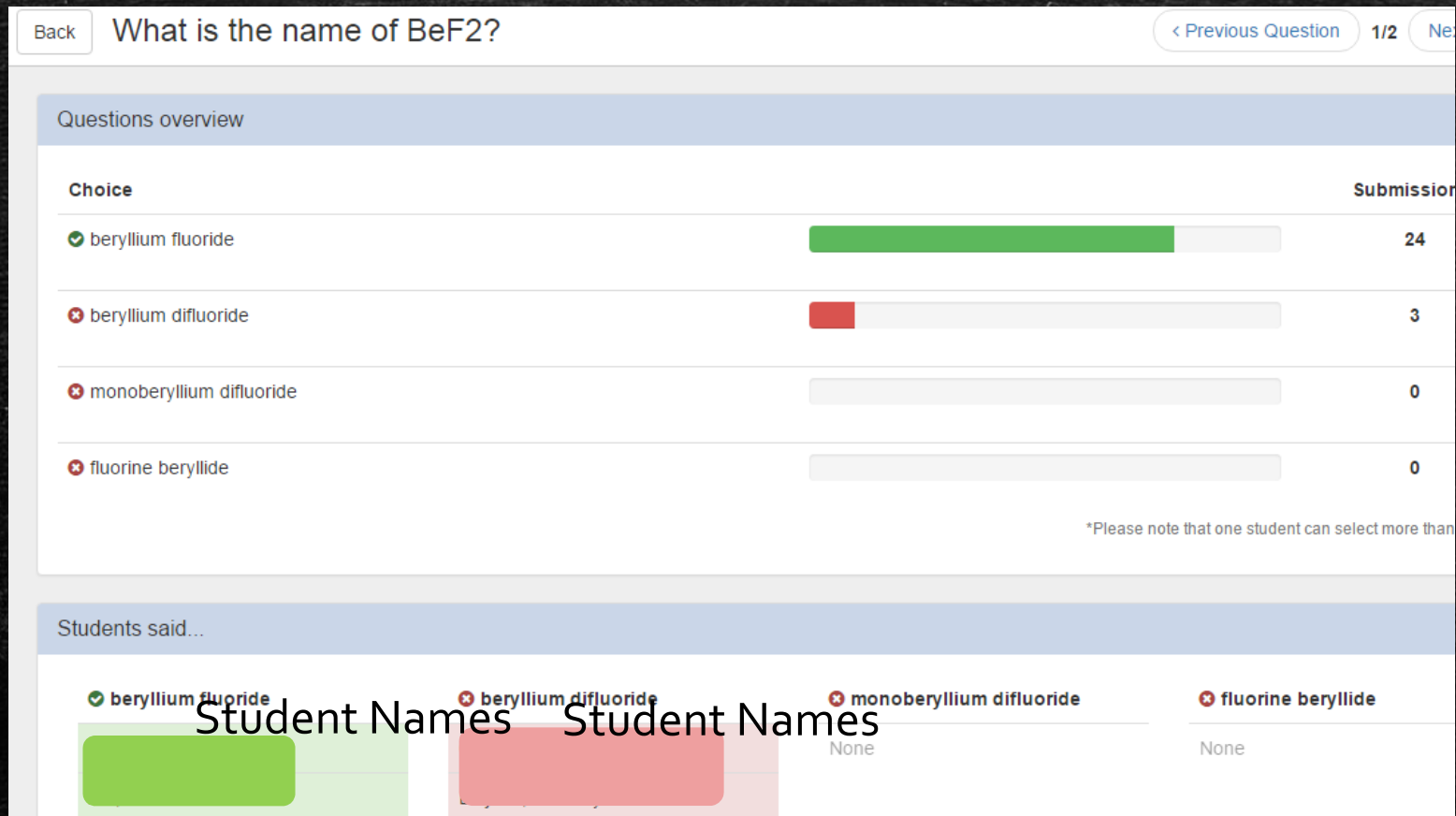


0 comments





<https://goo.gl/7Fb7yk>



FREE

# SCREENCASTOMATIC



<https://goo.gl/7Fb7yk>

- Screen Capture Tool
  - Lessons
  - Lab instructions
  - Reading articles
  - Project explanations
- Edit Tools (\$15/yr)





The Cell Theory.pptx - PowerPoint

FILE HOME INSERT DESIGN TRANSITIONS ANIMATIONS SLIDE SHOW REVIEW VIEW DEVELOPER ADD-INS Foxit PDF Heather Loree

Paste New Slide Clipboard Slides

Layout Reset Section Font Paragraph Drawing Arrange Quick Styles Shape Fill Shape Outline Shape Effects Find Replace Select Editing

1 The Cell Theory

2 Cell Theory

- 1. All living things are made up of cells
- 2. The cell is the basic structural and functional unit of life
- 3. All cells arise from pre-existing cells

3 Modern Cell Theory

- 1. Cells contain hereditary information (DNA) which is passed on from parent to cell
- 2. All cells are basically the same in chemical composition and metabolic activities
- 3. All cells are born by asexual reproduction and cannot arise from non-living precursors, abiotically
- 4. Cell growth depends on the division of cells which increases with the cell's capability to divide

4 CELLS

5 Cells

The Cell Theory

Click to add notes

SLIDE 1 OF 6 ENGLISH (CANADA) OFFLINE COPY NOTES COMMENTS 63%



# Explain Everything



<https://goo.gl/7Fb7yk>

- **Interactive Whiteboard**
- Individualized expression of learning
- Record, capture, annotate, create
- Assess process & final product







# Explain Everything



<https://goo.gl/7Fb7yk>

- Select objects to move or rotate.
- New slide
- Pen tool (hold for tip thickness)
- Arrows, stars, squares, and circles
- Type text
- Insert videos, photos, or sounds.
- Delete object / Erase pen marks
- Laser point for presentations
- Format object (move to front, lock, etc.)
- Undo
- Zoom
- Minimize toolbar
- Edit color choices

Slides   Record   Export

Slide 2 of 2   00:00:00

## Safety Project

1. Put safety glasses on
2. Take off loose clothing
3. Put chemicals in waste bucket

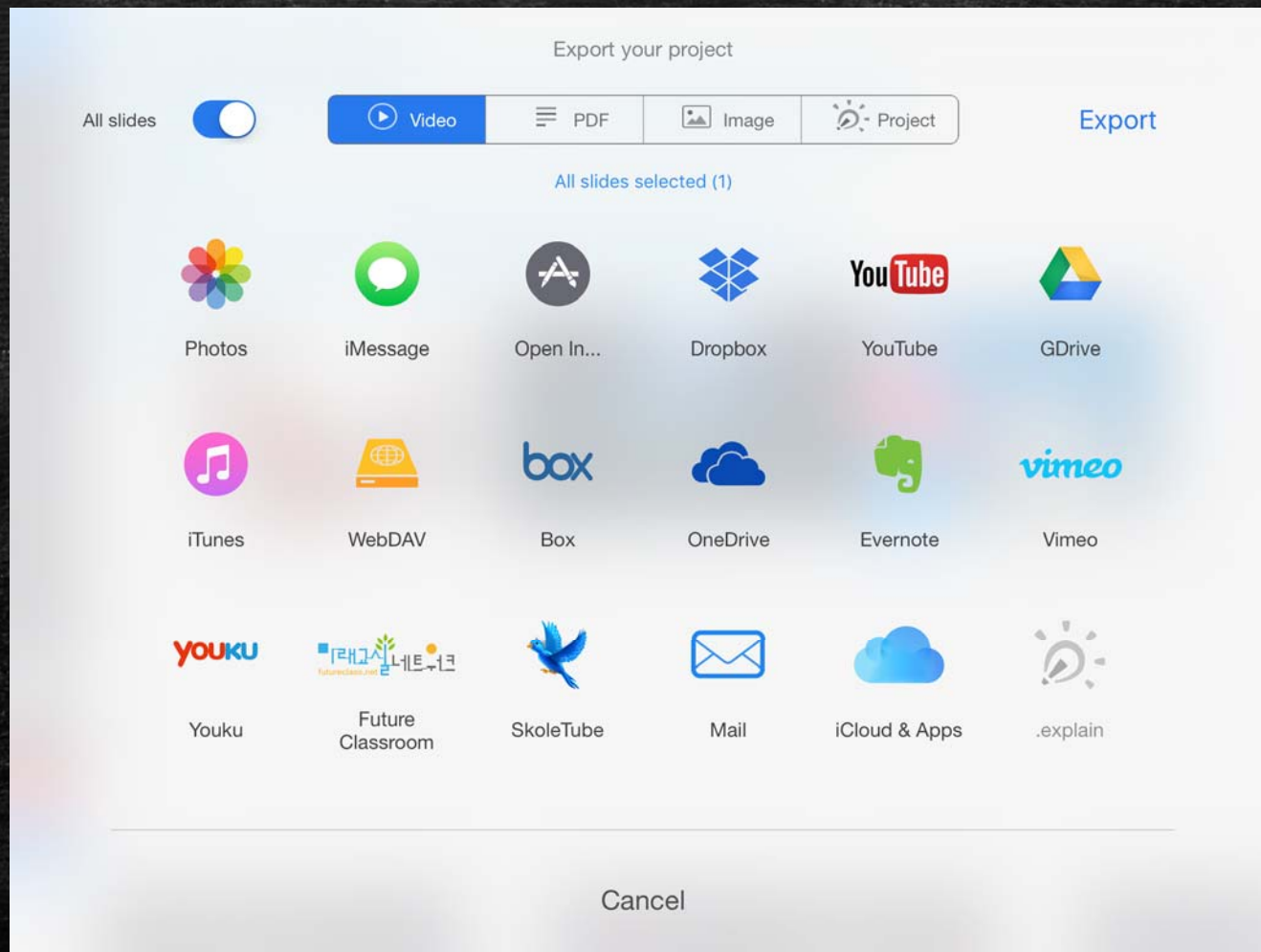
Slide 1 of 1   00:00:00   00:42



# Explain Everything



<https://goo.gl/7Fb7yk>







# Notability



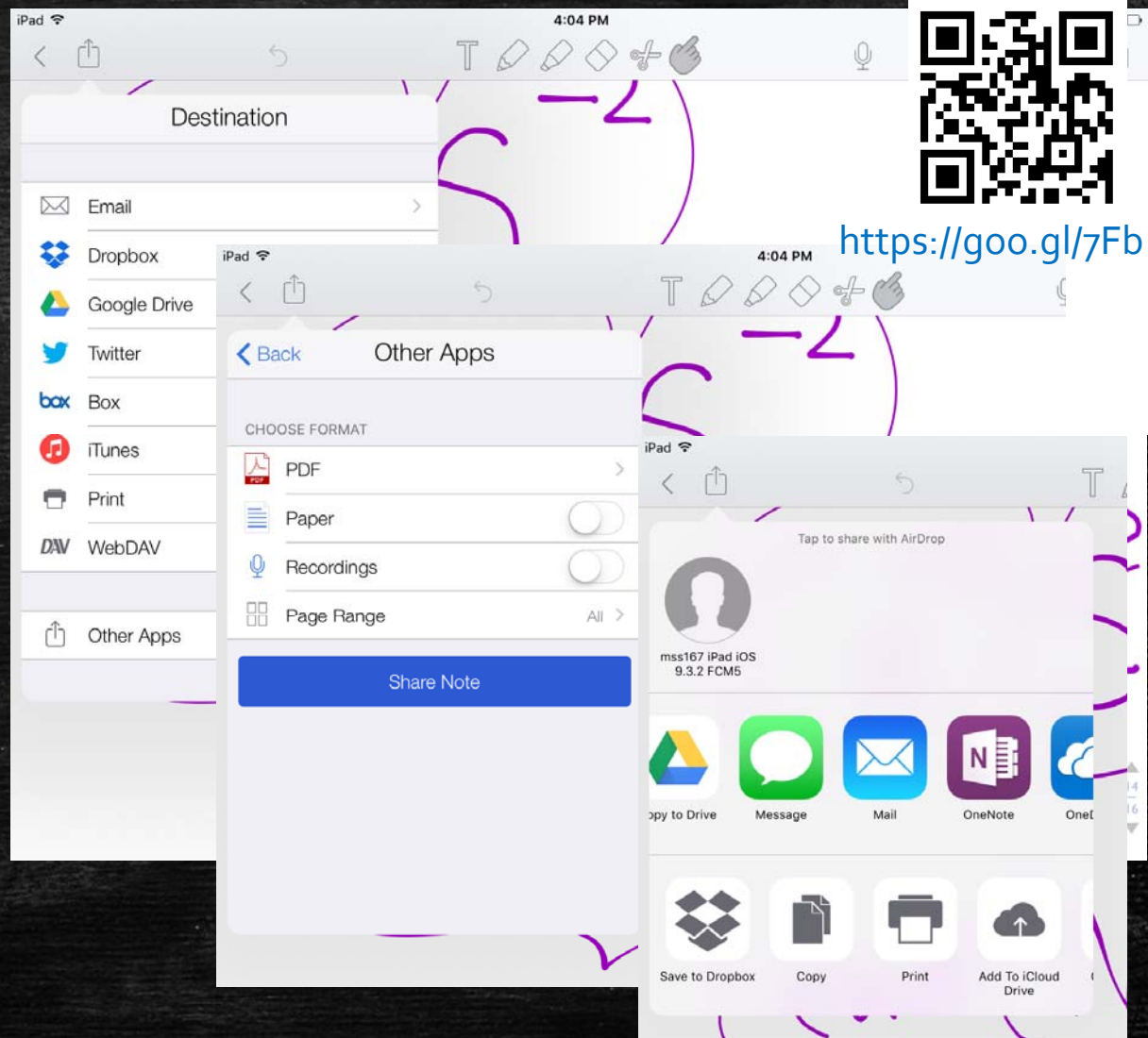
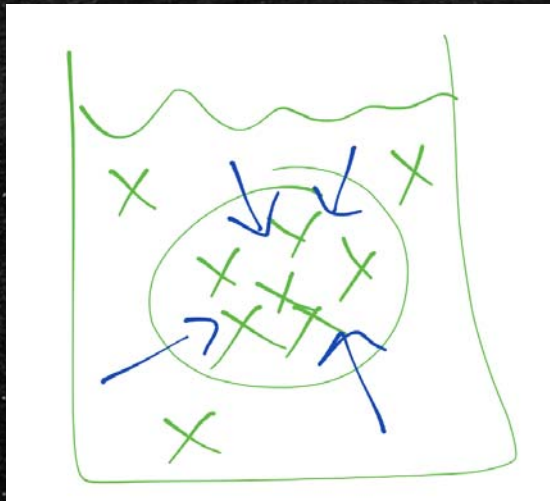
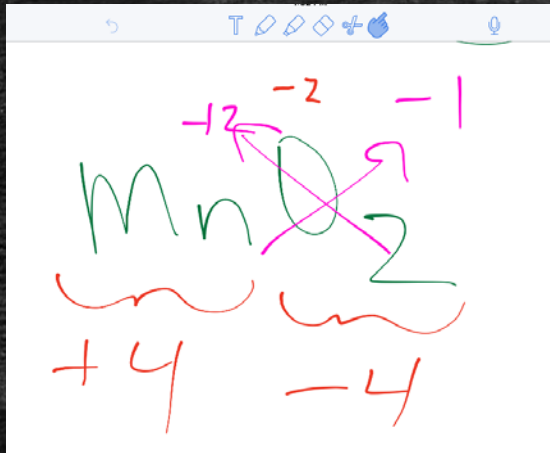
<https://goo.gl/7Fb7yk>

- Teaching Observations & Annotations
- Document conversations, observations, interactions...
- Record specific data continually
  - examples, extra help, questions, progress





# Notability









# thatquiz.org



<https://goo.gl/7Fb7yk>

- Mastery Checks
- Low-stakes quizzes/assessments
- Multiple attempts
- Instant feedback







# thatquiz.org



<https://goo.gl/7Fb7yk>

## CT8 Acids & Bases

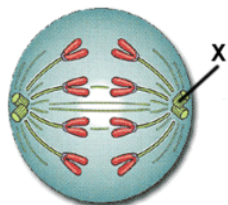
Acids are found on the pH scale between the numbers

- ☐ 7-14
- ☐ 0-7
- ☐ 4-9
- ☐ 0-14

OK

## BT4: Cell Cycle & Mitosis

What phase is the cell in?



- ☐ Prophase
- ☐ Anaphse
- ☐ Metaphase
- ☐ Telophase

## 2L BT4: Characteristics M&M

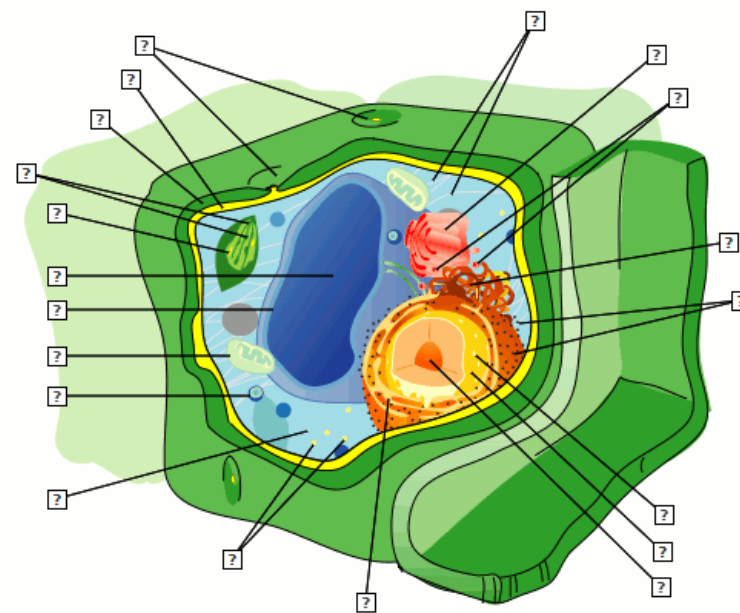
Clear

Match The Values

OK

- |                                |                                 |
|--------------------------------|---------------------------------|
| 1. Cells getting bigger        | Getting energy                  |
| 2. Cellular respiration        | Growth & development            |
| 3. Characteristics of life     | Cells                           |
| 4. Getting rid of waste        | Adaptation                      |
| 5. Producing babies            | Homeostasis                     |
| 6. Scream when burn finger     | Must to ALL of them to be alive |
| 7. Suited to surroundings      | Respond to stimuli              |
| 8. The building blocks of life | Reproduction                    |

- |                                |                                 |
|--------------------------------|---------------------------------|
| 1. Cells getting bigger        | Growth & development            |
| 2. Cellular respiration        | Getting energy                  |
| 3. Characteristics of life     | Adaptation                      |
| 4. Getting rid of waste        | Cells                           |
| 5. Producing babies            | ↔ Reproduction                  |
| 6. Scream when burn finger     | ↔ Respond to stimuli            |
| 7. Suited to surroundings      | Must to ALL of them to be alive |
| 8. The building blocks of life | Homeostasis                     |



Cell wall    Cytoplasm    Filamentous cytoskeleton    Golgi body    Golgi vesicles  
 Mitochondrion    Nuclear envelope    Nuclear pore    Nucleolus    Peroxisome  
 Plasma membrane    Plasmodesmata    Ribosomes    Rough endoplasmic reticulum  
 Small membranous vesicles    Smooth endoplasmic reticulum    Starch grain  
 Thylakoid membrane    Tonoplast    Vacuole



# thatquiz.org



<https://goo.gl/7Fb7yk>

S2 Period 3/4 > Biology

Grades Notify Delete Duplicate Edit Print Merge Import Share

<input type="checkbox"/>	Test Code	Test Name	Type
<input type="checkbox"/>	6GIKMR6S	BT1: Characteristics of life	Multiple Choice
<input type="checkbox"/>	KIOSIVW9	BT1: Characteristics of life	Multiple Choice
<input type="checkbox"/>	KFNP6YD4	BT1: Characteristics of life	Multiple Choice
<input type="checkbox"/>	LSY4S3OE	BT1: Characteristics of life	Multiple Choice
<input type="checkbox"/>	PINRUL4C	BT1: Characteristics of life	Multiple Choice
<input type="checkbox"/>	WP157J78	BT2: Diffusion & Osmosis	Multiple Choice
<input type="checkbox"/>	9CGYQQ54	BT2: Diffusion & Osmosis	Multiple Choice

<input type="checkbox"/>	JLPKWXT	BT2: Diffusion & Osmosis
<input type="checkbox"/>	9HB66QVO	BT2: Diffusion & Osmosis
<input type="checkbox"/>	9P5AC68Y	BT3: Cell Diagrams
<input type="checkbox"/>	486T12Z4	BT3: Cell Diagrams
<input type="checkbox"/>	8Z6O3MTD	BT3: Cell Diagrams

	OBJECTIVES	PERIOD 3/4		PERIOD 5/7		PERIOD 8/9	
1	Safety:	4GLL4K8U		PEEM124E		QRN9X6LG	
2	Elements, Atoms & The Periodic Table:	Elements XVKYF1DJ	Atoms & Table JSLJZ6UY	Elements RV2ZV93G	Atoms & Table A759KUEW	Elements A93RED8J	Atoms & Table H1OL3L55
3	Ionic Compounds:	J68BNZ42		8BZSU2P3		O4DBXLKA	
4	Covalent Compounds	H89BAXWF		4EDKZ2MQ		ZOIHQKOL	





# thatquiz.org



<https://goo.gl/7Fb7yk>

thatquiz

math test activities for students and teachers of all grade levels © 2017

Teachers: login or [create an account](#) or [\[search\]](#) or [\[learn more\]](#)

Login/Email

Password

Login

## integers

$\times \div$  Arithmetic

$< >$  Inequality

$\frac{1}{n}\Sigma$  Averages

$\times^2$  Exponents

$\div$  Factors

$\frac{1}{n}\Sigma$  Algebra

$\int$  Calculus

## fraction

$\times \div$  Identify

$\times \div$  Arithmetic

$< >$  Inequality

$\frac{1}{n}\Sigma$  Averages

$\frac{3}{8} = \frac{1}{2}$  Simplify

$\frac{P(A)}{P(B)}$  Probability

Length 5  
Level 1

## vocabulary

English

Spanish

Americas

Europe

French

German

Africa

Asia

## science

Cells

Anatomy

Elements

Conversion

English Español Français Português Català Polski  
Slovenščina Türkçe Ελληνικά 中文(简体) עברית

Have a test code?

TestCode

Enter

Teacher:Loree Class:TLLP sharing JABAA8Z9

Student

Sample

1, Student

10, Student

11, Student

12, Student

13, Student

2, Student

3, Student

4, Student

5, Student

6, Student

7, Student

8, Student

9, Student

sample, Sample

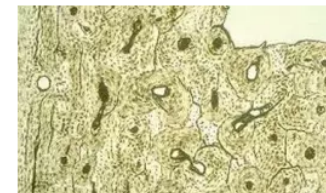
Complete 0  
Clock 0:00

Change answer

Teacher:Loree Class:TLLP sharing 9Y3V2VUQ

Student 7, Student

Identify the type of tissue in the image:



- ☐ nervous tissue
- ☐ epithelial tissue
- ☐ muscle tissue
- ☐ connective tissue

OK



# thatquiz.org



<https://goo.gl/7Fb7yk>

Score	33%
Completed	6
Unanswered	0
Right	2
Wrong	4
Time	1:00
Seconds per problem	10

## Missed problems

(Your answer in parenthesis)

Q) Which WHMIS symbol should be used for Hydrochloric acid, a chemical that can damage metals as well as skin and eyes? A) Corrosive (Poisonous)

Q) A diamond containing an exclamation mark is the WHMIS symbol for? A) May cause less serious health effects (Can cause death with short exposure)

Q) A chemical's characteristics (odor, appearance, etc) will be listed on the MSDS under: A) Physical data (Product identifier)

Q) What is the purpose of WHMIS? A) To provide information about the Hazardous Materials used in the workplace (To provide information about Hazardous materials used in households)

A, Mansi 2016.03.02 13:16 **BT5: Cancer [QVJ36AFB]**

Percentage : 100 Points : 6/6

Completed : 6, Unanswered : 0, Clock : 3:22, Average Time : 33.67 Correct : 6, Incorrect : 0

A, Mansi 2016.03.11 13:35 **BT7: Tissues [E8WEEYPA]**

Percentage : 67 Points : 4/6

Completed : 6, Unanswered : 0, Clock : 7:16, Average Time : 72.67 Correct : 4, Incorrect : 2

Incorrect Answers :

12A. Which tissue has the following characteristics: spindle-shaped cells, involuntary movement, and no striations? : smooth muscle (skeletal muscle)

15A. Identify the type of tissue in the image: : connective tissue (epithelial tissue)

A, Mansi 2016.03.21 13:20 **BT6: Cell Specialization & Stem Cells [1PJLMK6W]**

Percentage : 100 Points : 5/5

Completed : 5, Unanswered : 0, Clock : 3:14, Average Time : 38.8 Correct : 5, Incorrect : 0

A, Mansi 2016.03.21 13:36 **BT8: Organ Systems [Q9DFXODB]**

Percentage : 88 Points : 7/8

Completed : 8, Unanswered : 0, Clock : 1:55, Average Time : 14.38 Correct : 7, Incorrect : 1

Incorrect Answers :

1. Q) Hairs in the skin belong to which body system? A) Integumentary (Nervous)

A, Mansi 2016.03.22 15:20 **BT7: Tissues [BA6UDA25]**

Percentage : 100 Points : 6/6

Completed : 6, Unanswered : 0, Clock : 2:01, Average Time : 20.17 Correct : 6, Incorrect : 0





# thatquiz.org

name	BT2: Diffusion & Osmosis		BT1: Characteristics of Cells		BT3: Cell Structures		BT5: Cancer		BT7: Cell Specialization		BT8: Tissues		BT3: Cell Diagrams		BT3: Cell Diagrams		BT4: Cell Structures		BT4: Cell Structures		BT5: Cell Cycle & Mitosis		BT6: Cell Cycle & Mitosis		BT6: Cell Specialization		BT7: Cell Specialization		BT7: Tissues		BT8: Tissues		BT8: Organ Systems		BT9: Organ Systems		BT9: Organ Systems		BT4: Cell Cycle & Mitosis		BT6: Cell Specialization		BT7: Cell Specialization		CT1 Safety		CT1 Safety		CT2 Element Names		CT2 Element Names																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	100	60	88	100	100	100	50	83			80													83																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

FREE



OneNote



<https://goo.gl/7Fb7yk>

- Digital Portfolio
- Timely feedback
- Document learning & progress
- Individualized tasks
- Group discussions & collaboration







OneNote



<https://goo.gl/7Fb7yk>

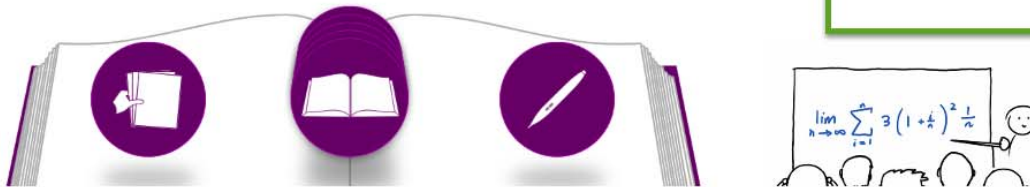
## OneNote Class Notebook Features

A collaboration space for all users to access and manipulate.

A content library where teachers can store class items. Students can only view and copy the materials.

A section for each student. Students can only see and manipulate their section. The teacher has full access to all student notebooks.

1. **Collaboration Space** -- a notebook for everyone in your class to share, organize, and collaborate.
2. **Content Library** -- a read-only notebook view for students.
3. **Student Notebook** -- a notebook for each student to take notes and organize their work.





<https://goo.gl/7Fb7yk>

SNC2DN Period 3-4  
\_Content Library

5

Biology

Chemistry

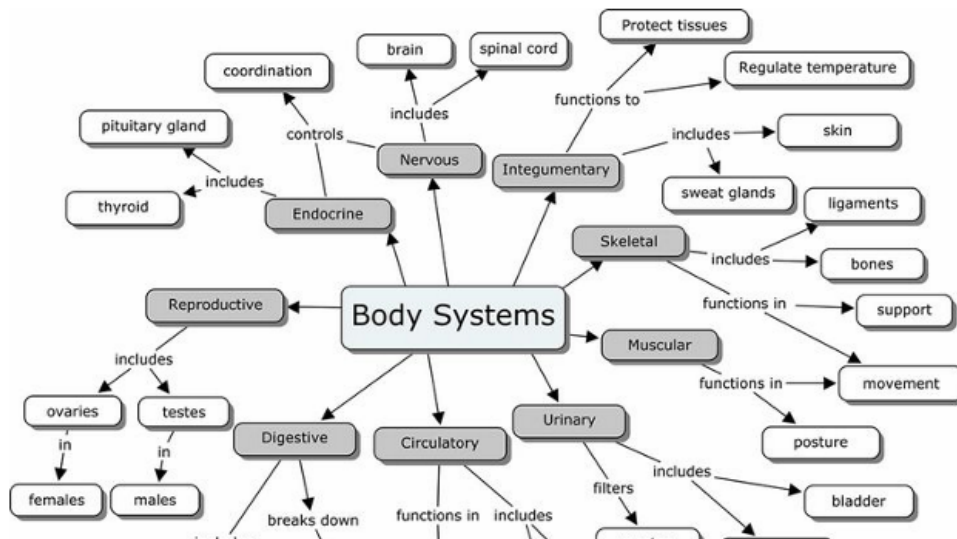
+

## Topic 8: Organ Systems & Interactions

Tuesday, March 1, 2016

8:04 AM

### Body Systems Word Web



### Questions form reading (System Interactions)

Identify two characteristics of alveoli that make gas exchange easier.

How do nutrients pass from the digestive system to the circulatory system?

Explain how your digestive system would be affected if your circulatory system failed.

A condition called anemia often results from too few red blood cells. People who are anemic are often tired. Explain why this is so using what you know about the respiratory and circulatory system.

The diagram below shows four disorders that can impair the proper function of the respiratory system. Predict how each disorder would impair respiratory system function.

**a) pneumonia** alveoli fill with thick fluid

**b) bronchitis** airways (the branches leading to alveoli) are inflamed due to infection or irritation

**c) emphysema** alveoli lose their shape and elasticity

**d) cystic fibrosis** thick mucus builds up in the airways

*Handwritten notes:*

- thin - allows for faster diffusion (one cell thick)
- surrounded by capillaries
- diffuse from small intestine into blood vessels in villi through the epithelial tissue.
- nutrients could not be absorbed and/or delivered to all the cells in the body. Nutrients would pass through entire digestive system and be discarded as waste.
- Oxygen is used by the mitochondria to perform cellular respiration and produce ATP energy. With less O<sub>2</sub>, less energy is produced.
- ↓ diffusion of O<sub>2</sub> and CO<sub>2</sub> at alveoli
- harder time getting air high in O<sub>2</sub> into alveoli and waste (CO<sub>2</sub>) out of

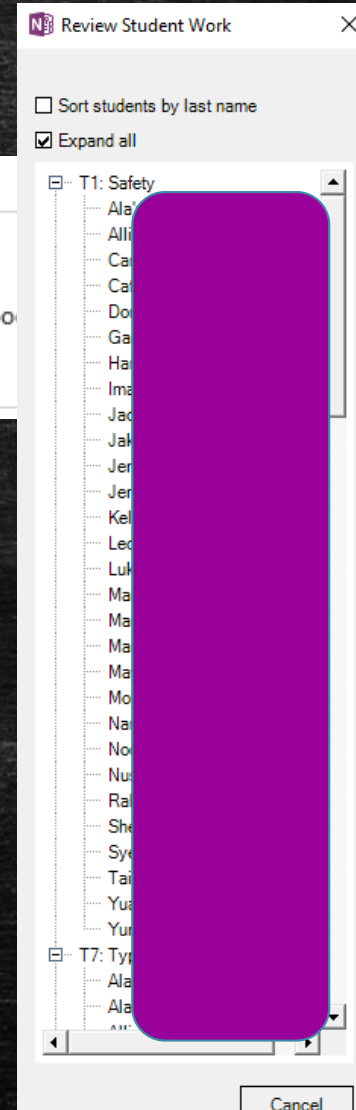
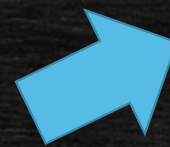
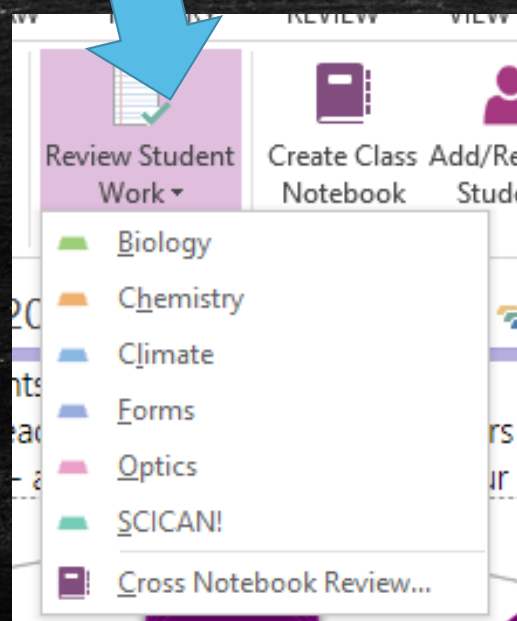
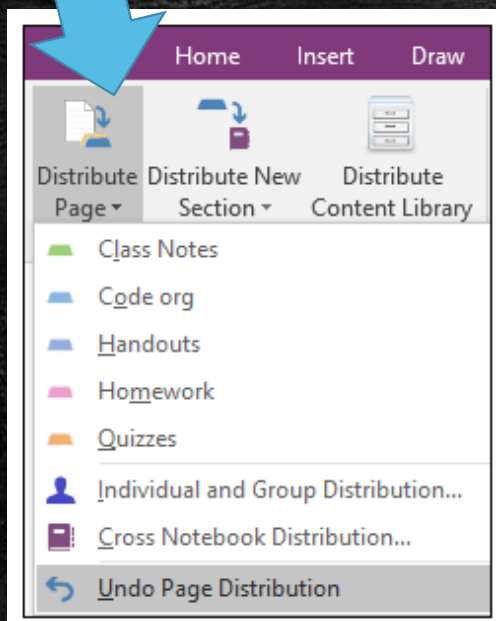
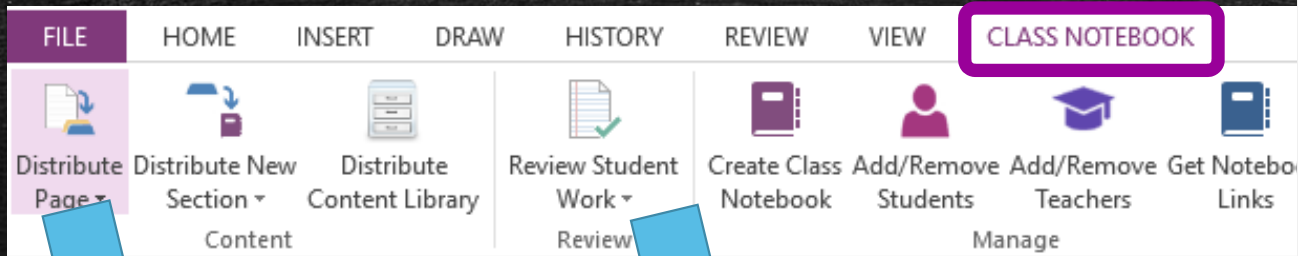
+ Add Page

- Topic 1: Characteristics
- Topic 2: Diffusion & Os
- Topic 3: Cell Organelles
- Topic 4: Cell Cycle & M
- Topic 5: Cancer
- Topic 6: Cell Specializati
- Topic 7: Tissues
- Topic 8: Organ Systems
- Unit Review Activities



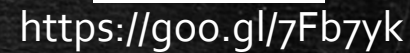


# OneNote



<https://goo.gl/7Fb7yk>

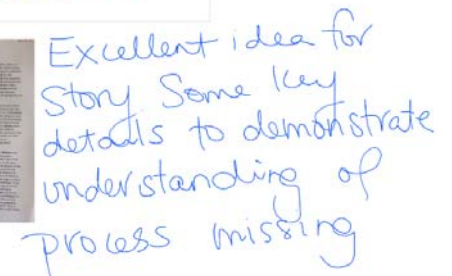




+

Edit

### T9: Flower Dissection Lab







OneNote

Collaboration Space

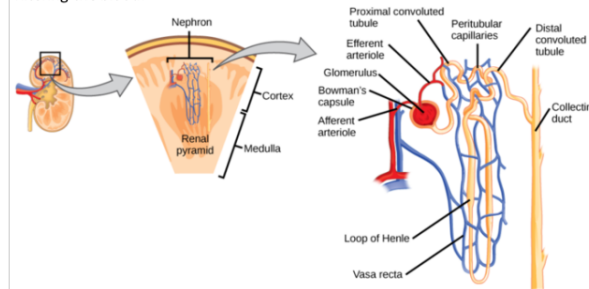
## Biology Unit Online Chat - Thursday Mar 9 7:30-8:30

March 9, 2017 8:16 AM



<https://goo.gl/7Fb7yk>

Questions	Answers
Identify the type(s) of tissue found in the heart. (a) epithelial (b) muscle (c) nerve (d) all of the above	d) The heart has all of the mentioned tissues
When looking at two samples of cells, how can you tell that cell division is more rapid in one sample than in the other?	You will see more phases of mitosis when the cell division is occurring
Does injecting mediastized cancer cells into someone's blood stream <u>always</u> result in cancer? Or is there a chance that the body rejects the foreign cells and simply lets it go?	No it does not ALWAYS result in cancer. There is a chance that the cell could be filtered out by the kidneys, or that it does not implant, or that it does not recruit other cells to be cancerous.
Can Cells of benign tumours can break away from the original tumour and move to different parts of the body.	No, this is only true of malignant tumors.
Can benign tumours turn into malignant tumours?	Yes they can, but they do not always.
Are the spindle fibres formed in Prophase or Metaphase?	They begin formation in prophase, but attach to centromeres in metaphase
During mitosis in plant cells, is new cytoplasm created to make the 2 daughter cells the same size or are the daughter cells smaller than the original?	The daughter cells are roughly the same size as the mother (original) cell.
In an animal cell, how do we differentiate between lysosome, vacuole, and vesicle in terms of their size and shape?	Unless it is a really good microscope picture you can't really. The rule of thumb is, it is most likely not going to be a vacuole if it is an animal cell (most do not have them). If it is a "bubble" coming from the Golgi or ER or very close to is a vesicle, but those floating in the cytoplasm could be either lysosome or vesicle.
If arteries are the blood vessels leaving the heart, while the veins are going towards it, does that mean that the arteries are oxygenated and vice versa for the veins?	Most of the time, but that is not always true. When the blood leaves the heart to go to the lungs it is deoxygenated because it has just come back from the body. Otherwise, arteries do carry oxygenated blood. Vice versa for veins
What actually are nephrons?	They are a small functional units within the kidney - the part responsible for filtering the blood.





# Recap App



<https://goo.gl/7Fb7yk>

- Student Video Response
- Verbalize answers
- See thought process
- Time limit
- Assign individually or to class







# Recap App

Add Recap

## Create New Recap

Step 1: Add Title and Questions

Separating Mixtures

Question 1

+ Add Question

How could you separate oil from water?

+ Record Video

## Add New Class

e.g. Science

How should students sign in?

Select

Email or Google+ (recommended)

Class Pin



### Please Note:

'Email or Google+' sign in is the recommended option. If you select the 'Class Pin' option, students can log in as other students within their class. Click [here](#) to learn more.



<https://goo.gl/7Fb7yk>

## Create New Recap

Step 2: Recap Options

Assign to: Whole class

+ Select More Classes

Max recording time per question: 30s

Include "Assess Yourself!" poll question:

On



Got It



Partially Got It



Didn't Get It

Due: May 2, 2017 23:59



# Recap App



<https://goo.gl/7Fb7yk>

## Student Sign In Instructions

Instruct your students to sign in at:  
**letsrecap.com/classpin**

and enter this Class Pin:

# stqpijv

[Switch to Student Sign In](#)

[Reset Class Pin](#)



Student Sign In with:

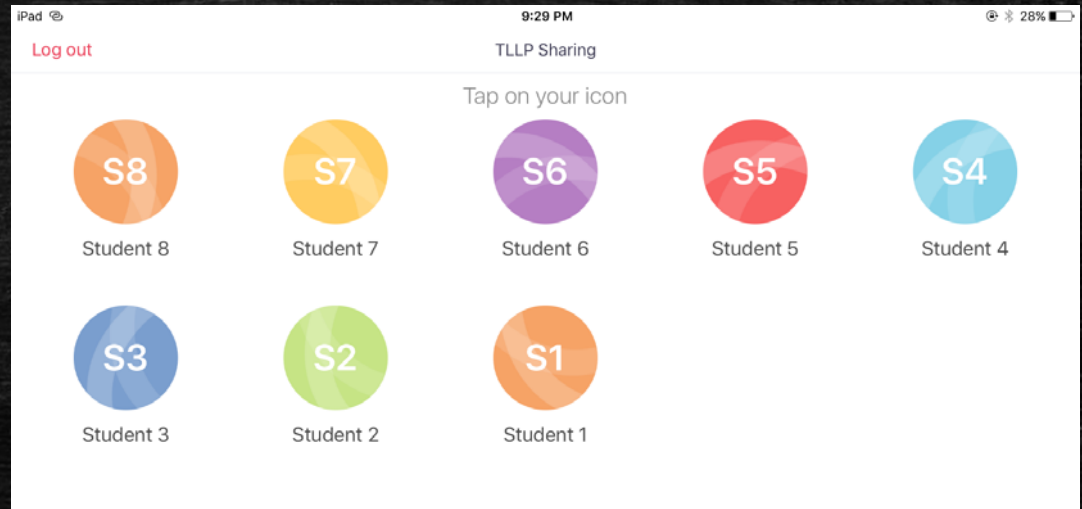
[Class Pin](#)

[Email](#)



[Sign in with Google](#)

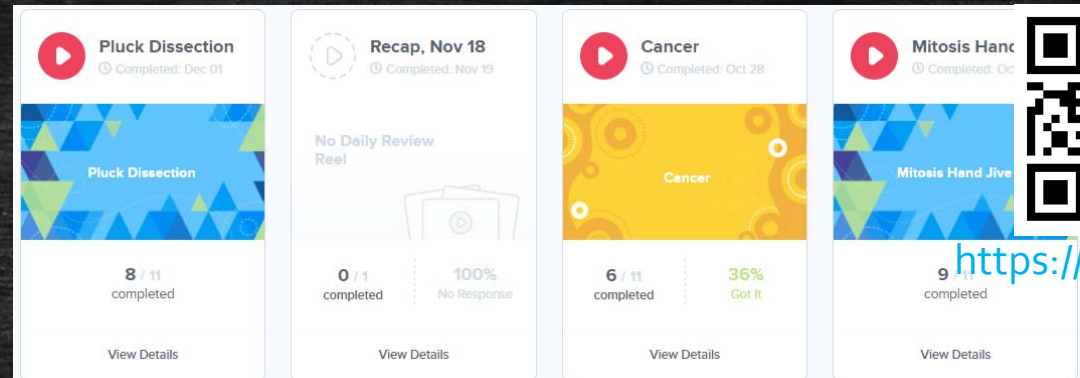
Need an account? [Sign Up](#)



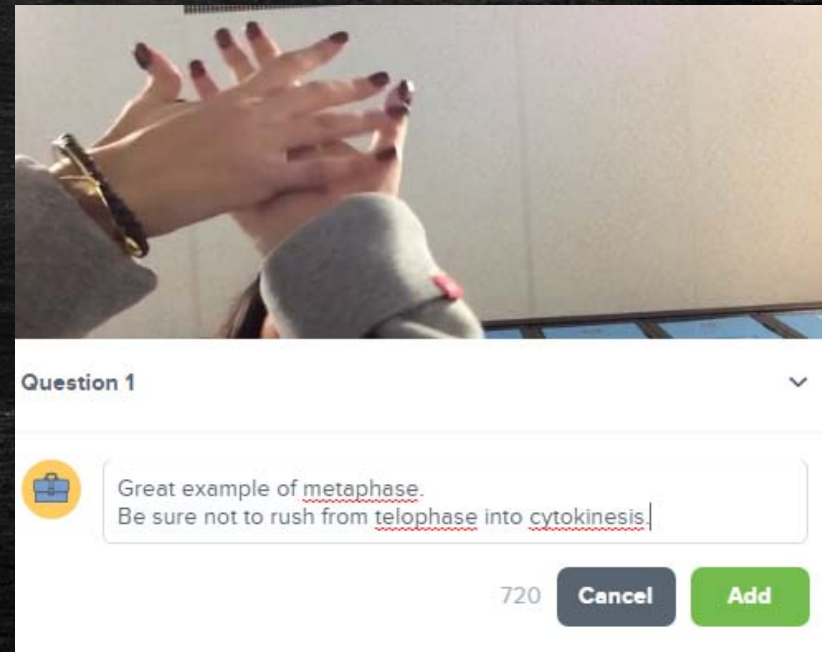
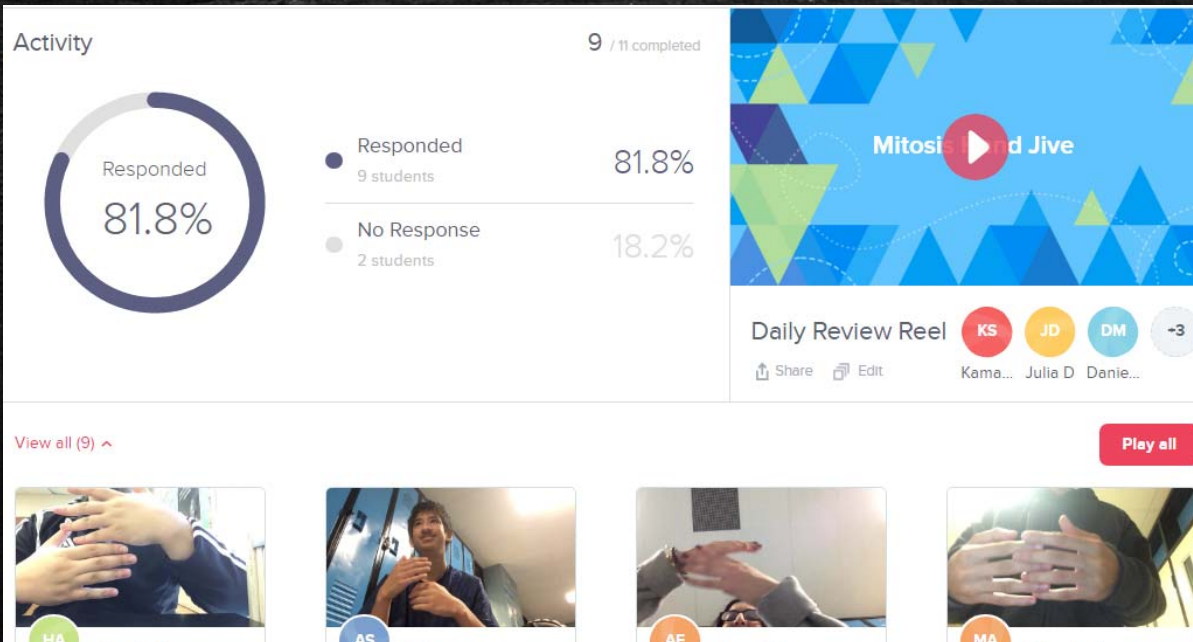




# Recap App



<https://goo.gl/7Fb7yk>





# ClaroPDF



<https://goo.gl/7Fb7yk>

- Interactive PDF tool
- Reads text to students
- Annotate, mark up and save files
- Import PDF files almost anywhere
- Can leave voice notes throughout







# ClaroPDF



<https://qoo.gl/7Fb7yk>

1L Chemistry Test Fill in Blank-1

### 1L Chemistry Unit Test

**PART A: Physical Properties**

1. Give 1 example of matter with each of the following physical properties

Property	Example	Property	Example
Rough Texture	Answer	Opaque/Cloudy	
Gas		Sweet Odour	
Soluble in water		Brittle (not malleable)	

**PART B: Classifying Matter**

2. Classify each of the following an element (E), compound (C), solution (S) or heterogeneous mixture (HM). Give a reason for your choice.

Substance	E / C / S / HM	Reason
7-Up		
Copper		
Apple Juice		

3. Classify each of the following as a solution (S), suspension (Sp), or emulsion (E).

Jenna test-1

Rough Texture	Sandpaper ✓	Opaque/Cloudy	Milk ✓
Gas	Oxygen ✓	Sweet Odour	Perfume ✓
Soluble in water	Juice mix ✓	Brittle (not malleable)	Rock ✓

**PART B: Classifying Matter**

2. Classify each of the following an element (E), compound (C), solution (S) or heterogeneous mixture (HM). Give a reason for your choice.

Substance	E / C / S / HM	Reason
7-Up	Hm ✓	I can see the bubbles ✓
Copper	E C ✓	There are more ways to make copper X
Apple Juice	S ✓	I can only taste the flavour See
Vegetable Soup	Hm ✓	I can see the vegetables ✓
C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	E X	The ingredients are in the periodic table

3. Classify each of the following as a solution (S), suspension (Sp), or emulsion (E).

S / Sp / E	Reason
X E Sp	I have to shake the nail polish ✓
S Sp	There is only one kind of salt water X



<https://goo.gl/7Fb7yk>

- Interactive Simulations
- Math & science
- Analyzing data
- Introduction, review, extra practice...
- Variety of levels







Biology

- Cell Structure** Lesson Info Launch 9
- Cell Division** Lesson Info Launch 5
- Diffusion** Lesson Info Launch 4
- Osmosis** Lesson Info Launch 5

CHEMISTRY

- Element Builder** Lesson Info Launch 1
- Ionic Bonds** Lesson Info Launch
- Covalent Bonds** Lesson Info Launch
- Balancing Chemical Equations** Lesson Info Launch

Diffusion Lesson Info ^ + Add to Class

**DESCRIPTION**

Explore the motion of particles as they bounce around from one side of a room to the other through an adjustable gap or partition. The mass of the particles can be adjusted, as well as the temperature of the room and the initial number of particles. In a real-world context, this can be used to learn about how odors travel, fluids move through gaps, the thermodynamics of gases, and statistical probability.

[Full Lesson Info](#)

**LESSON MATERIALS**

Please do not post answer keys online.

- [Student Exploration Sheet](#) Customize
- [Exploration Sheet Answer Key](#) Customize
- [Teacher Guide](#) Customize
- [Vocabulary Sheet](#) Customize

**Simulation**

**Gizmo Status**

This Gizmo will allow you to study diffusion of particles through a gap between two regions.

Current conditions:

	x	y	Total
Region A	50	0	50
Region B	0	0	0
Total	50	0	50

Wall: 50 %  
 x in A: 50  
 y in B: 0  
 Temp.: 300 K  
 Particle mass: 15 amu

Seconds: 0 Controls: Play Pause Reset



<https://goo.gl/7Fb7yk>

3. Which arrangement of Gizmo settings will produce the highest rate of diffusion?

**A** Wall: 50 % x in A: 50 y in B: 50 Temp.: 323 K Particle mass: 13 amu

**B** Wall: 50 % x in A: 50 y in B: 50 Temp.: 341 K Particle mass: 22 amu

**C** Wall: 50 % x in A: 50 y in B: 50 Temp.: 293 K Particle mass: 3 amu

**D** Wall: 50 % x in A: 50 y in B: 50 Temp.: 293 K Particle mass: 22 amu

- ☐ A. the settings shown in A
- ☐ B. the settings shown in B
- ☐ C. the settings shown in C
- ☐ D. the settings shown in D

Chicken Soup ▼

Water

pH

14  
12  
10  
8  
6  
4  
2  
0

Basic  
Acidic

7

1 L  
½ L  
0.50 L

Macro Micro My Solution

The simulation shows a beaker containing 0.50 L of yellow liquid. A pH meter is connected to the liquid, showing a reading of 7. A titration setup is shown with a yellow liquid being added to the beaker from a dropper. The pH scale ranges from 0 to 14, with 7 in the middle. The liquid is labeled 'Chicken Soup' and 'Water'.

Tools:

2 2 8 6 2 7

C H O

$2 \text{CH}_4 + 1 \text{O}_2 \rightarrow 2 \text{CO}_2 + 3 \text{H}_2\text{O}$

The simulation shows a chemical reaction:  $2 \text{CH}_4 + 1 \text{O}_2 \rightarrow 2 \text{CO}_2 + 3 \text{H}_2\text{O}$ . Above the equation, three balance scales are shown for Carbon (C), Hydrogen (H), and Oxygen (O). The scales are balanced, indicating that the number of atoms of each element is the same on both sides of the reaction. Below the equation, the molecular representation shows 2 CH<sub>4</sub> molecules (each with 1 carbon and 4 hydrogen atoms) and 1 O<sub>2</sub> molecule (2 oxygen atoms) reacting to form 2 CO<sub>2</sub> molecules (each with 1 carbon and 2 oxygen atoms) and 3 H<sub>2</sub>O molecules (each with 2 hydrogen and 1 oxygen atom).

## Choose Your Level

Level 1

Level 2

Level 3

The three levels are represented by molecular models: Level 1 shows a simple diatomic molecule (one white and one green sphere), Level 2 shows a triatomic molecule (one red and two white spheres), and Level 3 shows a more complex molecule (one blue, one white, and two green spheres). Each level has a star rating bar below it.





<https://goo.gl/7Fb7yk>



# Educational Games

- Game Based Learning
- Create own games
- Students play variety of games
- Continue to improve scores





<https://goo.gl/7Fb7yk>

Home

Take Lessons

Make Lessons

My Projects

My Classes

Friends

Reports

Settings

Purchase A Class License

MENU

## CREATE A LESSON

1

2

3

4

5

6

7

SELECT

DEFINE

EDIT CONTENT

TRY

DESCRIBE

LESSON PLAN

PUBLISH

Set the name of your new lesson, and define the type of lesson by selecting a template below.

\*Lesson Name

Lesson Template:

- Multiple Choice Questions

Image Question with Image Answers

Image Question with Text Answers

Sound Questions with Image Answers

Sound Question with Text Answers

Multiple Choice Questions

Text Question with Image Answers

Video and Multiple Choice Questions

Save Cancel

Lesson Template Description

The easiest lesson to create - questions use only numbers for math questions independent.

is the largest animal that ever lived?

Blue Whale

Dinobird

10. Box

How It's Done!



## Activities

[Cloud Blasters](#)

[Crafty Fish](#)

[Void Space 3D](#)

[Holey Moley!](#)

[Mine Escape 3D](#)

[Multiple Choice Quiz](#)

[Review](#)

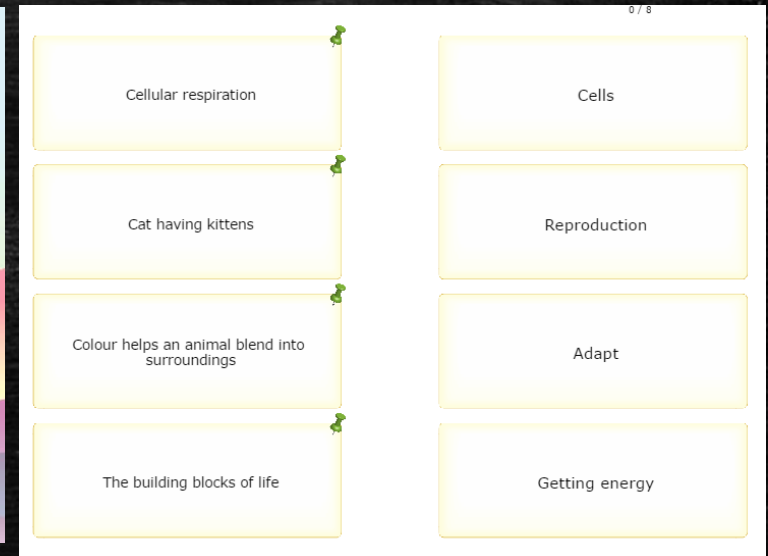
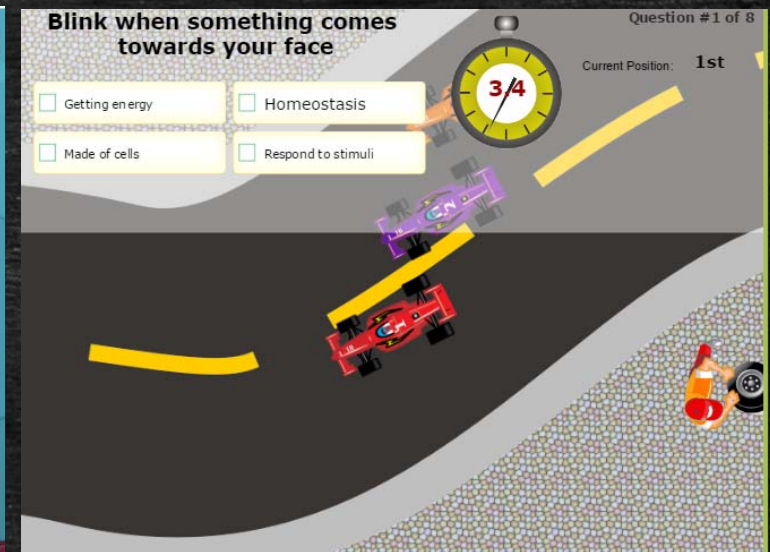
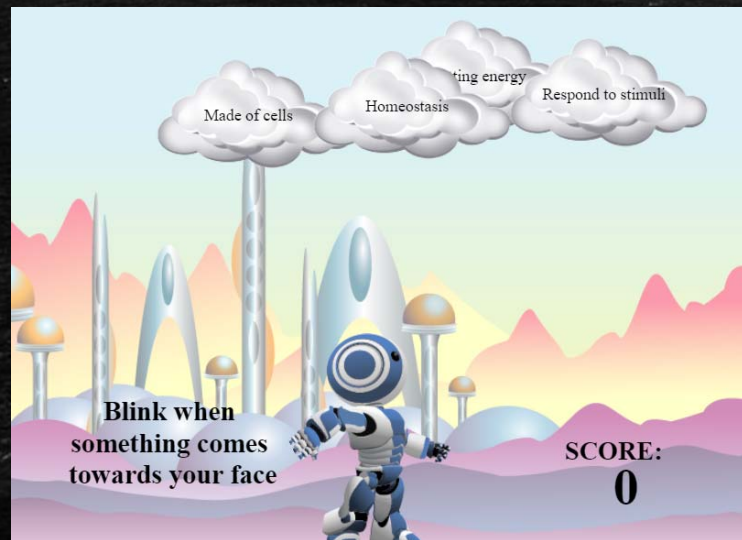
[Match Game](#)

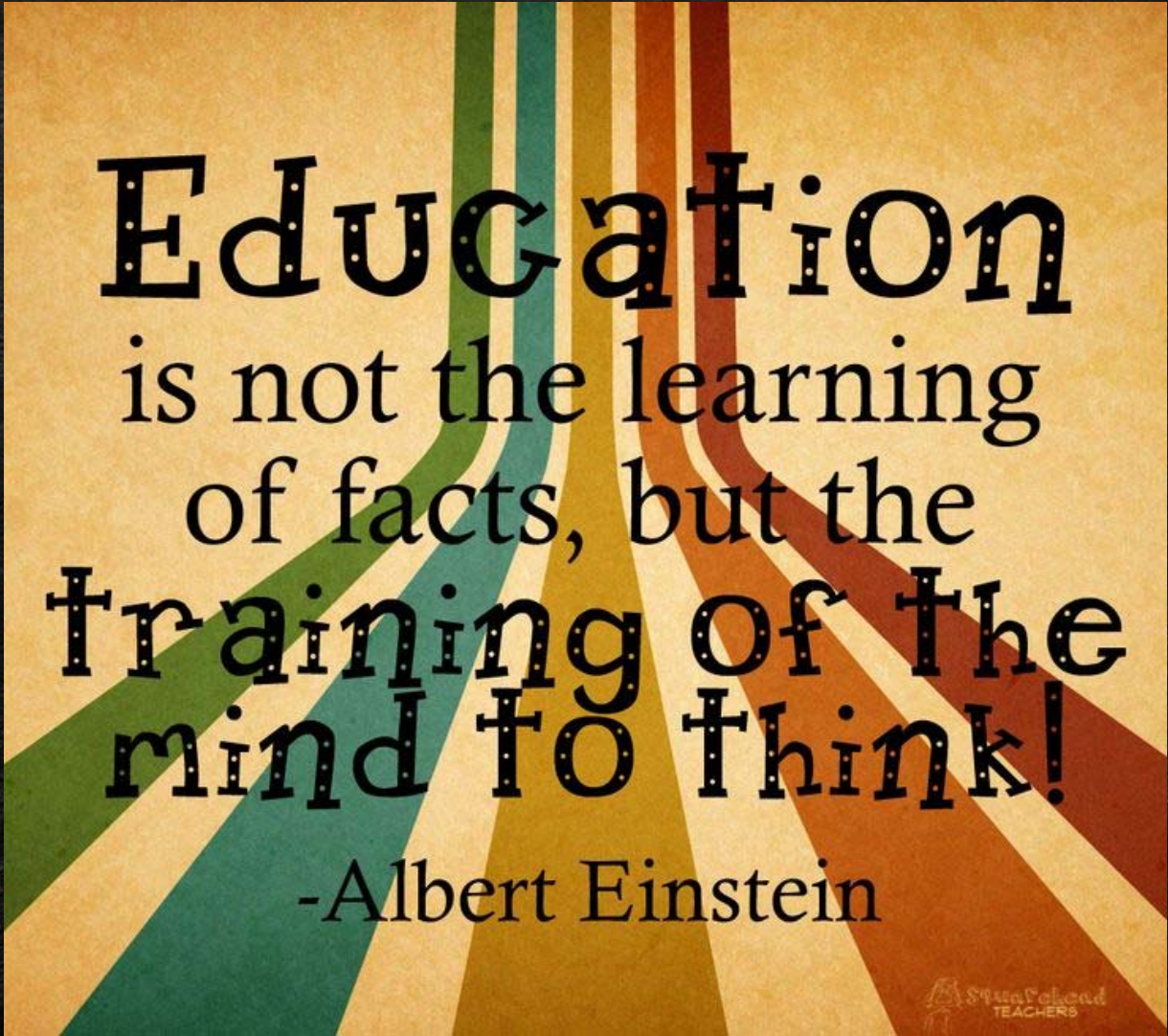
[Short Answer Quiz](#)

[Speed Racer](#)

[Samurai Quest 3D](#)

[Multi-Player  
Challenge \[BETA\]](#)





Education  
is not the learning  
of facts, but the  
training of the  
mind to think!

-Albert Einstein



<https://goo.gl/7Fb7yk>





Key Slides

Thank you

