

IT in Education Subject-related Series: Effective Implementation of e-Learning and e-Assessment in Chemistry In and Out of the Classrooms

Session 1

Objective of the course

- a) Understand TPACK required to apply eL and eA in Chemistry;
- b) apply necessary skills for using digital tools for enhancing eL and eA in Chemistry ;
- c) plan, design and implement learning and assessment tasks in and out of the classrooms using digital tools; and
- d) appreciate the usefulness of the digital tools.

Rundown of Session 1

- ▶ Sign up for the e-platform for this course – Schoology
- ▶ What is TPACK?
- ▶ How to identify students' misconception?
- ▶ IT tools for teaching Acid and Base
- ▶ Assignment
- ▶ Introduction of Schoology

Login the e-Learning Platform

- ▶ <http://www.schoolology.com>
- ▶ Log In: using the email and password provided

Sign in to Schoolology

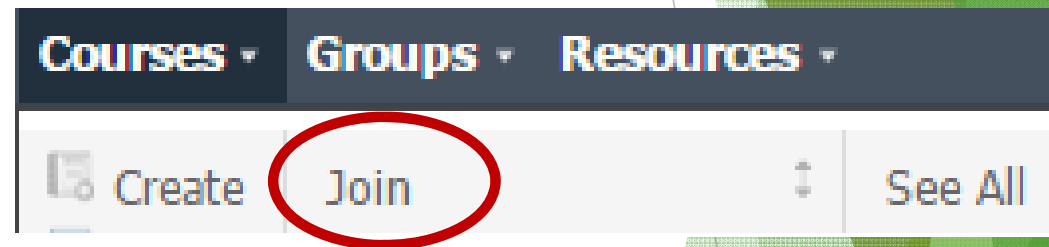
All fields are required

Email or Username

Password

Log in

[Forgot your password](#)
[SSO Login](#)



Ask Questions



The image shows a screenshot of the Schoolology course interface for **eChem-S04: Implementation of e-Learning and e-Assessment in Chemistry In and Out of the Classrooms: Cohort 4**. The course is managed by the **Institute of Professional Education And Knowledge (PEAK) Vocational Training Council**.

On the left sidebar, there are navigation options: **Course Options** (with a book icon), **Materials** (with a folder icon), **Updates** (with a document icon), **Gradebook** (with a bar chart icon), and **Badges** (with a star icon).

The main content area displays the course title and a list of materials. At the top, there are buttons for **Add Materials** and **Options**. Below these, a dropdown menu shows **All Materials**. The list includes:

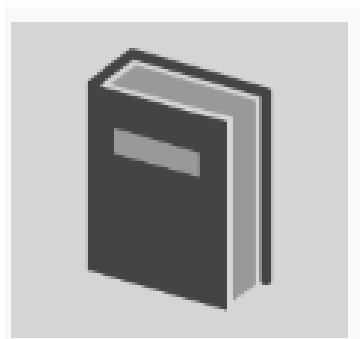
- Lesson 1: Use of digital tools for e-Learning and e-Assessment in Chemistry** (with a folder icon, a checkmark icon, and the text "Must Complete")
- Lesson 2: Design and Implementation of e-Learning and e-Assessment tasks** (with a folder icon and the text "Hidden")
- Questions for the course** (with a speech bubble icon, circled in red)

Where are we starting from?

Let's complete the quiz



Experiences of e-Learning and e-Assessment in Chemistry



eChem-S04: Implementation of e-Learning a ... ▶ Tests/Quizzes
Experiences of e-Learning and e-Assessment in Chemistry

Test/Quiz

Comments

Posted on Tuesday, June 28, 2016 at 4:03 pm

You may make as many attempts as you like



Materials

Begin

What is TPACK?

eChem-S04: Implementation of e-Learning a ...



Lesson 1: Use of digital tools for e-Learning and e-Assessment in Chemistry



Add Materials ▼

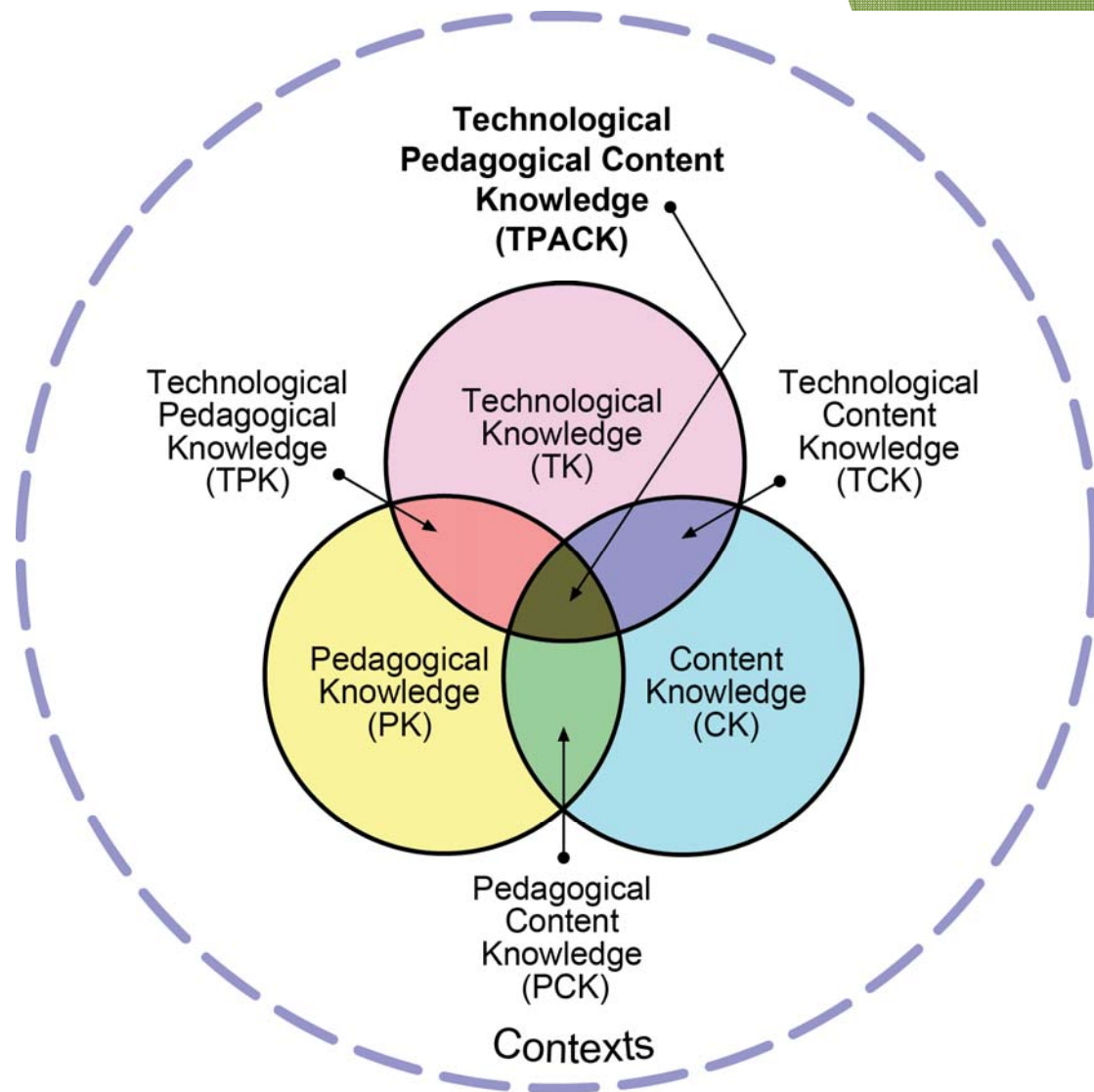
Options ▼



What is 'TPACK'?

TPACK ...

- ▶ stands for Technological Pedagogical Content Knowledge
- ▶ is a framework that identifies the knowledge teachers need to teach effectively with technology

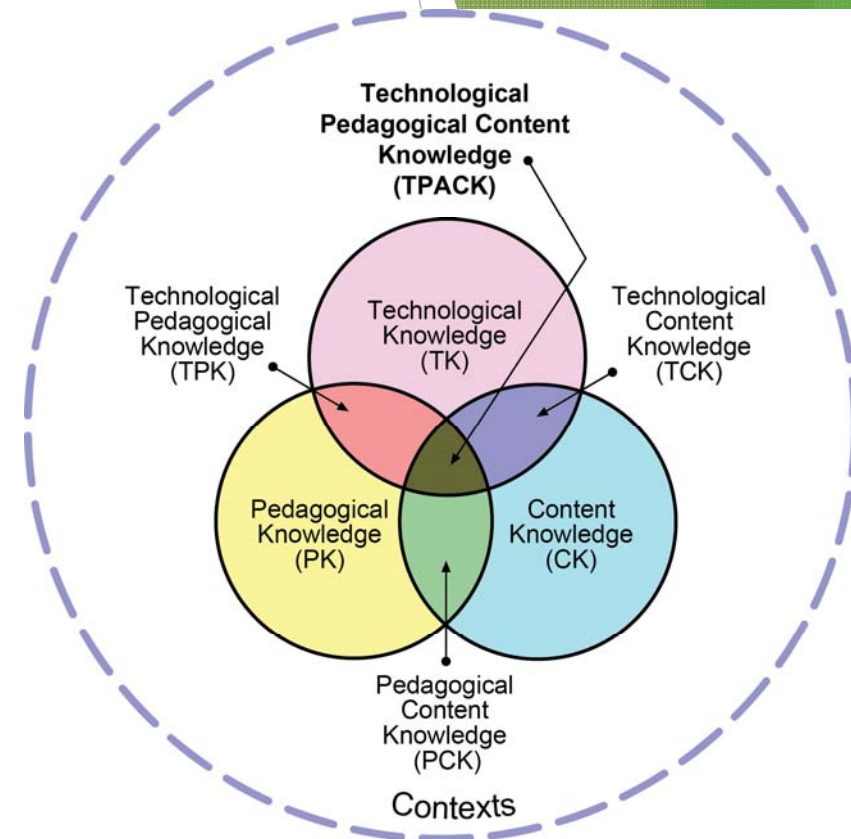


Source: <http://www.matt-koeehler.com/tpack/tpack-explained/>

TPACK ...

- ▶ **Content Knowledge (CK):** knowledge about the subject matter to be learned or taught
- ▶ **Pedagogical Knowledge (PK):** knowledge about the processes and practices or methods of teaching and learning
 - understanding how students learn, general classroom management skills, lesson planning, and student assessment
- ▶ **Technology Knowledge (TK):** knowledge about technologies and how they can assist or impede the achievement of educational goal

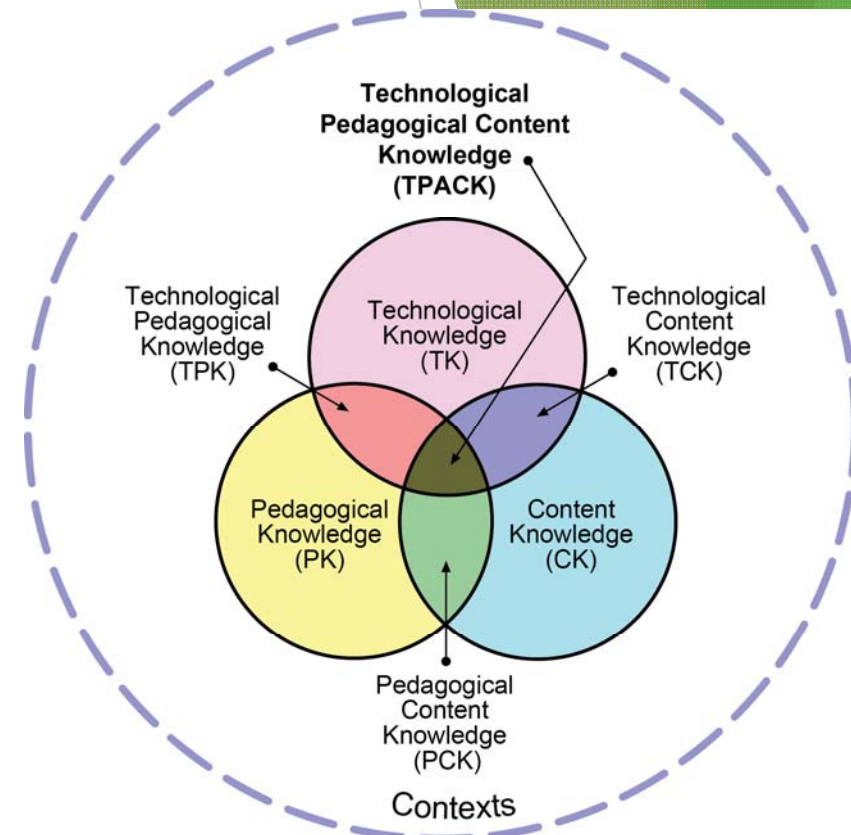
Source: <http://www.matt-koehler.com/tpack/tpack-explained/>
Mishra & Koehler (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. Teachers College Record, 108(6), 1017-1054.



TPACK ...

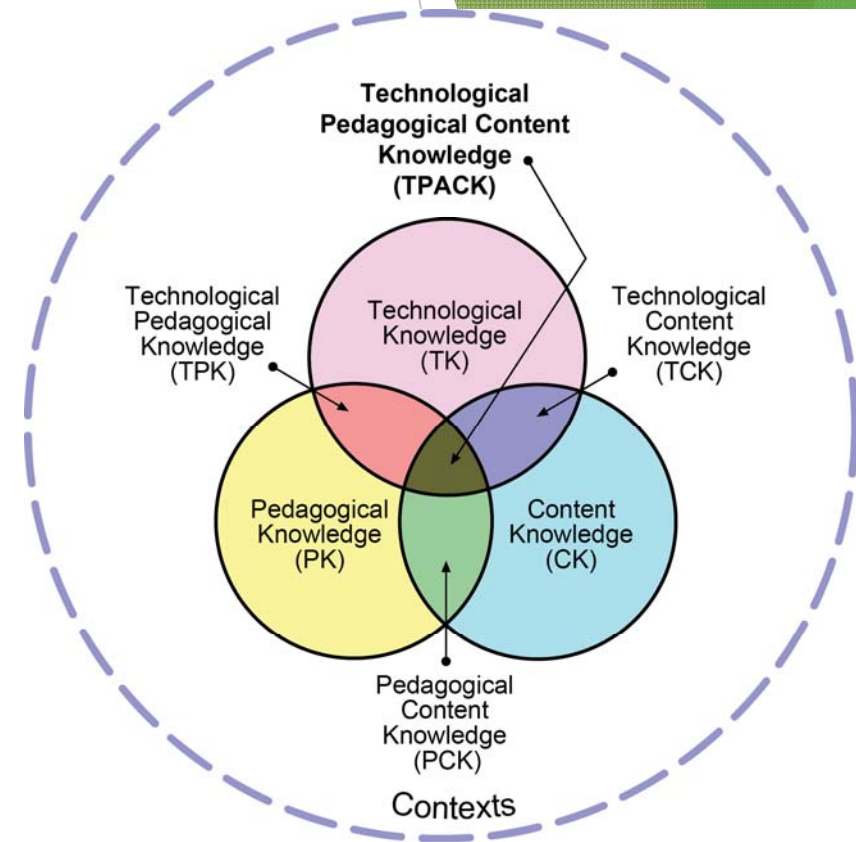
- ▶ **Pedagogical Content Knowledge (PCK):** knowledge of pedagogy that is applicable to the teaching of specific content
 - knowledge about what teaching approach fits the content, what makes concepts difficult or easy to learn, students' prior knowledge/ misconceptions
- ▶ **Technological Content Knowledge (TCK):** an understanding of the manner in which technology and content influence and constrain one another
 - the manner in which subject matter can be changed by the uses of particular technologies

Source: <http://www.matt-koehler.com/tpack/tpack-explained/>
Mishra & Koehler (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. Teachers College Record, 108(6), 1017-1054.



TPACK ...

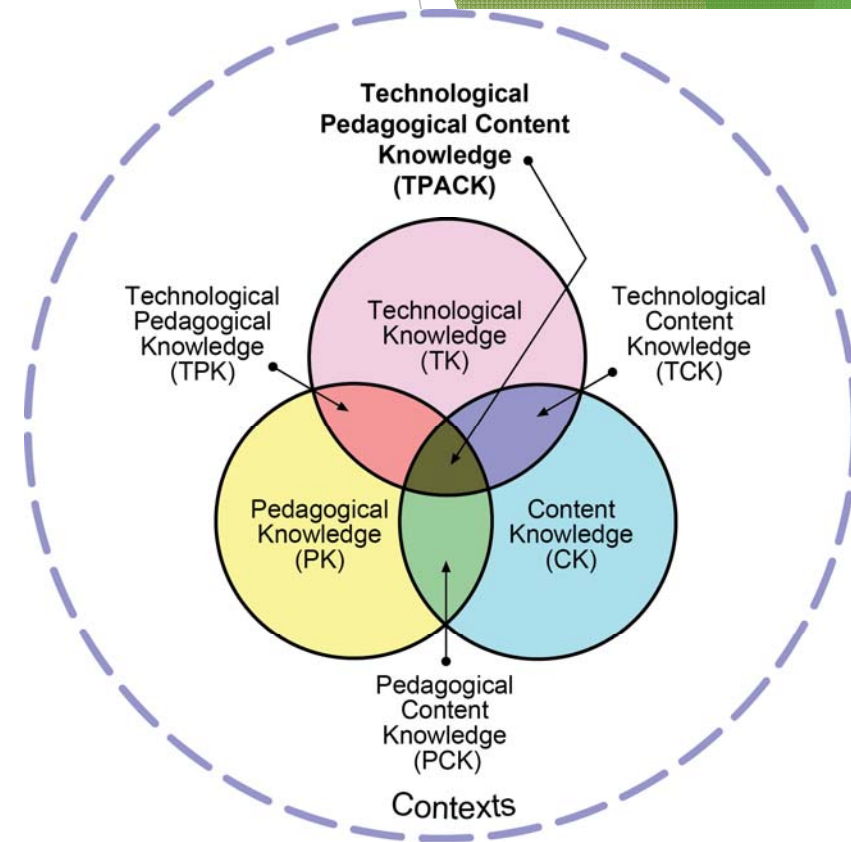
- **Technological Pedagogical Knowledge (TPK):**
knowledge of the existence, components, and capabilities of various technologies as they are used in teaching learning settings, knowing how teaching might change as the result of using particular technologies
 - knowledge of tools for maintaining class records, grading, discussion, etc.



Source: <http://www.matt-koehler.com/tpack/tpack-explained/>
Mishra & Koehler (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. Teachers College Record, 108(6), 1017-1054.

TPACK ...

- **Technological Pedagogical Content Knowledge (TPACK)**: an understanding of the representation of concepts using technologies, pedagogical techniques that use technologies in constructive ways to teach content, knowledge of how technology can help redress problems that students face, etc.



Source: <http://www.matt-koehler.com/tpack/tpack-explained/>
Mishra & Koehler (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. Teachers College Record, 108(6), 1017-1054.

How come sometimes concepts just don't get across?

Causes of alternative concepts:

- (1) Subjective labels
- (2) Wrong level of generalization
- (3) Error in categorization
- (4) Scientific knowledge being inconsistent with their preconceptions
- (5) Use of analogies without clear explanation of the features to be adopted/ wrong analogies brought in by students

(Taber, 2002)

Which is a better representation of methane molecule?

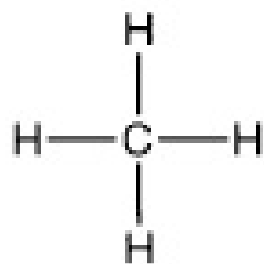


Diagram 1

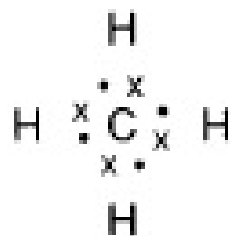


Diagram 2

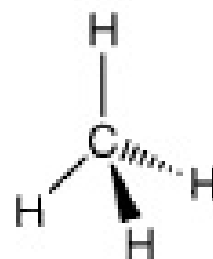


Diagram 3

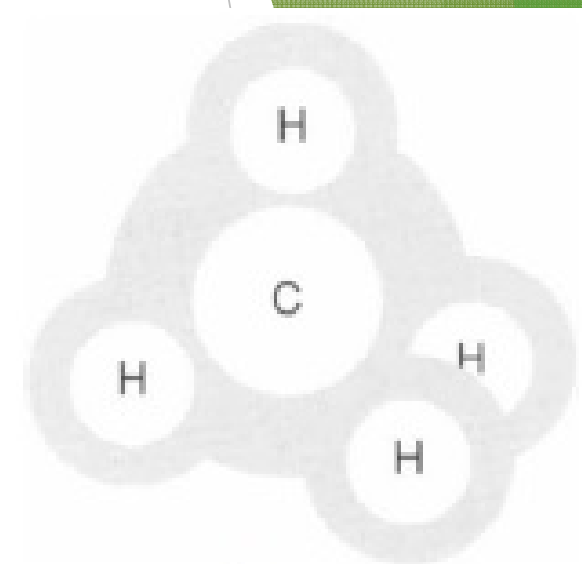


Diagram 4

How can we know what's in student's mind?

Ways to identify students' alternative concepts:

- (1) Identification of similarities and differences / identification of examples and non-examples / True or False statement
- (2) Concept comic
- (3) Mind map

Identifying students' misconceptions (1)

Similarities VS Differences

Examples VS Non-examples

True statements VS False statements

- Let's try the 'Misconception' quiz in Schoology

Identifying students' misconceptions (2)

Concept comic

Concept comic

- ▶ Enable identification of students' misconception
- ▶ More interesting and fun for students
- ▶ Develop students' creativity
- ▶ Cater those who are not very good as expressing themselves in words

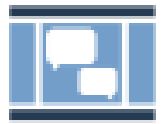
Tools for making concept comic:



- ▶ Easy to use with many images to choose from
- ▶ Can type both English and Chinese
- ▶ Free basic version account
- ▶ The storyboard can be exported as image, pdf or even PowerPoint
- ▶ Login in with Google account



- ▶ Easy to use with many images to choose from
- ▶ Has some images of apparatus
- ▶ Login in with Facebook account

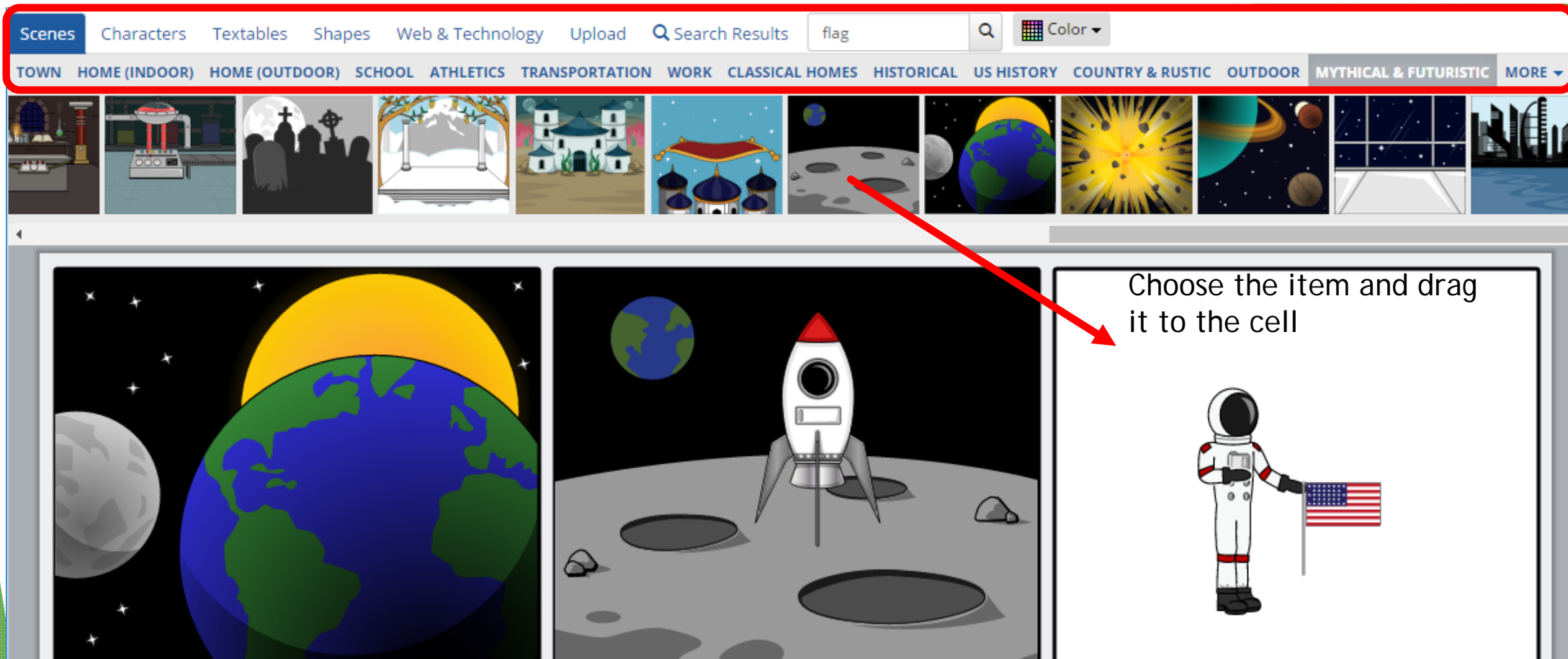


StoryboardThat <http://www.storyboardthat.com/>

The screenshot shows the StoryboardThat website homepage. At the top left is the StoryboardThat logo. To its right is a navigation bar with links: "CREATE A STORYBOARD" (circled in red), "PRICING", "MY ACCOUNT", and a "LOG ON" button. Below the navigation bar is a banner with the text "OVER 2,000,000 STORYBOARDS CREATED!" and "FREE TRIAL" with sub-links "For Teachers" and "For Business". The main heading is "Digital Storytelling" in large white letters on a blue background, followed by the tagline "Powerful Visual Communication, Made Easy". At the bottom of the banner, there is a partial view of a storyboard with three panels labeled "HAMARTIA", "HUBRIS", and "PERIPETIA".

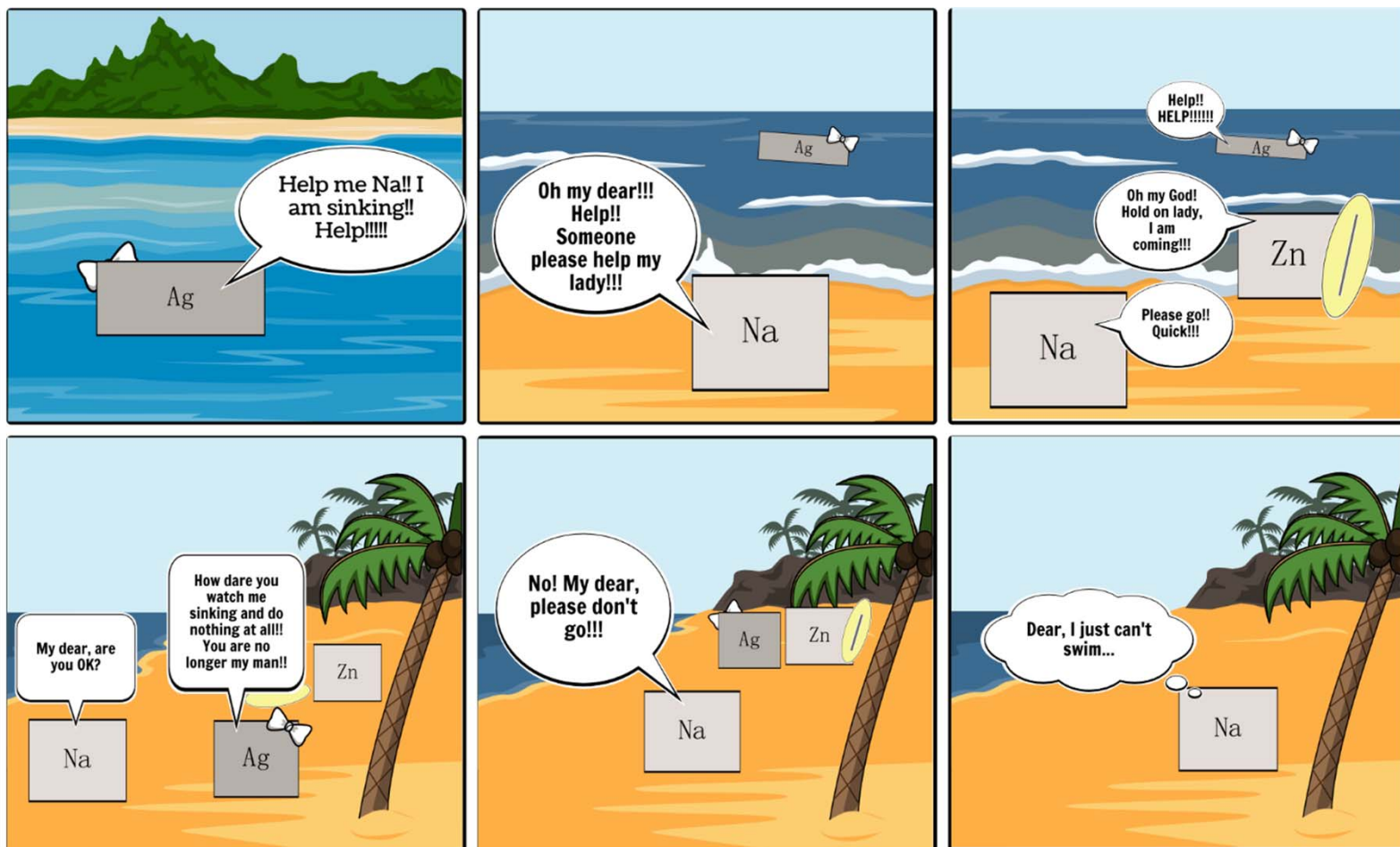
Scenes Characters Textables Shapes Web & Technology Upload Search Results flag Color

TOWN HOME (INDOOR) HOME (OUTDOOR) SCHOOL ATHLETICS TRANSPORTATION WORK CLASSICAL HOMES HISTORICAL US HISTORY COUNTRY & RUSTIC OUTDOOR MYTHICAL & FUTURISTIC MORE



Choose the item and drag it to the cell

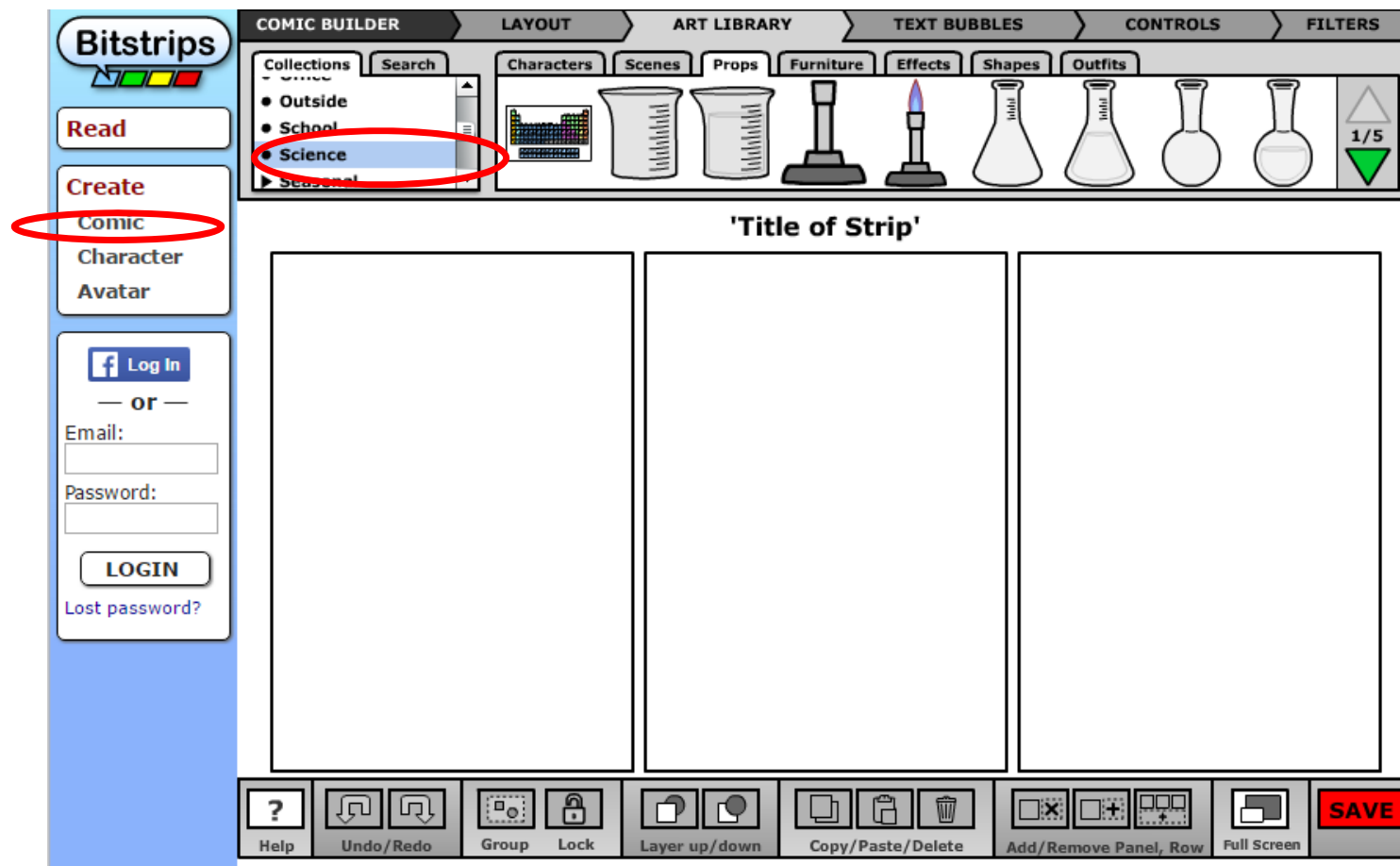
Concept comic prepared by StoryboardThat



Create your own at [Storyboard That](https://www.storyboardthat.com/)



<http://www.bitstrips.com/create/comic/>

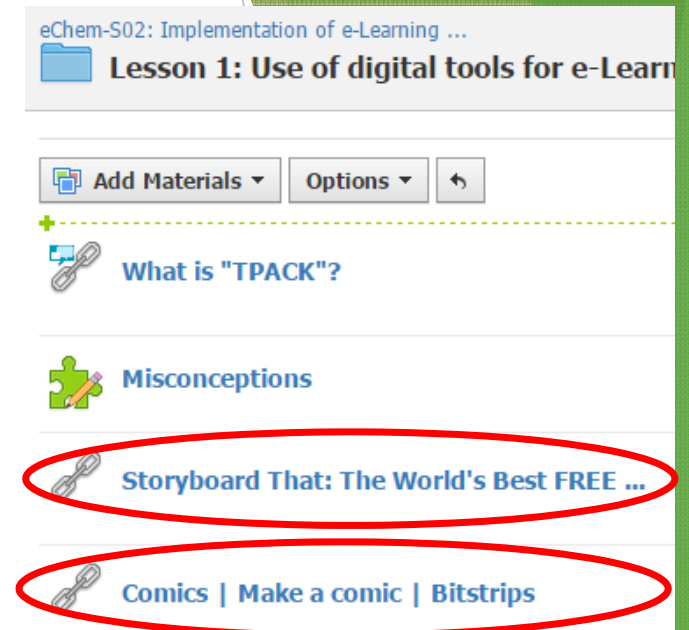


Have a try!



Any comments for these tools?

- limitations
- suggestions for application

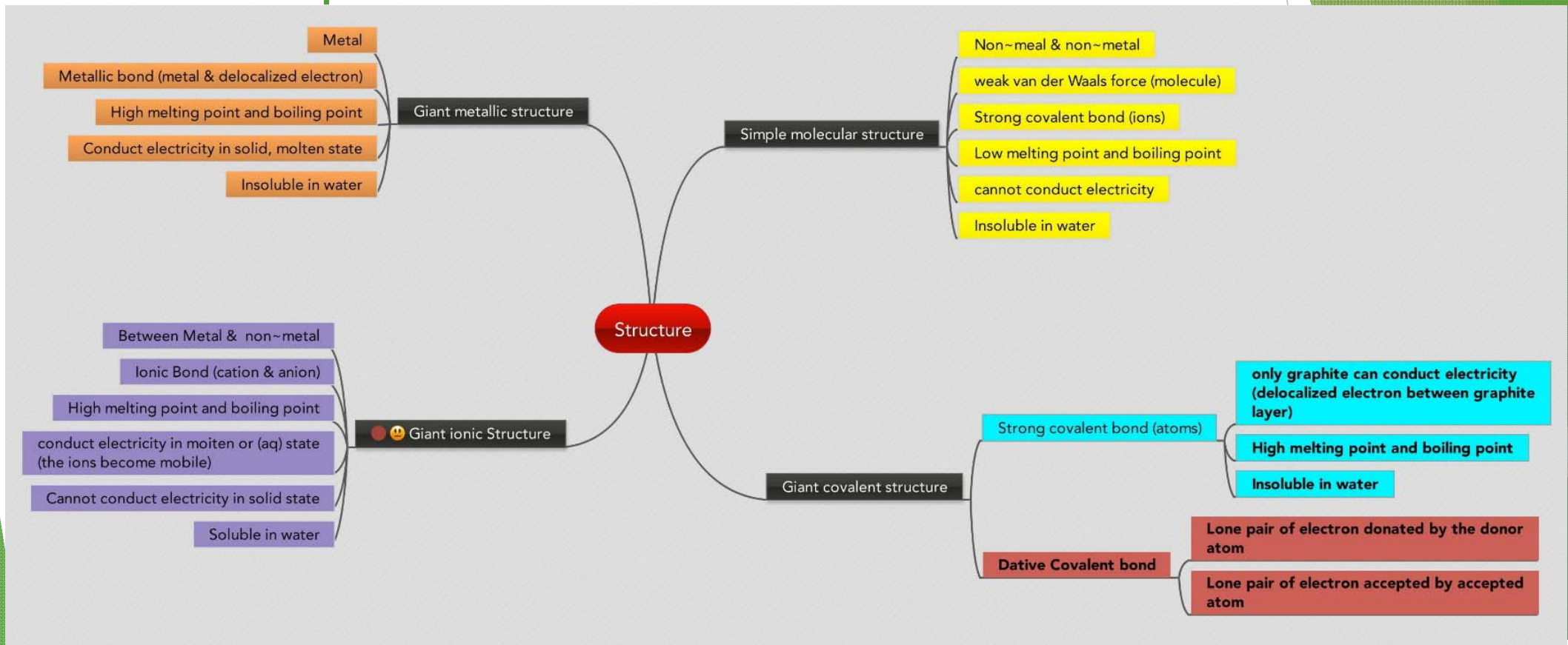


Identifying students' misconceptions (3)

Mind map

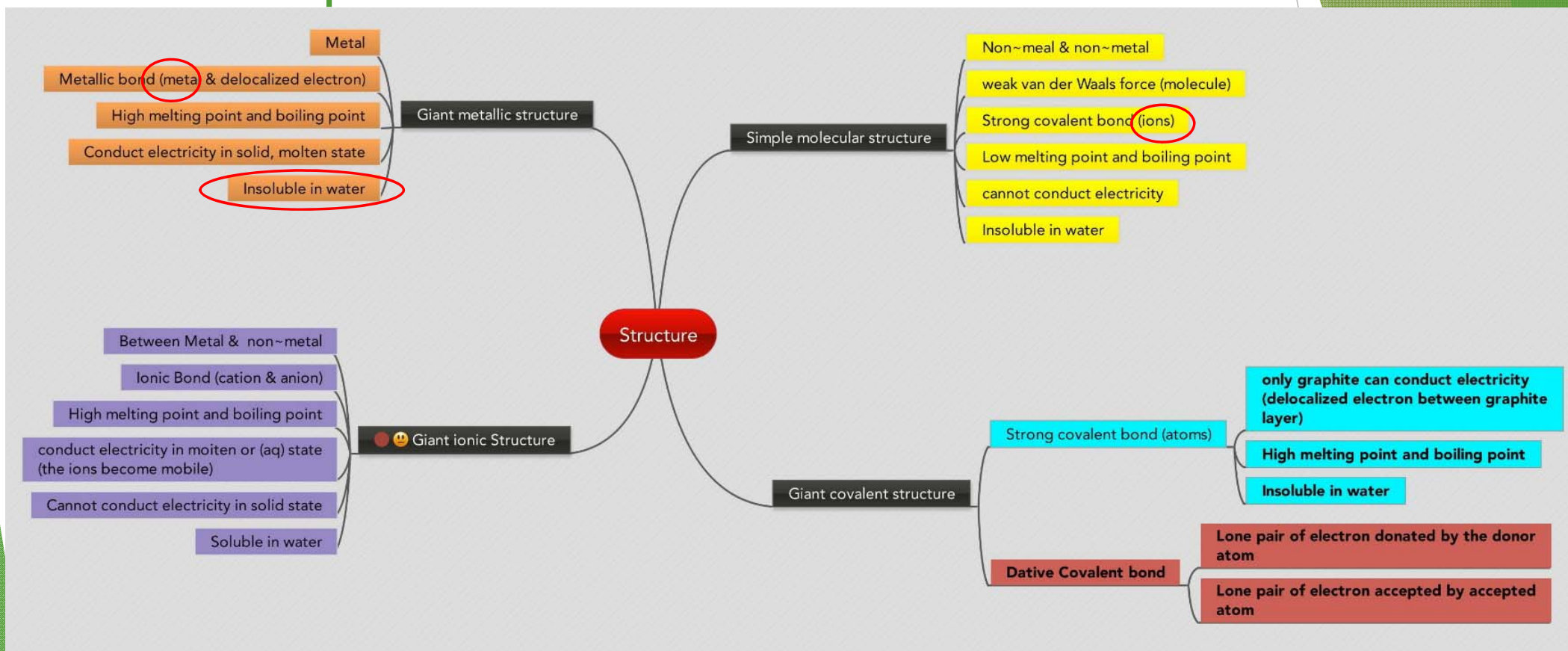
Identifying students' misconceptions (3)

Mind map:



Identifying students' misconceptions (3)

Mind map:



Mind map / Concept map

- ▶ Can reveal:
 - ▶ which key ideas are learnt/ missed
 - ▶ whether the student holds major alternative conceptions
 - ▶ how well the student has integrated ideas within the topic
 - ▶ the extent to which the student links up key ideas from related topics
- ▶ Suitable for concepts that do not fit a linear pattern
- ▶ Can be used as a scaffold

Students' own
conceptual
framework

Conceptual framework

- ▶ Meaning of a single concept depends upon how we understand it in relation to other ideas
- ▶ Mind maps help students develop their own conceptual frameworks by making the connections

Example

Write down some keywords about bonding and structure.

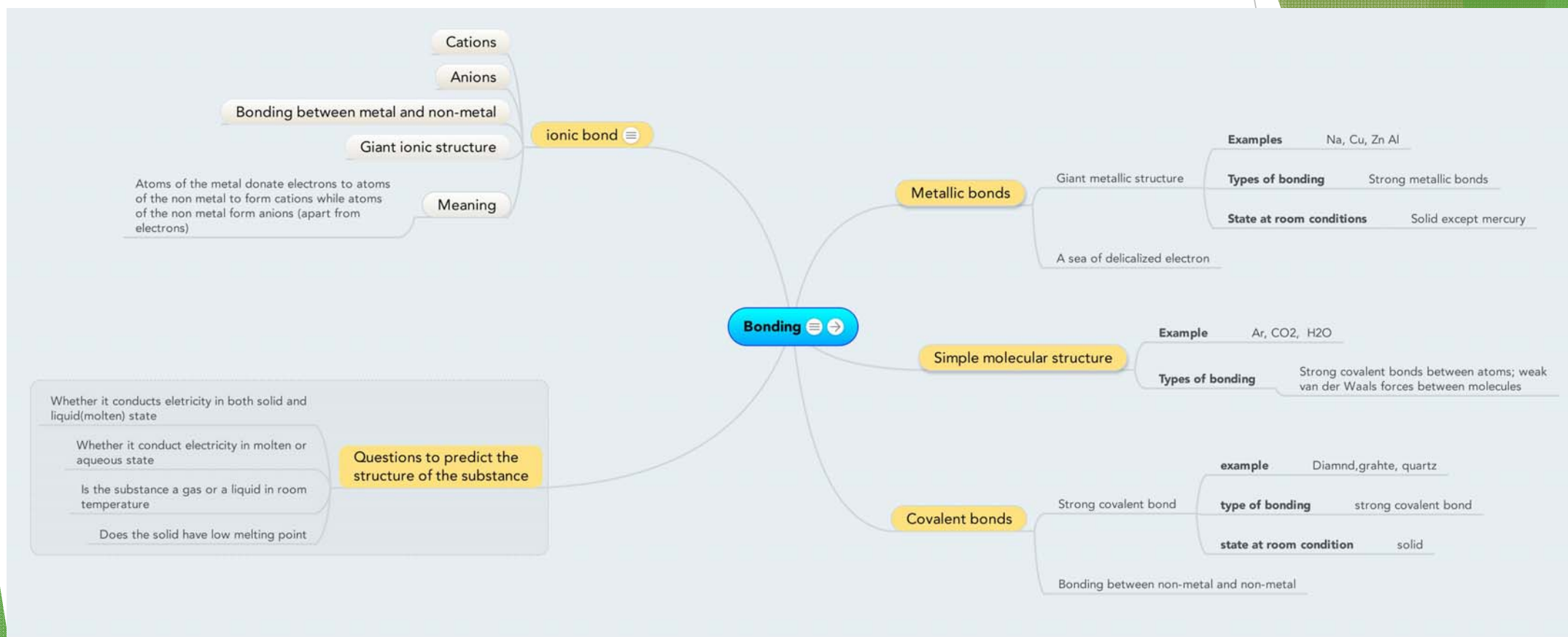
Thanks! Type another answer here...

Submit

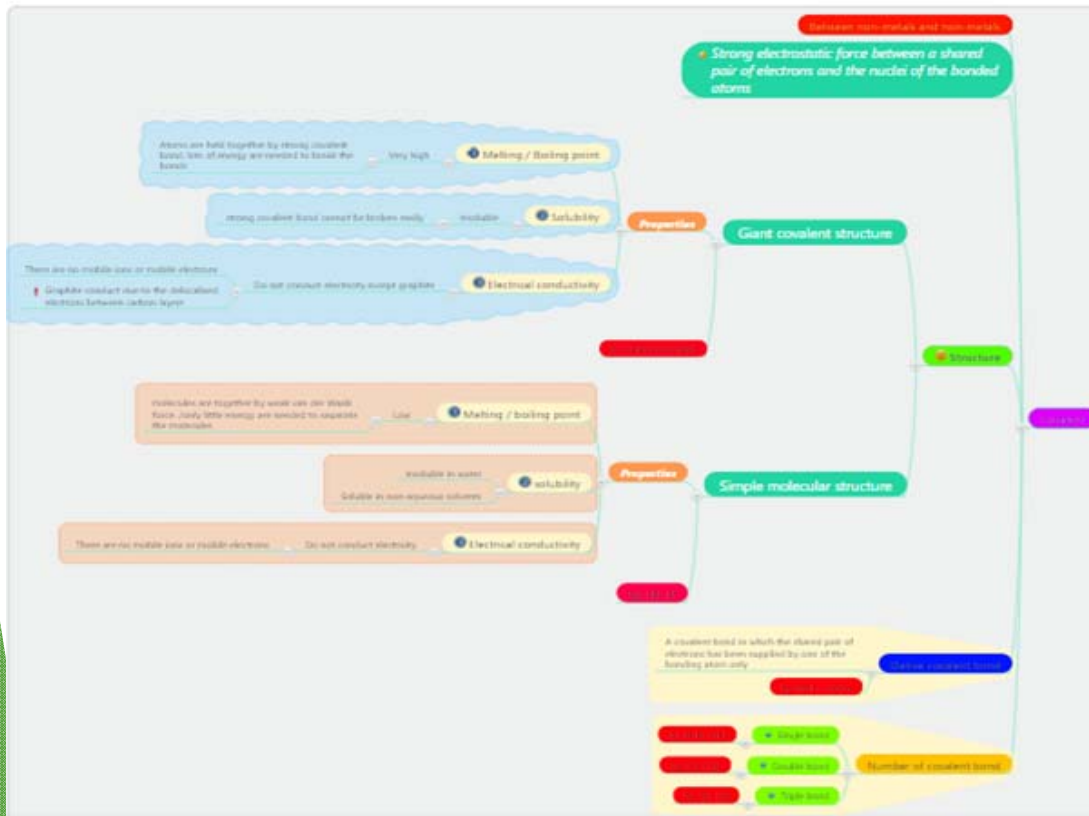
20 characters remaining

hydrogen bond covalent bond
metallic bond ions cations
delocalized electron
metal bonding ionic bond delocalised electron
melting point anions
electrostatic force mobile electron
van der waals' force

Example of mind map (1)



Example of mind map (2)



Draw a concept map on one of the following...

- ▶ Bonding and Structure
- ▶ Acid and Base

What tools will you use to draw the concept map?
Why?
Any limitations?

Do you prefer making the mind map on your own, in pairs or in groups?

What difficulties do you think students may have?

Any useful tools?

- ▶ Have you tried the following before?

AnswerGarden 

popplet

 mindmeister

AnswerGarden

- ▶ Real time brainstorming tool
- ✓ No need to sign up
- ✓ Answers can be exported as image in PNG format (the answers can only be stored for a short period of time in the platform)
- ☆ Enables identification of single concepts that students learnt or missed

<https://answergarden.ch/>

1. Click the + sign to open a new AnswerGarden

The screenshot shows the AnswerGarden website interface. At the top, the 'AnswerGarden' logo is on the left, and a navigation bar on the right contains a '+' icon, a search icon, a heart icon, and a question mark icon. A red circle highlights the '+' icon, with an arrow pointing to it from the first instruction box. Below the navigation bar, the 'AnswerGarden Mode' section is visible, with buttons for 'Brainstorm', 'Classroom' (which is selected), 'Moderator', and 'Locked'. Below this, the 'Add Local Discoverability' section shows duration options: '1 hour', '1 day' (selected), '1 week', and 'Hidden'. A red arrow points from the third instruction box to the '1 day' button. At the bottom, a 'Create' button is highlighted with a red arrow from the fourth instruction box. On the right side, the 'Create a new AnswerGarden' form is shown, with a red arrow pointing from the second instruction box to the 'Topic (required)' input field. The form includes a text area for the topic and a 'More options (optional)' section below it.

AnswerGarden

AnswerGarden Mode

Brainstorm Classroom Moderator Locked

In Classroom Mode respondents can submit answers, but may only submit each answer once.

Add Local Discoverability

You can make this AnswerGarden easily discoverable from your current network location for a short duration. [\[Learn more\]](#)

1 hour 1 day 1 week Hidden

Create

Create a new AnswerGarden

Topic (required)

Type the topic of your new AnswerGarden. This can be a question or a topic, such as:
"What makes you happy?"

Enter your question or topic here...

More options (optional)

3. Set how long you want the AnswerGarden to be kept

4. Click 'Create' to start

What to do in summer?

Type your answer here...

Submit

20 characters remaining

reading sunbath
cycling
go grad trip eat ice-cream sleep do nothing
work coz no money dinner tgt interview science vol. prog.

Share

Export

About

QR

Local

Admin

Refresh

Share

Share this AnswerGarden on various social networks using the following buttons.



Embed

Use this link to refer to your AnswerGarden.

<https://answergarden.ch/304015>

Embed your AnswerGarden on your website or blog (640x400):

```
<iframe src="https://answergarden.ch/embed/304015" v
```

5. Share this link with others



- ▶ Online platform for making mind map
- ✓ Construct mind map collaboratively
- ✓ Sharing the mind map constructed
- ✓ Export mind map in pdf/jpeg/png format
- ✓ Easier to use on computer than iPad
- ▶ Free account can have storage up to 3 mind maps (can earn extra mind maps by inviting friends)

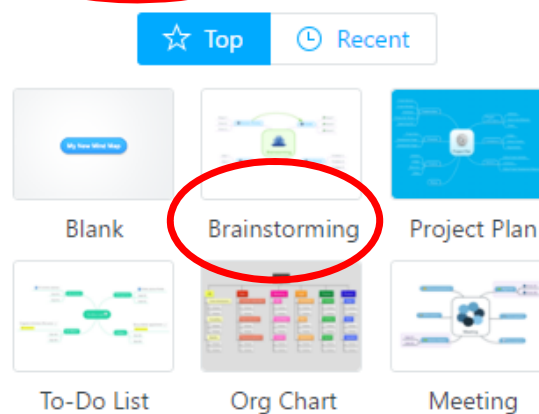
<https://www.mindmeister.com/hk>



协同制作 心智地图

几百万人使用MindMeister 天马行空的进行创意工作。

登录



电子邮件或用户名

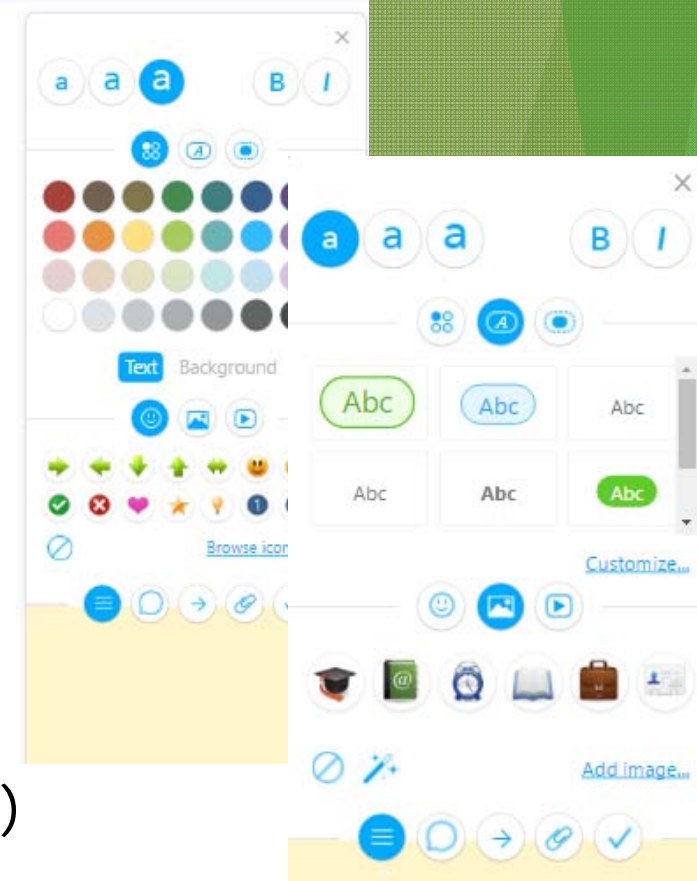
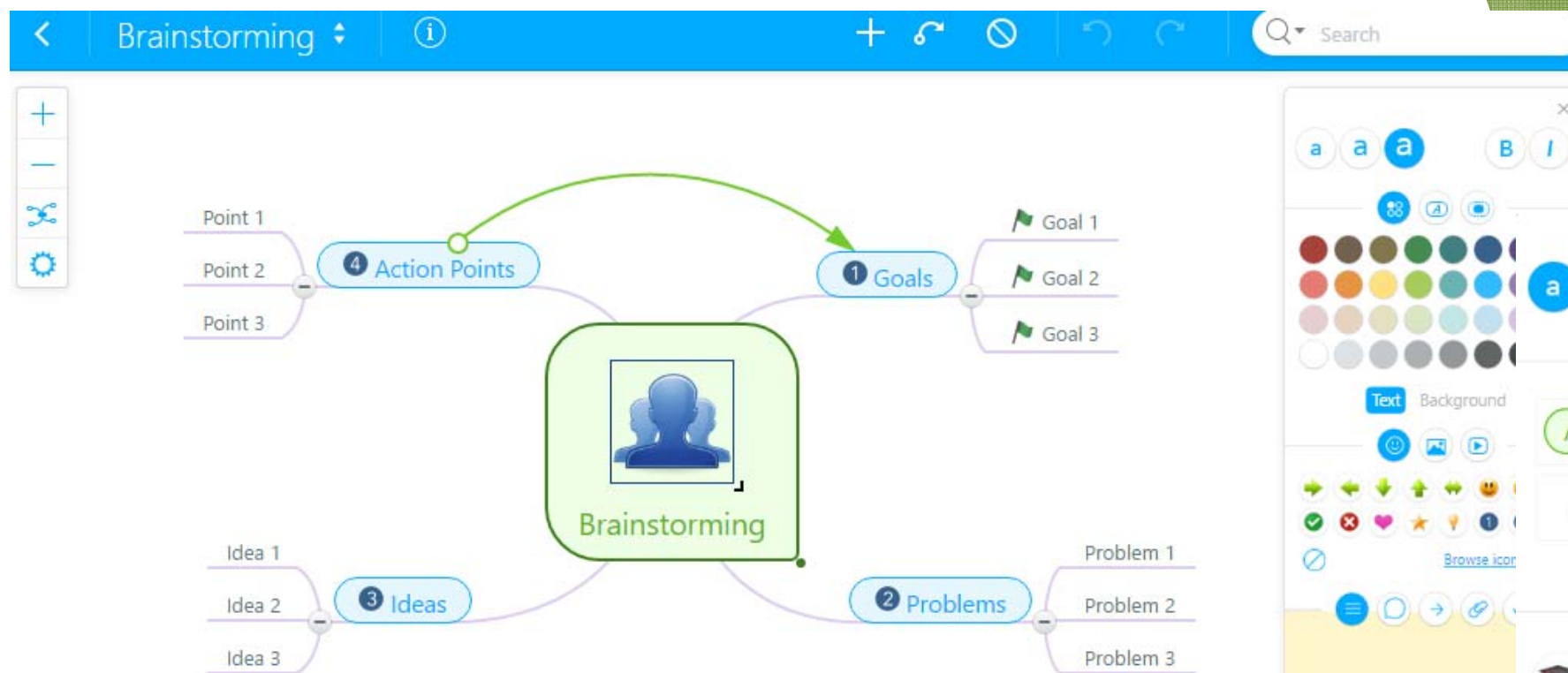
密码

登录

☐ 记住我

[注册](#) 或连接这些服务中的一个





- Press 'Enter' to insert sibling topic (only for computer)
- Press 'Tab' to insert subtopic (only for computer)
- Press the '+' sign to zoom in and '-' sign to zoom out
- Hold and drag topic to move it around
- Can insert image / video / link



- ▶ Online platform for making mind map
- ✓ Construct mind map collaboratively with other popplet users ('add collaborator' function)
- ✓ Add YouTube video to the map and play the video directly
- ✓ Share the mind map constructed
- ✓ Export mind map in pdf/jpeg/png format
- ✓ Easy to use on iPad
- ✓ Special features: popplet linker, presentation modes
- ▶ Free account can have up to 10 mind maps

<http://popplet.com/>

popplet

> try it out

get the app

log in

popplet: my new popplet

home

view all

zoom



new popple

save

edit

organize

add content

view

export

labs

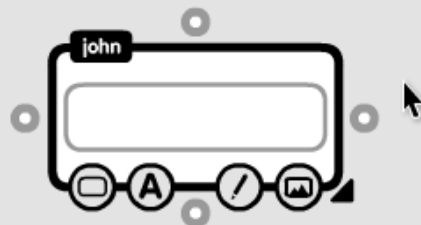
popplet linker

duplicate popplet

print

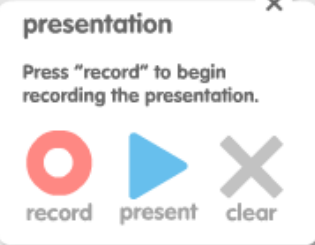
languages

1. Double-click to make a popple.



next

1/9



Let's have a try!

AnswerGarden 

► <https://answergarden.ch/>



► <https://www.mindmeister.com/hk>



► <http://popplet.com/>

Any comments for these tools?

- limitations
- suggestions for application

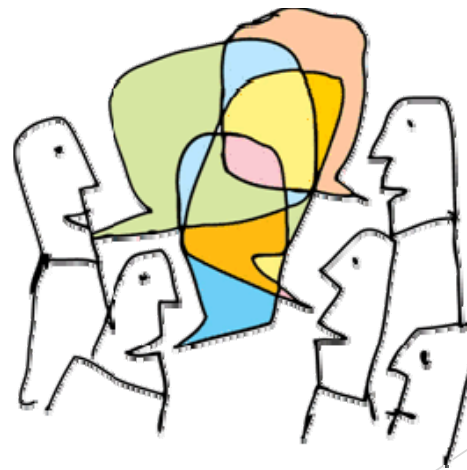
Different ways to make use of the tools:

- ▶ Brainstorming (Individual) → Mind map (Individual) → Pair sharing
→ Revise own work
- ▶ Brainstorming (Individual) → Mind map (Individual) → Revise /
enrich it as learning proceeds
- ▶ Brainstorming (Collaborative) → Mind map (Individual)
- ▶ Brainstorming (Collaborative) → Mind map (Collaborative)

From single concepts to conceptual framework

Let's think about the topic Acid and Base.

Any difficult concepts?
Any common misconceptions?

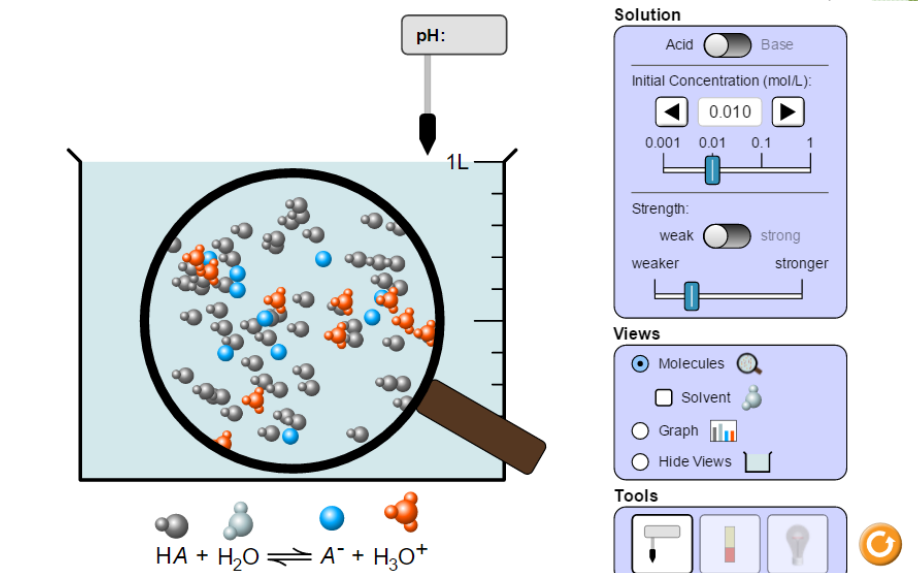
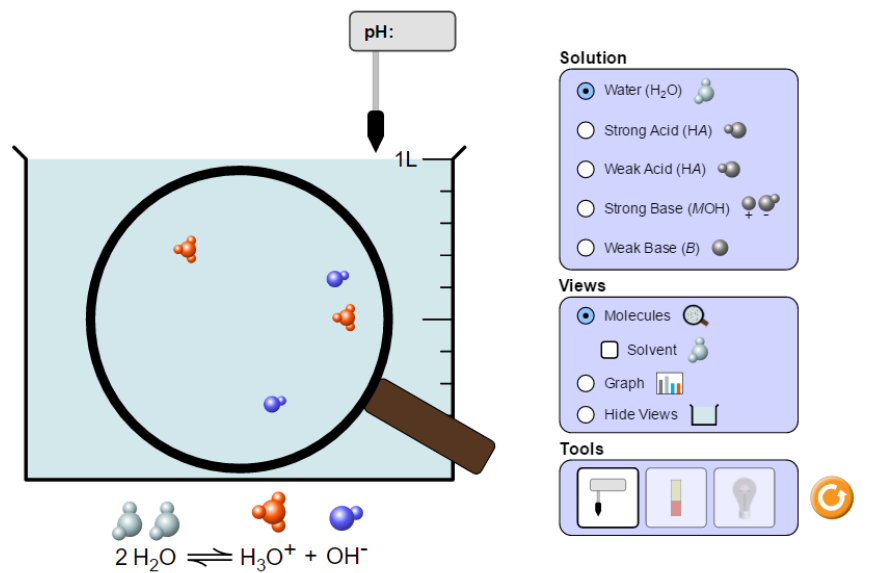


Any tools that may help?

Topic: Acid and Base

Acid-Base Solutions

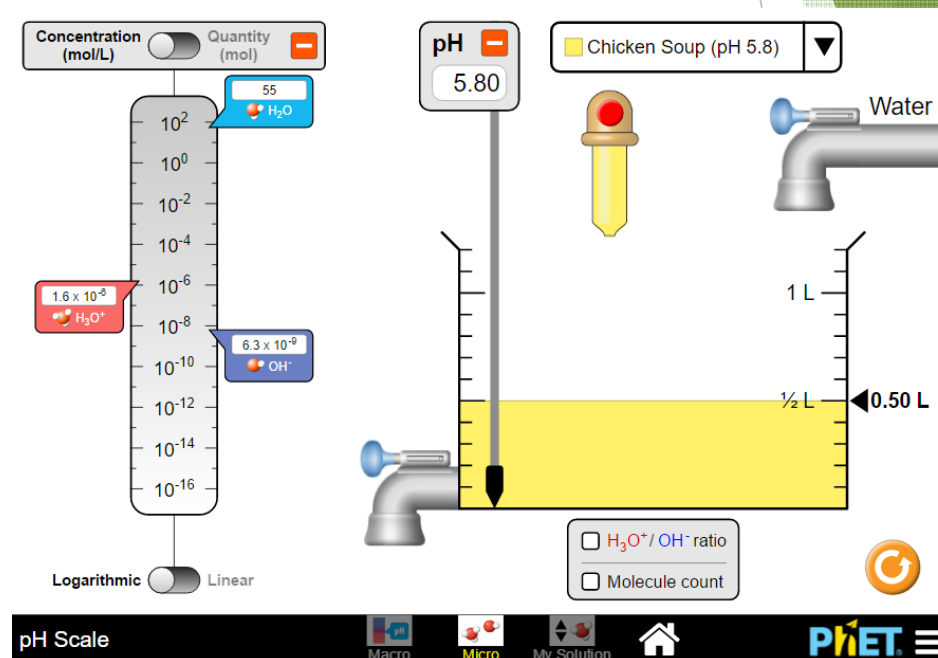
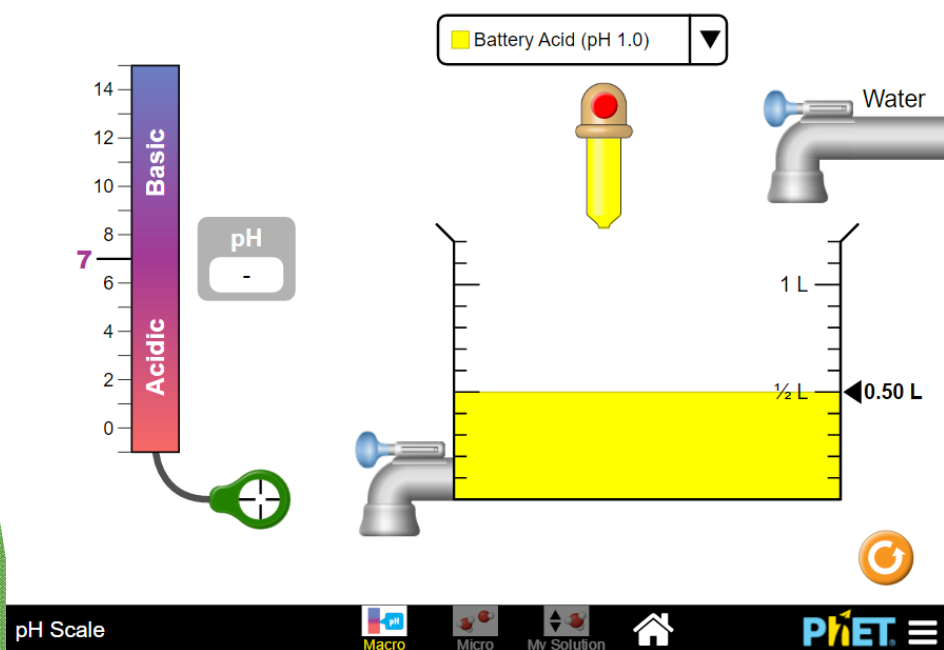
https://phet.colorado.edu/sims/html/acid-base-solutions/latest/acid-base-solutions_en.html



Topic: Acid and Base

pH Scale

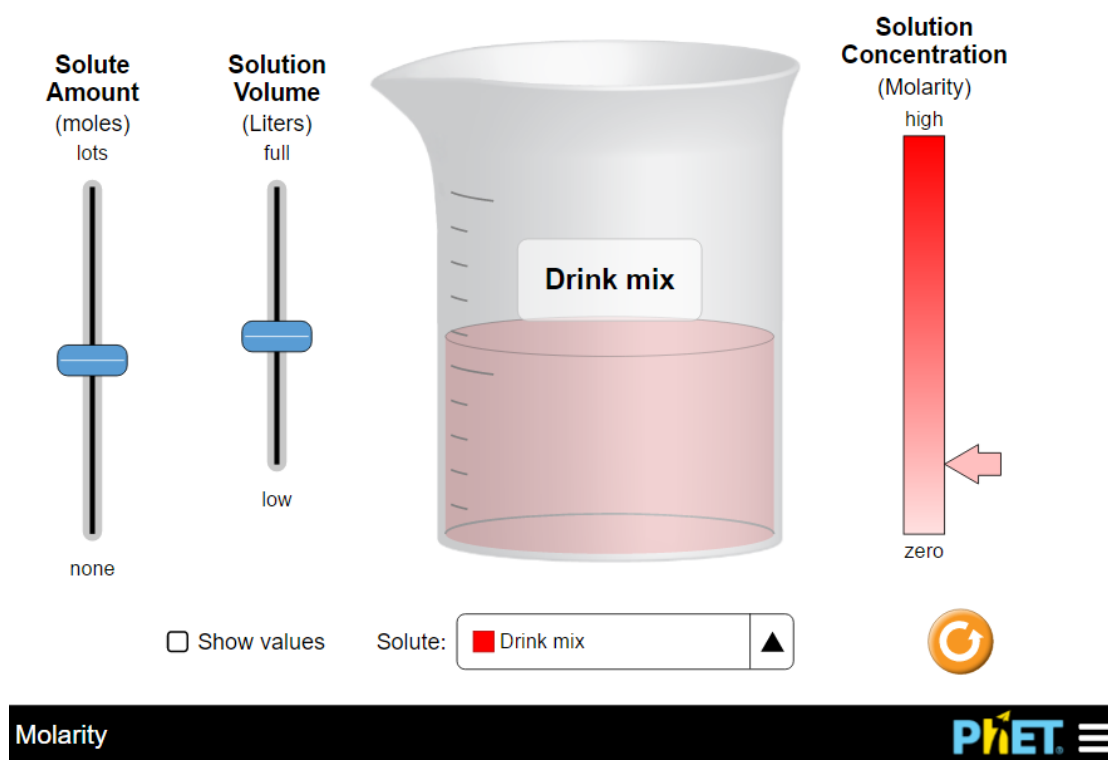
<https://phet.colorado.edu/en/simulation/ph-scale>



Topic: Acid and Base

Molarity

https://phet.colorado.edu/sims/html/molarity/latest/molarity_en.html





Topic: Acid and Base


Titration screen experiment

<http://www.rsc.org/learn-chemistry/resources/screen-experiment/titration/experiment/2>

Experiments home Titration home Register Log in

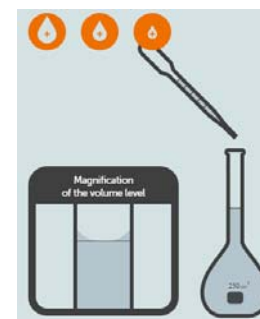
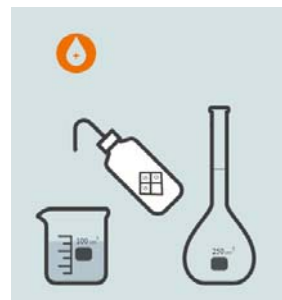
Titration screen experiment

Quickstart Titration level 1
Log in Titration level 2
Register Titration level 3
Titration level 4

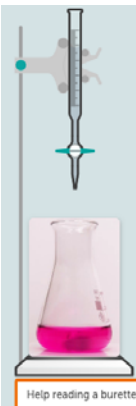


LearnChemistry
Enhancing learning and teaching

This resource has been developed in partnership with Learning Science and the University of Bristol



4x zoom



Help reading a burette

	Trial	1st accurate titration	2nd accurate titration
Final reading (cm³)			
Initial reading (cm³)			
Volume added (cm³)			
Average volume added (cm³)			

Sample site B



Topic: Acid and Base

Virtual titration

http://group.chem.iastate.edu/Greenbowe/sections/projectfolder/flashfiles/stoichiometry/a_b_phtitr.html



Determination of the Molarity of an Acid or Base Solution

1. Select Type of Reaction

☐ Strong Acid vs. Strong Base
☐ Weak Acid vs. Strong Base

2. Fill the Burette with

☐ Acid
☐ Base

3. Select the Acid and Base

4. Select the Indicator

☐ Methyl Orange
☐ Phenolphthalein

5. Push Slider Up to Add a Volume of

ml

6. Calculate and Enter Molarity of

M

Total Volume of

ml

Molarity of M **Volume of** ml

Reset **Graph**

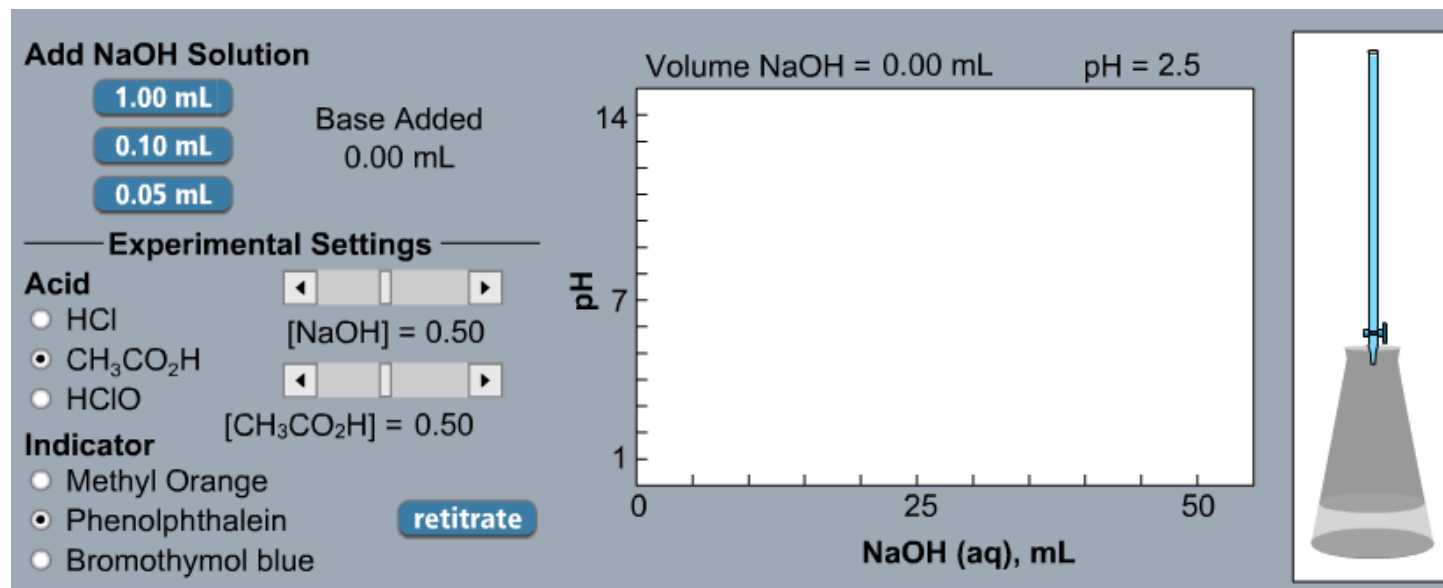
Dropwise

pH 0.00
Temp. °C
Remove Probes **Insert Probes**

The simulation interface features a central burette with a blue stopper and a glass tube, dispensing liquid into a beaker. A pH meter is connected to the beaker, displaying a digital readout of 0.00 and a temperature field. The interface includes several input fields for reaction type, reagents, indicators, and volumes, along with buttons for calculation and graphing. A slider control is used to add volume dropwise.

Ch 17 pH Titration Curves

http://employees.oneonta.edu/viningwj/sims/titration_curves_s.html



Let's check out the tools.

- ▶ What are the tools about?
- ▶ What can they do?
- ▶ What are their limitations?
- ▶ How can we make use of them?

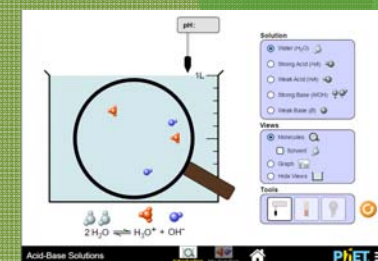


Acid-Base solution - Introduction

1. Complete the following table about the comparison between strong acid and weak acid.

Observation	Strong acid	Weak acid
Concentration of H_3O^+ ion	higher	lower
Brightness of light bulb	brighter	dimmer
pH	lower	higher

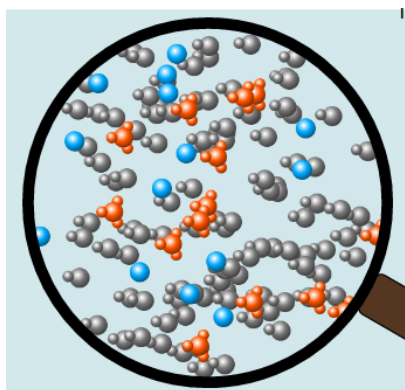
2. Why does strong acid has a higher concentration of H_3O^+ ions than weak acid?
 - Strong acid completely ionized while weak acid only partially ionized.
3. Explain the difference in the brightness of light bulbs.
 - The stronger the acid, the higher the concentration of mobile ions, the higher the electrical conductivity, the brighter the light bulb.
4. Explain the difference in the pH values of the two acids.
 - The stronger the acid, the higher the degree of complete dissociation, the higher the concentration of H_3O^+ ions, the lower the pH value.



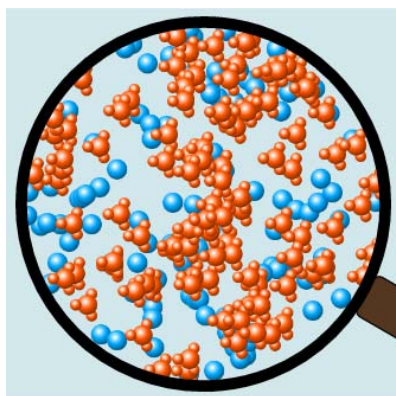
Acid-Base Solution - Solution

Strength of acid

- ▶ Set concentration to 0.1 mol/L. First, set the strength to 'weak'. Then, set the strength to 'strong'.
- ▶ Describe the differences between the two diagrams
- ▶ Difference: Weak acid: more HA molecules. Strong acid: more H_3O^+ and A^- ions.
- ▶ Conclusion: The greater the degree of dissociation, the stronger the acid.



Weak acid



Strong acid

Acid-Base Solution - Solution

Concentration of acid

► Part 1:

- Set strength of acid to weak, increase the concentration from 0.001 mol/L to 1 mol/L.
- State the change in the diagram.
- Observation: The number of HA molecules increases with concentration. No. of HA molecules increases more than the number of ions.

► Part 2:

- Set strength of acid to strong, increase the concentration from 0.001 mol/L to 1 mol/L.
- State the change in the diagram.
- Observation: The number of H_3O^+ and A^- ions increases with concentration.
- Conclusion: **the higher the concentration of the acid**, the more the HA molecules in weak acid / the more the H_3O^+ & A^- ions in strong acid



pH scale - Macro & Micro

- ▶ Macro: How does the pH value change as we add more water to the solution?
- ▶ Micro: How does the concentration of H_3O^+ ions change as we add more water to the solution?
- ▶ Can you now relate the amount of water added to the solution, the concentration of the H_3O^+ ions and the pH of the solution?
 - ▶ The more the water is added, the lower the concentration of H_3O^+ ions, the higher the pH values
- ▶ Focus: $\text{pH} = -\log [\text{H}^+]$
- ▶ Will the pH and concentration of H_3O^+ ions change when we release some solutions?
- ▶ What is the assumption?



Topic: Acid and Base

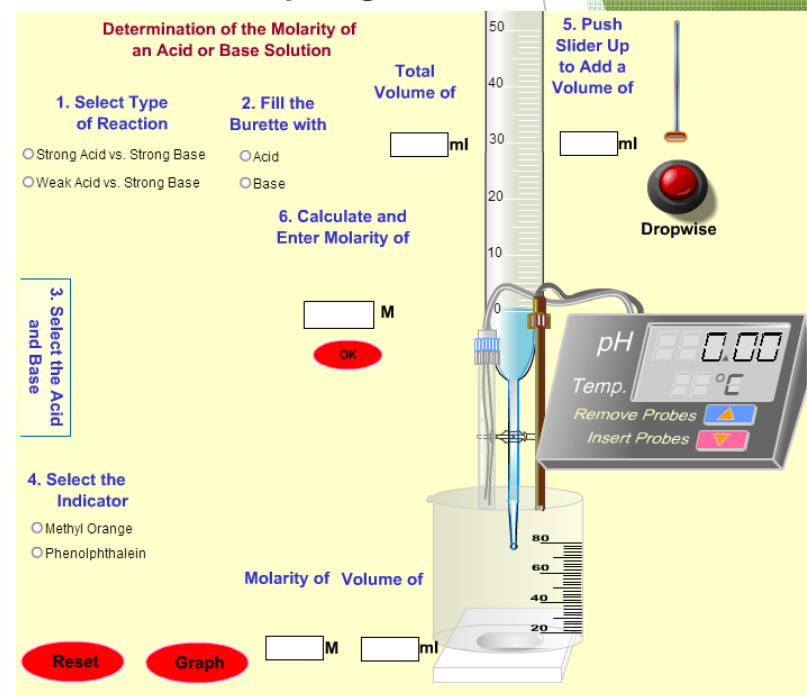
► Titration screen experiment

- <http://www.rsc.org/learn-chemistry/resources/screen-experiment/titration/experiment/2>
- Guided step-by-step virtual titrations (from preparation to calculation)
- Emphasize on practical skills
- Real life context
- Interactive
- Self-learning / Revision before SBA



Topic: Acid and Base

- ▶ http://group.chem.iastate.edu/Greenbowe/sections/projectfolder/flashfiles/stoichiometry/a_b_phtitr.html
- ▶ Titration with acids and bases of different strengths
- ▶ Colour change at end point
- ▶ Calculating molarity



What is good about simulation?

Use of simulation

- ▶ Visualize the 'abstract' concepts
- ▶ Visualize the concepts at microscopic level
- ▶ Save time and chemicals
- ▶ Interactive
- ▶ Predict - Observe - Explain

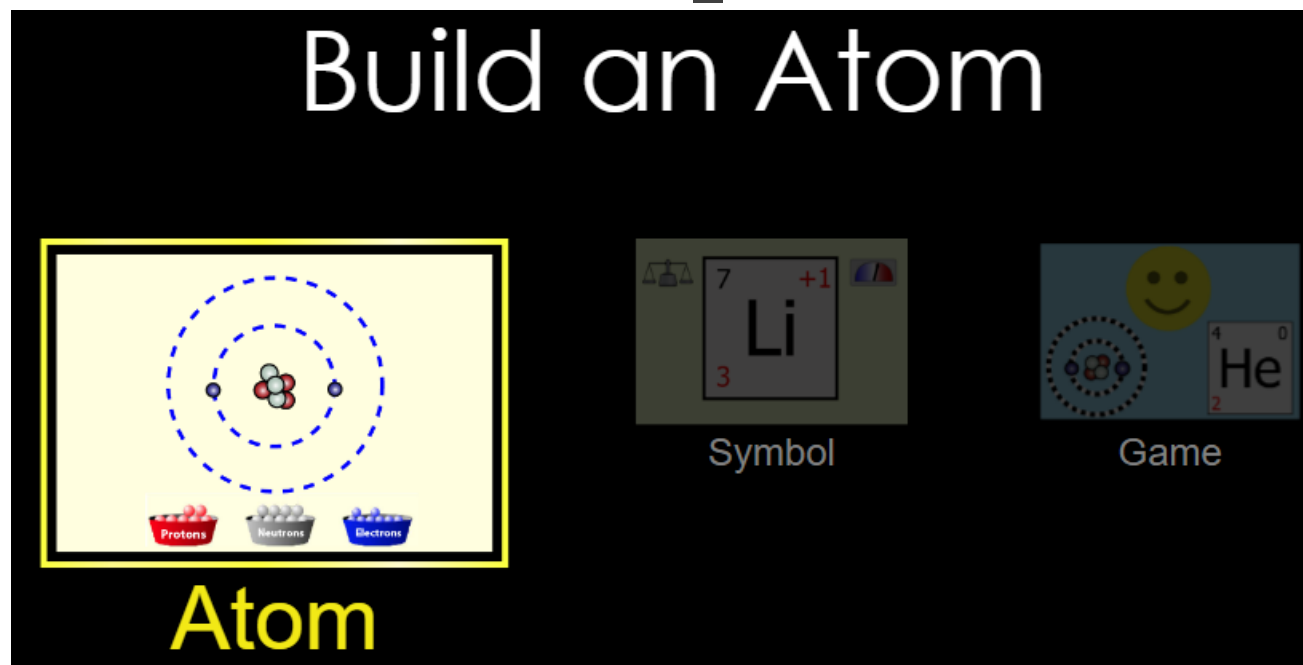


- ▶ Free registration with resources for teachers
- ▶ Simulations in html 5 or java format

Topic: Microscopic World I

Build an Atom

http://phet.colorado.edu/sims/html/build-an-atom/latest/build-an-atom_en.html



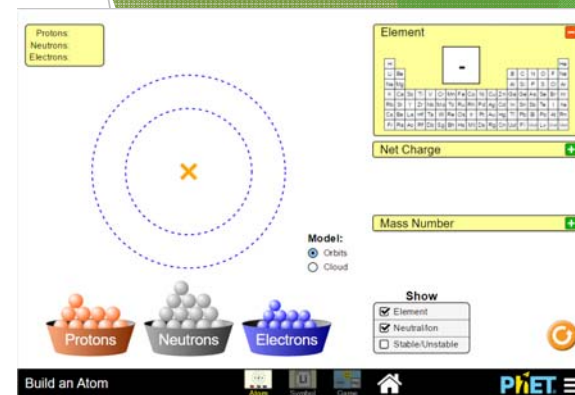
The screenshot shows the 'Build an Atom' simulation interface. At the top, the title 'Build an Atom' is displayed in large white letters. Below the title, there are three main sections: 1. A central area with a yellow background showing a Bohr-style atom model with a nucleus and two electron shells. Below this are three bins labeled 'Protons' (red), 'Neutrons' (grey), and 'Electrons' (blue). 2. A 'Symbol' section showing a periodic table entry for Lithium (Li) with atomic number 3, mass number 7, and a +1 charge. 3. A 'Game' section showing a periodic table entry for Helium (He) with atomic number 2, mass number 4, and a neutral charge. The word 'Atom' is written in large yellow letters at the bottom left of the interface.



Topic: Microscopic World I

Build an Atom

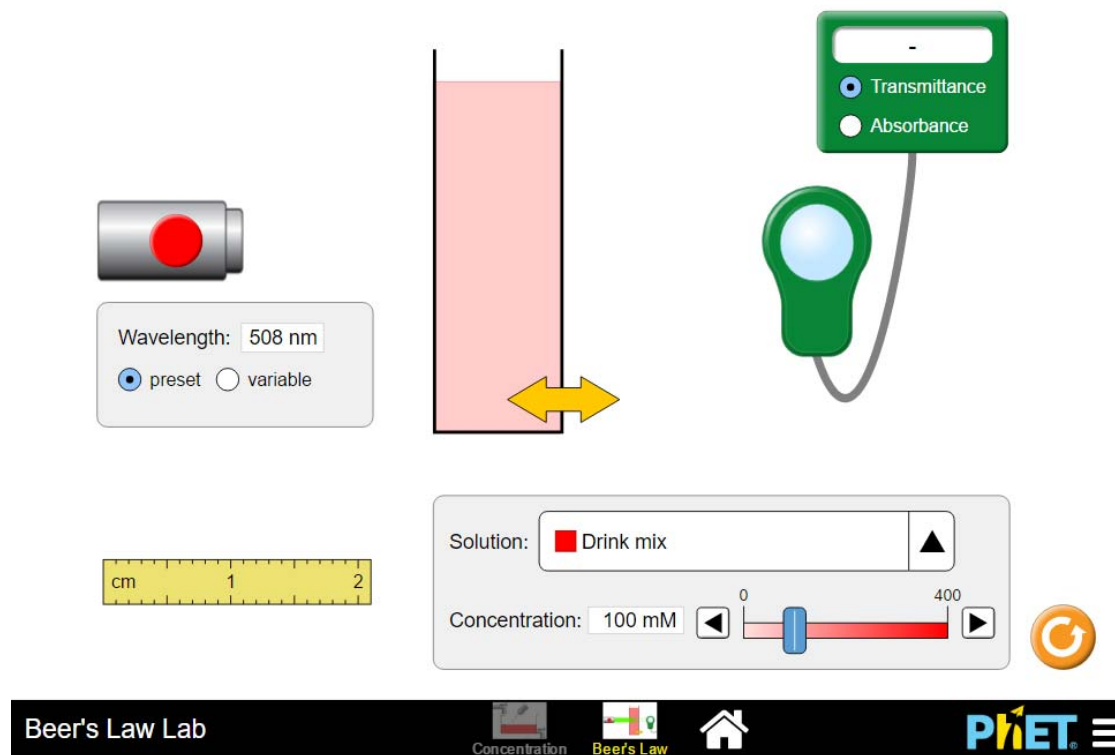
- ▶ Atom - building atom/ion using subatomic particles in the form of electron diagram
 - ▶ Arrangement of subatomic particles in an atom
 - ▶ Neutral atom vs ion
 - ▶ Mass number
 - ▶ From H to Ne only
- ▶ Symbol - shorthand representation showing the symbol of element, mass number and atomic number
- ▶ Game - a set of four games to consolidate learning



Topic: Rate of Reaction

Beer's Law Lab

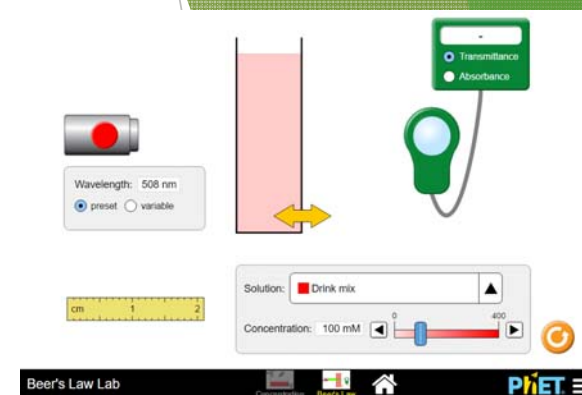
https://phet.colorado.edu/sims/html/beers-law-lab/latest/beers-law-lab_en.html



Topic: Rate of Reaction

► Beer's Law Lab

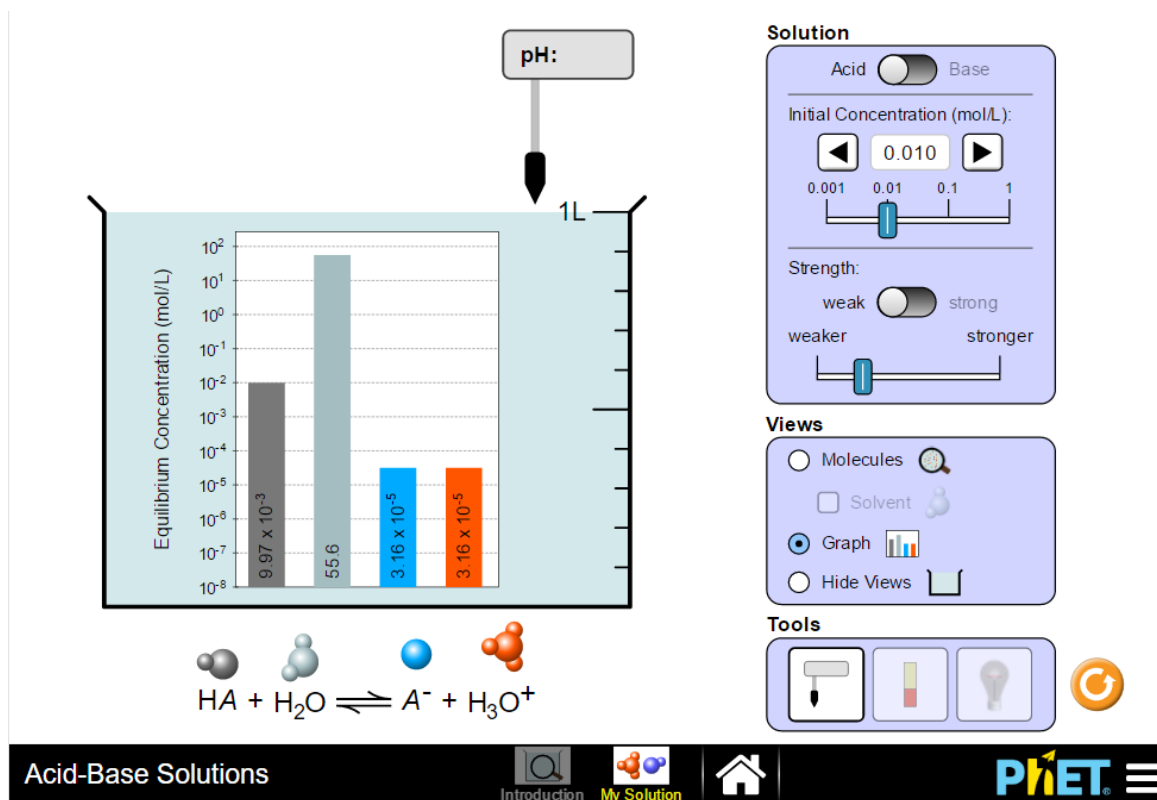
- https://phet.colorado.edu/sims/html/beers-law-lab/latest/beers-law-lab_en.html
- Transmittance or absorbance changes with the concentration of solution
- Can illustrate the relationship between colour of solution and the colour of light ray
- Colorimetry



Topic: Equilibrium

Acid-Base Solutions - My Solution

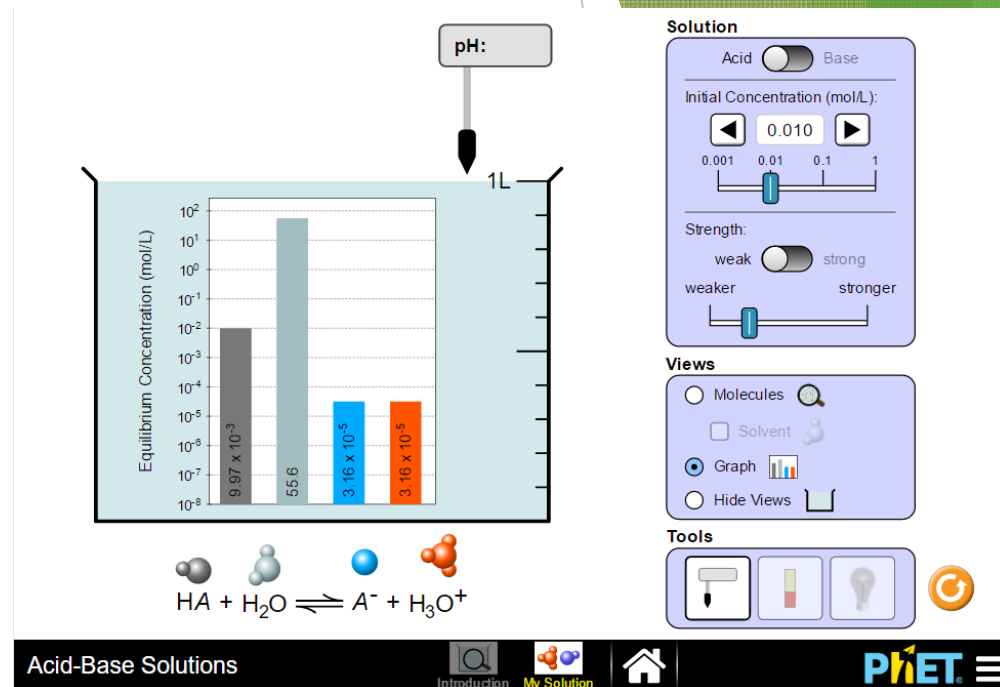
https://phet.colorado.edu/sims/html/acid-base-solutions/latest/acid-base-solutions_en.html



Topic: Equilibrium

► Acid-Base Solutions - My Solution

- https://phet.colorado.edu/sims/html/acid-base-solutions/latest/acid-base-solutions_en.html
- Illustrate that change in initial concentration has no effect on equilibrium constant
- Equilibrium of dissociation of acid



Annenberg Learner

- ▶ <http://www.learner.org/courses/chemistry/index.html>
- ▶ Free online resources including videos, animations, graphics, interactive features (simulations), interactives
- ▶ Animations on redox reaction, equilibrium, reactivity of metals, etc.
- ▶ Interactive features on Haber-Bosch ammonia plant
- ▶ Interactives: "Groups: Ionic Bonding"





Yenka

- <http://www.yenka.com/>
- Free online resources including simulations, videos, self-learning activities, etc.



Unknown substances



Equilibrium and temperature



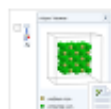
Alkali reactions



Electrochemical cells 2



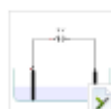
Energy Changes in Reactions (1)



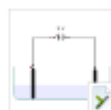
Comparing Gases, Liquids and Solids



Electron Arrangements and the Formulae of Compounds



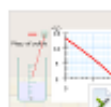
Electrolysis of potassium iodide



Electrolysis of dilute sulfuric acid



Energy Transfer in Reactions 1



Measuring reaction rate



The Mole



Catalyst



Flame tests - identify the unknown salt



Reversible reaction (ammonium chloride)



Moles and masses



Depositing metals



Catalysts and rate



Reactivity of Metals

71

How can we adopt these tools in our lessons ?


- Strength?
- Limitation?
- Will using these tools make teaching and learning more efficient? How?

Assignment

- ▶ Select a misconception or learning difficulty that your students have and design a corresponding e-learning or e-assessment task using the e-resources / digital tools introduced
- ▶ Submit to Schoology
- ▶ Present in the next session



e-Learning Platform



▼ Course Options

Materials ▼

- Updates
- Gradebook
- Badges
- Attendance
- Members

eChem-S04: Implementation of e-Learning and e-Assessment in Chemistry In and Out of the Classrooms: Cohort 4

Institute of Professional Education And Knowledge (PEAK) Vocational Training Council

 Add Materials ▼

Options ▼

All Materials ▼

> Lesson 1: Use of digital tools for e-Learning and e-Assessment in Chemistry

✓ Must Complete

> Lesson 2: Design and Implementation of e-Learning and e-Assessment tasks

⊘ Hidden



[Questions for the course](#)

← If you have any question, feel free to post it here :)



[Course Assignment](#)

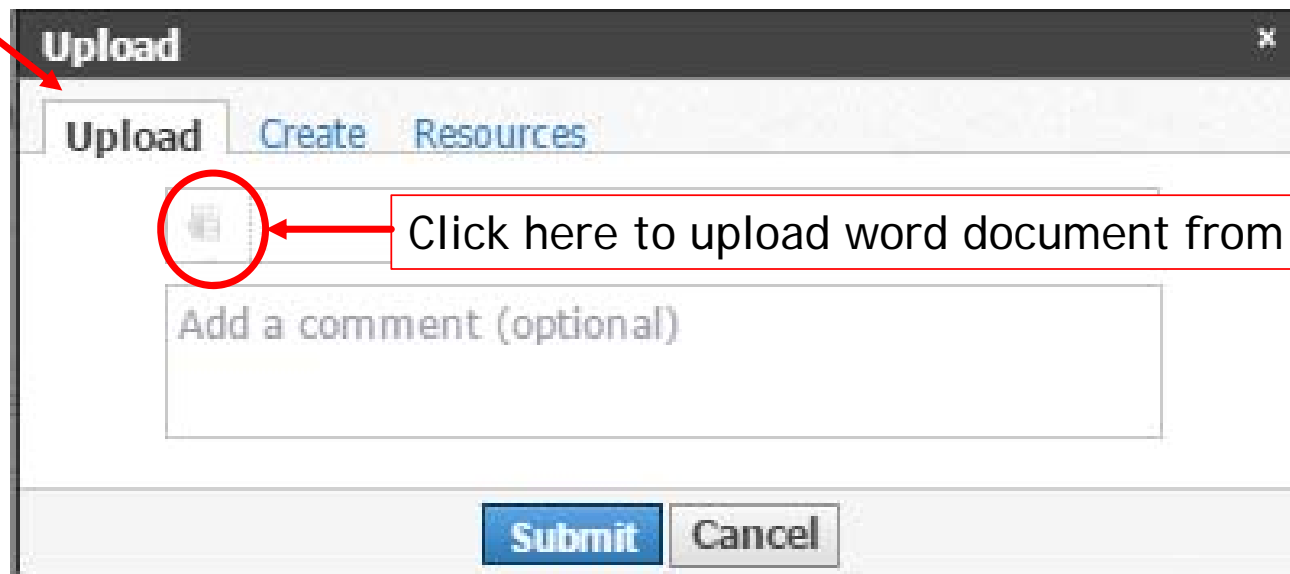
← Click this link to submit your assignment

Select a misconception or learning difficulty that your students have and design a corresponding e-learning or e-assessment task using the e-resources / digital tools introduced.



Submissions

 **Submit Assignment**



The 'Upload' dialog box is shown with a dark title bar and a close button. It contains three tabs: 'Upload' (selected), 'Create', and 'Resources'. In the 'Upload' tab, there is a document icon with a red circle around it and a red arrow pointing to it from the text box on the right. Below the icon is a text input field with the placeholder 'Add a comment (optional)'. At the bottom are 'Submit' and 'Cancel' buttons.

Click here to upload word document from your computer



e-Learning Platform

Sign up as an instructor

- Sign Up: using your personal email to sign up as an instructor (need activation in mail)

Sign up for Schoolology

Instructor Student

Parent

A green arrow points from this form to the registration form on the right.

Sign up for Schoolology [Back](#)

First Name Last Name

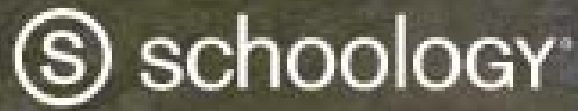
Email address

Password

Confirm Password

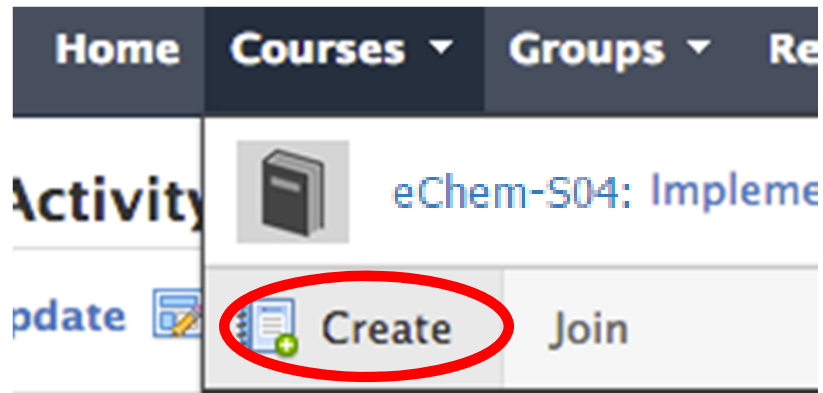
☒ Receive periodic Schoolology updates

Register By clicking Register, you agree to our [Privacy Policy & Terms](#)



e-Learning Platform

Create course



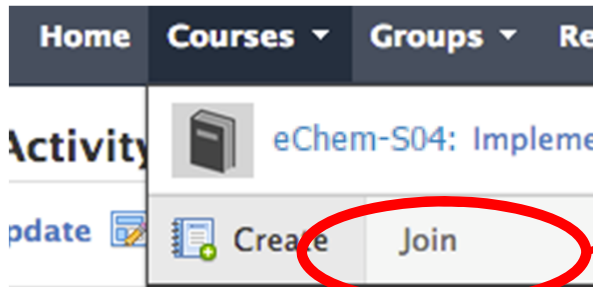
Mark down your course code

- Create your own content and resources



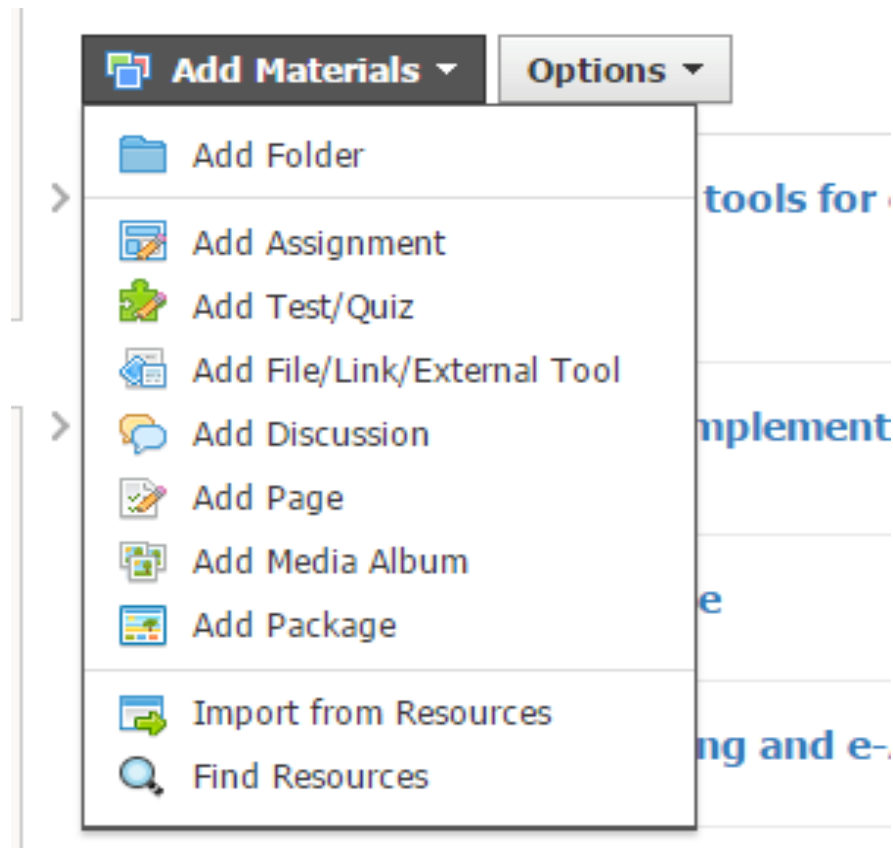
e-Learning Platform

- Use the account given to you before to join the course you created

A modal dialog box titled 'Join a Course' with a close button (X) in the top right corner. It contains a label 'Access Code: *' followed by a text input field. At the bottom of the dialog, there are two buttons: 'Join' (in blue) and 'Cancel' (in grey).

e-Learning Platform

Overview of features





e-Learning Platform

Setting Test / Quiz

Institute of Professional Education And Know

Add Materials Options

- Add Folder
- Add Assignment
- Add Test/Quiz**
- Add File/Link/External Tool
- Add Discussion
- Add Page
- Add Media Album
- Add Package
- Import from Resources
- Find Resources

Create Test/Quiz

Name: *

Due date: 100 pts

Category: (Ungraded) Grading options

Scale: * Numeric

Advanced:

Create Cancel

Questions Settings Preview Results

+ Add Question

- True/False
- Multiple Choice
- Ordering
- Short-Answer/Essay Question
- Fill in the Blank
- Matching
- From Question Banks
- Import Test/Quiz
- Page Break
- Text

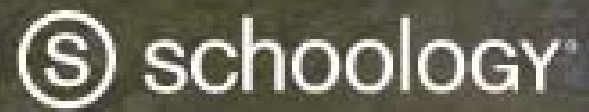
Remember to publish your test/quiz to students

Unpublish

Copy to Course




Delete

Save to Resources





e-Learning Platform




Setting Test / Quiz

Misconceptions Available   

Questions Settings Preview Results Comments

View by Student · View by Question

Name	Submissions/ Attempts	Latest Attempt	Final Score Gradebook Grade	
	1/1	6/05/16 4:35pm	10/38 26.32/100	View Attempts
	1/1	6/05/16 4:35pm	20/38 52.63/100	View Attempts

Misconceptions Available   

Questions Settings Preview Results Comments

View by Student · View by Question

8 Questions

1 Page

2 Submissions

Most submissions

Least submissions

Avg submissions

1

1

1

Question Answer stats

Question 1: A sodium atom can only form one ionic bond, because it only has one electron in its outer shell to donate.

True/False - 1 point

Points Earned - Most: 0 · Least: 0 · Avg: 0

[See stats](#)

True: 2 (100%)

False: 0 (0%)

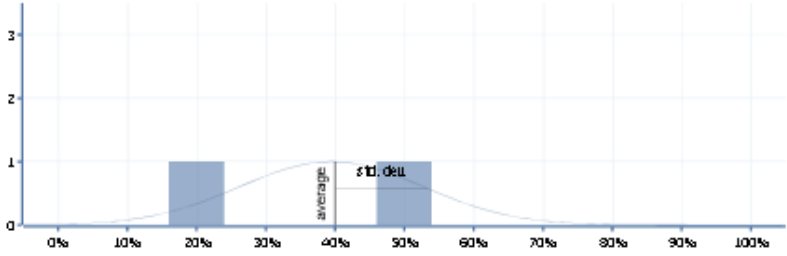
(No answer): 0 (0%)

[View Responses](#)

Statistics

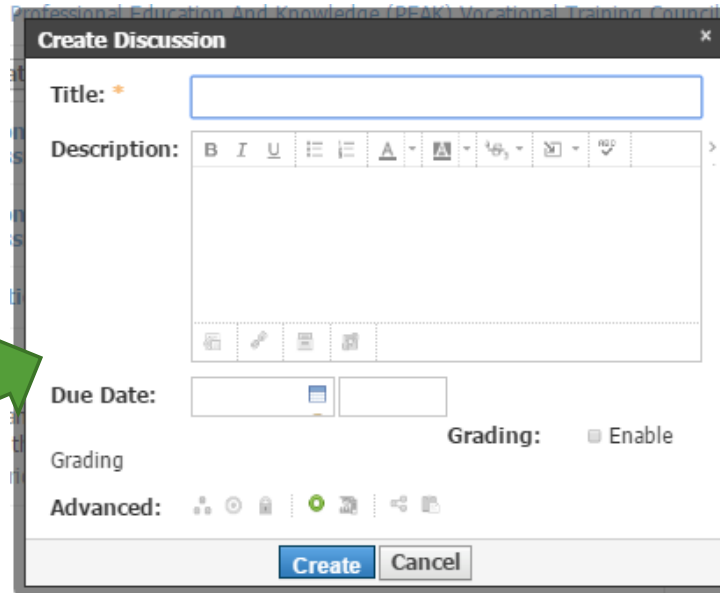
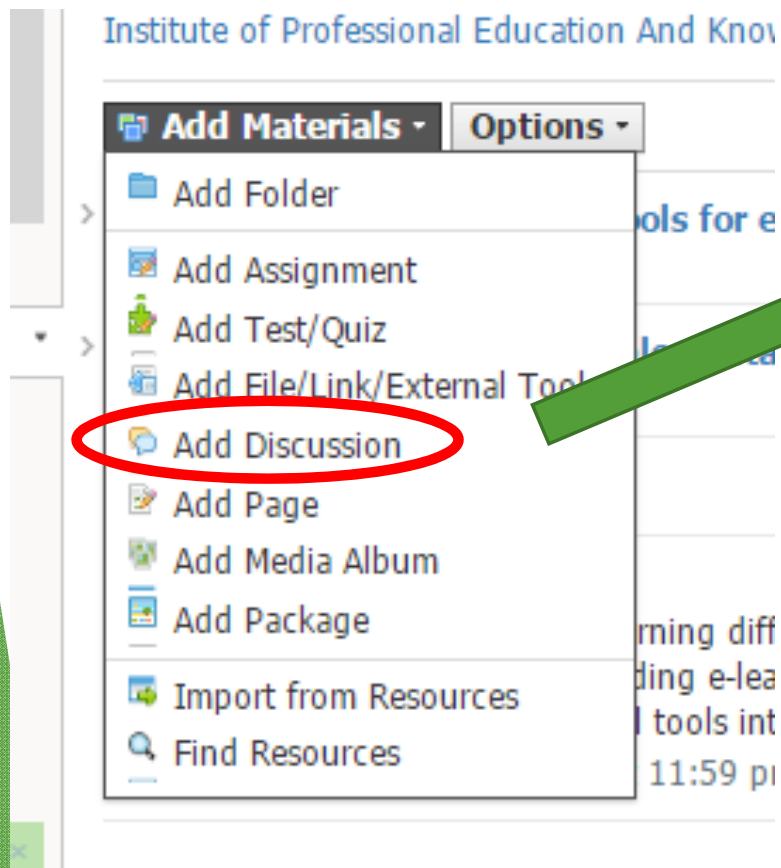
These statistics are currently hidden from student view. You can enable this by [editing](#) this assignment.

# of Grades	2	Average	39.47 (39.47%)
Max Points	100	Standard Deviation	13.16 (13.16%)
Highest Grade	52.63 (52.63%)	Median	39.47 (39.47%)
Lowest Grade	26.32 (26.32%)	Mode	N/A (N/A)



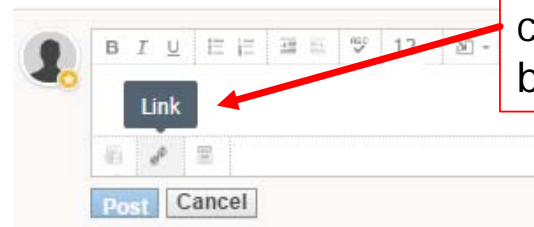
e-Learning Platform

Setting Discussion

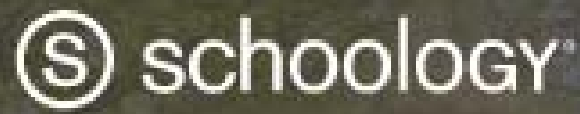


The 'Create Discussion' dialog box is shown. It contains the following fields and options:

- Title:** A text input field.
- Description:** A rich text editor with formatting options (B, I, U, list, link, unlink, image, video, audio, embed, code, help).
- Due Date:** A date picker.
- Grading:** A checkbox labeled 'Enable'.
- Advanced:** A row of icons for additional settings.
- Buttons:** 'Create' and 'Cancel' buttons at the bottom.




Can search and attach link to comment when using computer, but not mobile phone



e-Learning Platform

Giving badges



Course Options









- Materials
- Updates
- Gradebook
- Badges**

eChem-S01: Implementation of e-Learning a ...

Badges ▾

Add Badges ▾

- Create New Badge
- Import from Resources
- Schoolology Badges**

	 Good Liste...	 Homework	 Leadership	 Most Impr...	 Participation	 Positive At...	 Problem So...
Student, Sample							
 Currently there are no members in this course							

Rundown for Session 2:

- ▶ Presentation of your assignment
- ▶ IT tools for teaching Stoichiometry
- ▶ Making interactive e-resources by ourselves

Reminder:

Please bring along a pair of headphones for Session 2