

# Creating Questions in myDALITE

- 1) To see examples of different question types, see [page 2](#)
- 2) To create a question, see [page 9](#)
  - i. Step 1 – Question parameters, see [page 10](#)
  - ii. Step 2 – Answer choices, see [page 17](#)
  - iii. Step 3 – Example answers, see [page 18](#)

For more information, go to  and search '**myDALITE tutorial**'

# Examples of Different Question Types

myDALITE can incorporate two types of questions:

1. ***Comprehensive question*** – assesses how well a student **understands** the contents of a text. There is a right or wrong answer for this kind of question.
2. ***Interpretive question*** – assesses how well a student **analyses** the contents of a text. There is no right or wrong answer for this kind of question. Instead, it depends on how convincingly the student presents the interpretation.

See examples in the following slides.

# Examples of Comprehensive Questions

## Question

[Back to assignment](#)

### ChemORGCAA - Q3

Which of the following compounds would not be a product from the reaction of 1,3-butadiene with HCl?

- ☐ A. (*S*)-3-chloro-1-butene
- ☐ B. (*R*)-3-chloro-1-butene
- ☐ C. (*E*)-1-chloro-2-butene
- ☐ D. (*Z*)-1-chloro-2-butene
- ☐ E. (*Z*)-2-chloro-2-butene

## Conceptual type questions

## Question

[Back to assignment](#)

### ChemGENAMI - Q4

Assume a beaker of pure water has been boiling for 30 minutes. What is in the bubbles in the boiling water?

- ☐ A. Air
- ☐ B. Oxygen gas and hydrogen gas
- ☐ C. Oxygen
- ☐ D. Water vapor
- ☐ E. Heat

# Examples of Comprehensive Questions

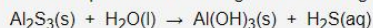
## Chem ED Stoichiometry Q01

Your best friend Sam has completed a chemistry quiz and has a copy for you to review. The solution may have an error(s) in it. If there is an error, help Sam by:

- Identifying **where** the error is found (parts A, B, C or D). If there are many errors, then state which is the most important error and explain why.
- Stating **what** is wrong with the solution Sam proposed.
- Explaining **how** the solution can be improved, or the error resolved. Provide your response as if you are writing to Sam.

If there are no errors, then choose E. Remember that you want to be a good peer so provide constructive feedback.

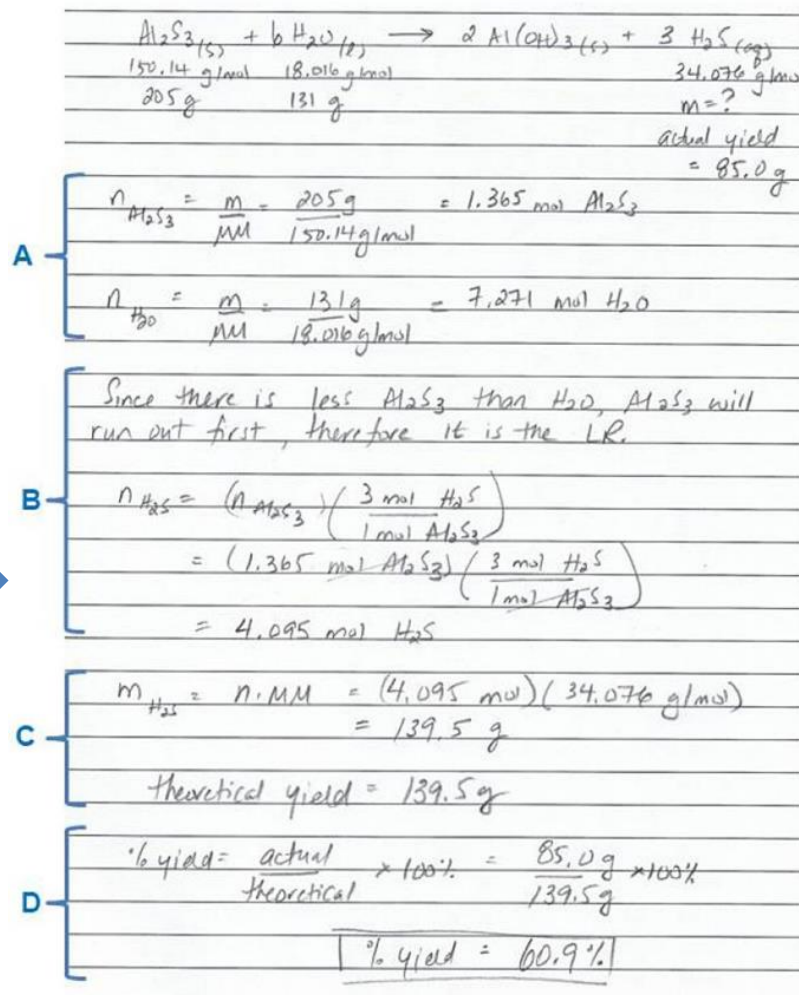
Question: What is the percent yield if 205 g of aluminum sulfide reacted with 131 g of water to produce 85.0 g of hydrosulfuric acid? The reaction proceeds according to the following unbalanced equation:



For larger image, click here.



Close up



- ☐ A. Part A  
☐ B. Part B  
☐ C. Part C  
☐ D. Part D  
☐ E. There are no errors. Sam's solution is correct.

**Error Detection (ED) type questions** – a solution is provided for the question and the students must determine whether there is an error in the solution.

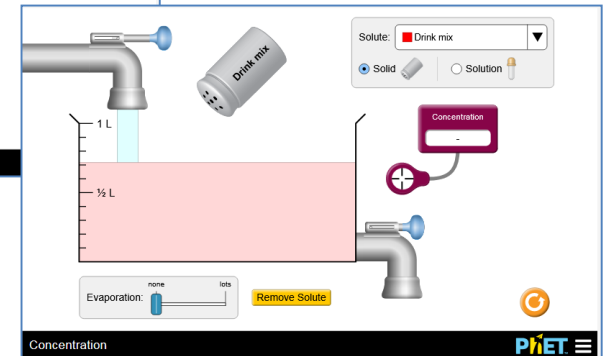
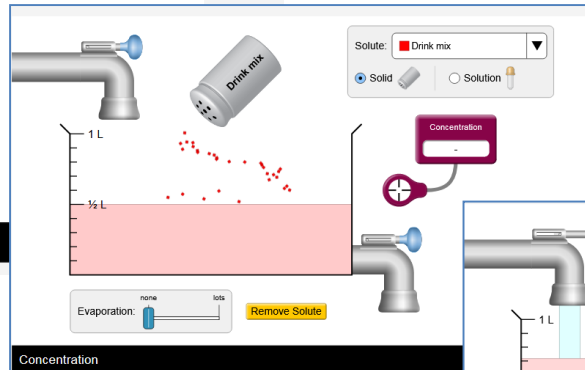
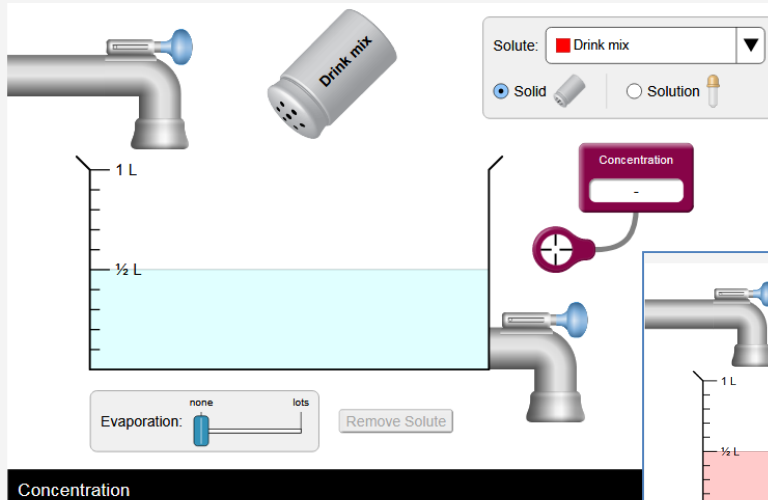
# Examples of Comprehensive Questions

## Using an embedded online interactive *PhET* Simulation

### ChemGENconcentration01

If you make a saturated *drink mix* solution, and then evaporate a quarter of the water, what will happen with the concentration of your *drink mix* solution? **Why?**

You may use the following simulation to help you predict the outcome.



Before answering the question, students can “play” with the parameters in the simulation to visualize the different outcomes.

# Examples of Interpretive Questions

**Reflective Writing type questions** – In this example, students are asked to read an article and indicate whether they understood the content or not, then explain themselves.

## Captain America Reading 01

**Read** the online article about **The Molecular Marvels of Captain America**.

[https://www.chemistryviews.org/details/ezone/11114434/The\\_Molecular\\_Marvels\\_of\\_Captain\\_America.html](https://www.chemistryviews.org/details/ezone/11114434/The_Molecular_Marvels_of_Captain_America.html)

Which of the following best describes your understanding of what you read?

Use the text box to explain what you found confusing. If everything was perfectly clear, use the text box to demonstrate your understanding by giving an *interesting* example of how one of the concepts you read applies to another fictional character (from comic books, TV series or movies).



- ☐ A. Completely confusing
- ☐ B. Somewhat confusing
- ☐ C. Perfectly clear

Rationale\*

# Examples of Interpretive Questions

## Planned Economy v. Free Trade

In the 20th Century, two (or, one could argue, three) types of economies prevailed. They were the **planned economies** (a communist model), the **free market** economies (a capitalist model) or a mix of the two, the **mixed market** economies (this could be considered a socialist model).

**Compelling arguments exist to justify all three models.** With the readings in mind, choose one and justify why it is best.

Terms you might use to distinguish the models from each other include the following:

\* means of production \* globalization \* inequality \* freedom \* planning \* profit \* wage labour \* Friedrich Hayek \* John Maynard Keynes \* workers \* markets \* Marx \* the state \*

Make concrete reference to the texts and use some of the terms above to justify your position.

- ☐ A. A planned economy is best.
- ☐ B. A free market economy is best.
- ☐ C. A mixed economy is best.

Rationale\*

**Reflective Writing type questions** – In this example, students are asked to read some texts, choose one of the options and justify their choice.



# Examples of Interpretive Questions

## Photo genre 01

Photojournalism is a genre of photography that captures news events such as disasters. The photo on the left shows a burning building, while the photo on the right shows a house destroyed. Why are these two photos not examples of Photojournalism? Explain and state what genre of photography they belong to.



David La Chapelle

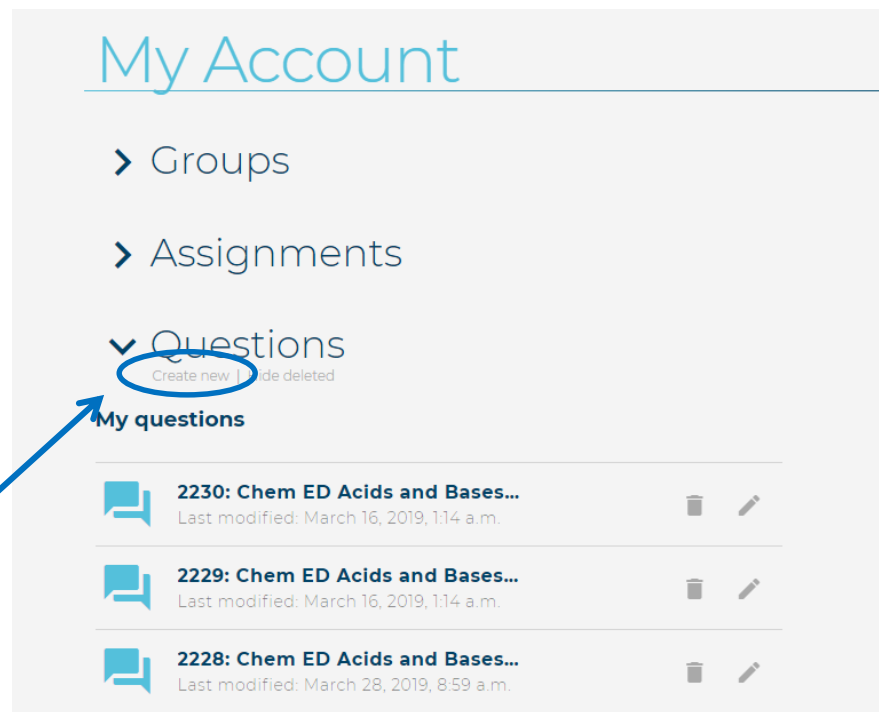
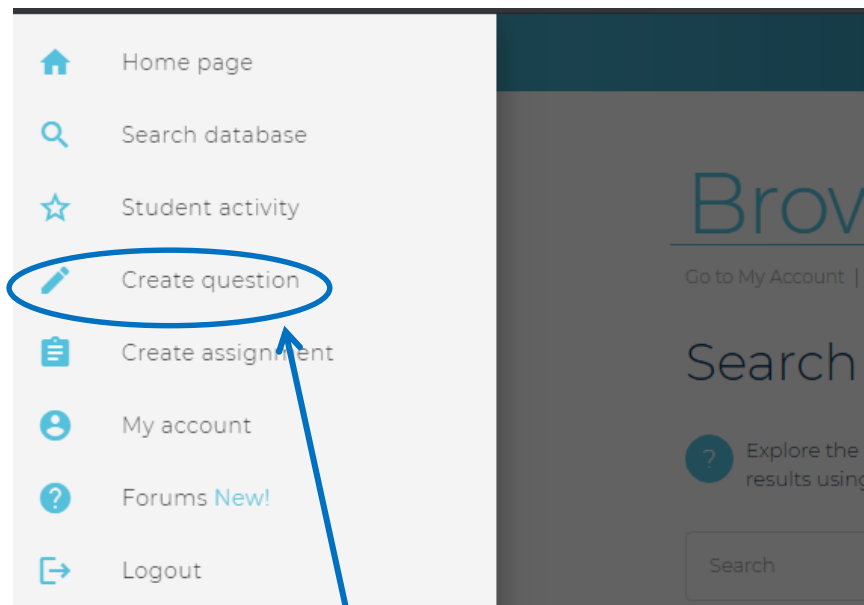


Rationale\*

**‘Rationale Only’ type questions** – Students are asked to provide a rationale to an open ended question. This is not a two-stage question where students will be able to see their peers’ rationales. MyDALITE lets teachers conveniently gather student answers in one platform. As long as students provide a rationale, they are given full marks. Otherwise, they are given a grade of zero.



# Creating a New Question



Create a new question either by clicking on 'Create Question' in the top left menu, or clicking on 'Create new' under 'Questions' in 'My Account'.

There are **3 pages/steps to complete** in the process.

# Step 1: Question parameters

1. Provide a title for the question; try to include the discipline and topic in the name, but not too descriptive as students will be able to see the title.
2. Type in the text for the question. Links and special characters can be used.

**Question**

## Step 1: Question parameters

**Content**

1 Question title\*  
A title for the question.

2 Question text

Enter the question text.

**Insert link**

Url

Text to display

Title

Target: New window

Ok Cancel

# Step 1: Question parameters

3. Choose the type of question. There two types:

- i. **Peer instruction** – the two-step multiple choice question. Students choose an answer, provide a rationale. They are then presented with alternative rationales from peers, some support their answer or contradicts. Students must then answer the question again. They can keep the original answer, or reorient to a different answer.
- ii. **Rationale only** – only a simple text response to the question is needed from the students; it is not two stages so students will not see their peers' rationales. The question does not need to be a multiple choice type.

The screenshot shows a user interface for creating a question. It is divided into two main sections, 3 and 4, each with a blue circular icon containing the number.

Section 3: "Question type: Peer instruction" with a dropdown arrow. Below it, a text prompt says "Choose 'peer instruction' for a multiple choice with rationale or 'rationale only' for a simple text response." A dropdown menu is open, showing "Peer instruction" (highlighted in blue) and "Rationale only".

Section 4: "Question image" with a "Choose File" button and "No file chosen" text. Below this, a text prompt says "Optional. An image to include after the question text. Accepted formats: .jpg, .jpeg, .png, .gif".

Below the image section is a text input field labeled "Image Alt Text". Below this field, a text prompt says "Optional. Alternative text for accessibility. For instance, the student may be using a screen reader."

Two blue arrows point from the text on the right to the interface elements: one points to the "Choose File" button, and the other points to the "Image Alt Text" field.

4. An image can be included into the question. Upload the file here, accepted formats are .jpg, .jpeg, .png, .gif

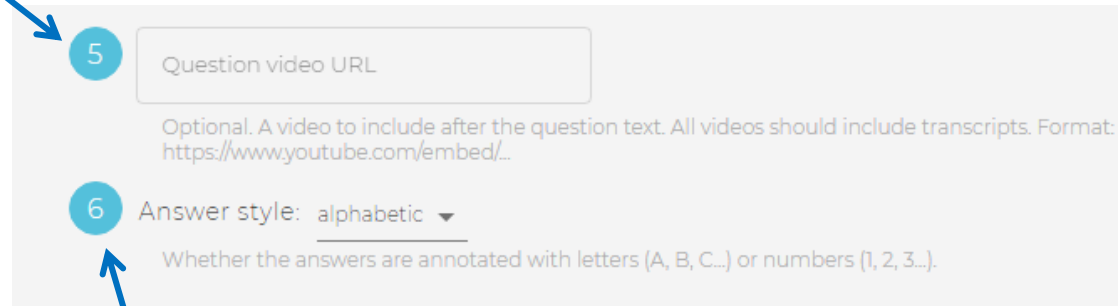
A description of the image for accessibility is required before moving onto the next page (Step 2: Answer Choices').

# Step 1: Question parameters

5. A video can be included after the text of the question. Enter a video URL here.

Videos must have a URL that is "https" and not just "http". MyDALITE aims to be a secure site from end to end, it only serves content which comes from sites that use SSL (*Secure Sockets Layer*) standard security technology.

To include a *PhET Simulation* in your question, more info is provided on the next page.



The screenshot shows a form titled 'Question parameters'. Field 5 is a text input labeled 'Question video URL'. Below it is a note: 'Optional. A video to include after the question text. All videos should include transcripts. Format: https://www.youtube.com/embed/...'. Field 6 is a dropdown menu labeled 'Answer style:' with 'alphabetic' selected. Below it is a note: 'Whether the answers are annotated with letters (A, B, C...) or numbers (1, 2, 3...)'.

6. Choose whether the multiple choice answers are in an alphabetical format (a, b, c...), or numeric format (1, 2, 3...).

# Step 1: Question parameters

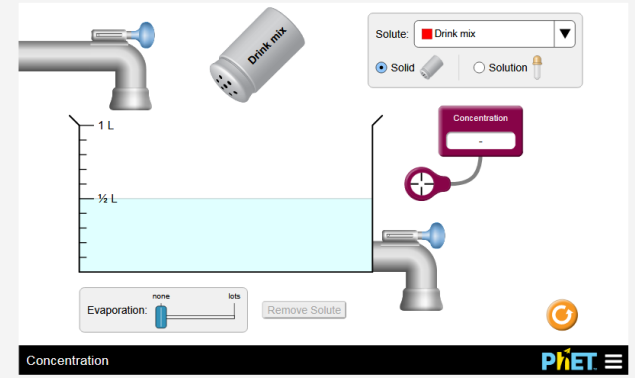
## How to include a *PhET* Simulation in your question

- a) Find a *PhET* that interests you. It must have an HTML5 emblem on it. The entire list, not sorted by discipline, can be found here:



### ChemGENconcentration01

If you make a saturated *drink mix* solution, and then evaporate a quarter of the water, what will happen with the concentration of your *drink mix* solution? **Why?**  
You may use the following simulation to help you predict the outcome.



- b) On the description/preview page of the desired simulation click on the "Embed" button.
- c) Copy the url in quotes after the **src** tag. For example, if you see this:  
`<iframe src="https://phet.colorado.edu/sims/html/concentration/latest/concentration_en.html" width="800" height="600" scrolling="no" allowfullscreen></iframe>`  
copy only this part:  
[https://phet.colorado.edu/sims/html/concentration/latest/concentration\\_en.html](https://phet.colorado.edu/sims/html/concentration/latest/concentration_en.html)
- d) Paste it into the "Video URL" box.





Question video URL


Optional. A video to include after the question text. All videos should include transcripts. Format:  
[https://www.youtube.com/embed/...](https://www.youtube.com/embed/)

# Step 1: Question parameters

7. Choose which discipline the question belongs to. If the discipline is not in the database, then you may add it.
  - Click on the pencil icon
  - Type in the discipline
  - Click on the '+' icon
  - Go back to the drop down menu and select the newly added discipline

**Indexing**

7 Discipline: -----    
Optional. Select the discipline to which this question should be associated.

8    
Select at least one category for this question. You can select multiple categories.

8. Select all categories (keywords, tags) that are associated to the question. The more categories entered, the easier it will be for the question to come up in the searches. As you type in a category:
  - i. You may see a matching and/or similar categories already available in the database. Select the appropriate categories.
  - ii. You may not see a matching category. In this situation, you can add the category (follow steps described above in #7). **The singular form should always be used, e.g. “Radical” is preferred over “Radicals”.**

# Step 1: Question parameters

9. Fake attributions - Each rationale will have a randomly assigned fake name, and country attached to it when displayed to the students. It is meant for research purposes to see if, for example, a rationale that comes from a different sounding name, is less voted for than if it had been attributed to a familiar sounding name. No need to check that box.

10. We recommend that you ignore this feature for now.

**Options**

9 Add fake attributions? ☐  
Add random fake attributions consisting of username and country to rationales. You can configure the lists of fake values and countries from the start page of the admin interface.

10 Sequential rationale review? ☐  
Show rationales sequentially and allow to vote on them before the final review.

11 Rationale selection algorithm: Prefer expert and highly votes rationales ▼  
The algorithm to use for choosing the rationales presented to students during question review. This option is ignored if you selected sequential review.

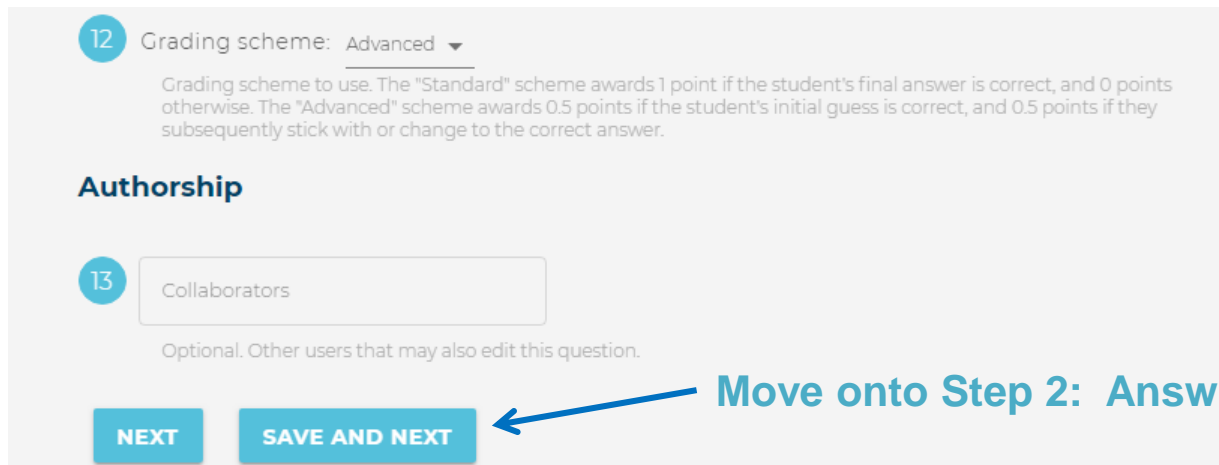
11. You can choose to have the system show the expert and highly voted rationales to the students in the peer instruction questions (recommended), or show rationales that are randomly chosen by the system.



# Step 1: Question parameters

12. There are two grading schemes:

- i. **Standard** – Students score either 0 for an incorrect final answer, or 1 for the correct final answer.
- ii. **Advanced** – Students score 0 if they get the wrong answer both times (WW), 0.5 if they get the first answer correct, but then the second answer wrong, or vice versa, (WR or RW), and 1.0 if they get the correct answer (RR). (Recommended)



12 Grading scheme: Advanced ▼

Grading scheme to use. The "Standard" scheme awards 1 point if the student's final answer is correct, and 0 points otherwise. The "Advanced" scheme awards 0.5 points if the student's initial guess is correct, and 0.5 points if they subsequently stick with or change to the correct answer.

**Authorship**

13 Collaborators

Optional. Other users that may also edit this question.

**NEXT** **SAVE AND NEXT**

Move onto Step 2: Answer choices

13. You can also make other myDALITE users a collaborator for the same question so that he/she may edit the question. Type in the collaborator's exact username, it will appear in the drop down menu, select the name.

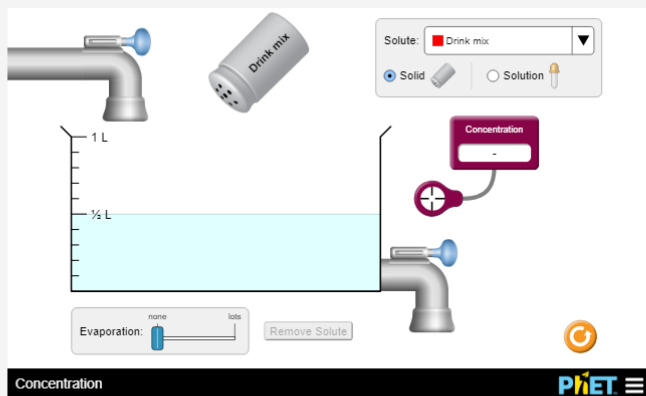
# Step 2: Answer choices

## Question

### Step 2: Answer choices

#### ChemGENconcentration01

If you make a saturated *drink mix* solution, and then evaporate a quarter of the water, what will happen with the concentration of your *drink mix* solution? **Why?**  
You may use the following simulation to help you predict the outcome.



#### Enter 2-5 answer choices

1

Enter the text for each multiple choice option.  
You can have up to 5 answer choices.

Indicate the correct answer(s), if applicable.  
If there is more than one correct answer,  
students will be scored as per usual no matter  
which correct answer is chosen.

Concentration

Enter 2-5 answer choices

1

Correct? ☐ Delete? ☐

2

Correct? ☐ Delete? ☐

3

Correct? ☒ Delete? ☐

4

Correct? ☐ Delete? ☐

# Step 3: Example answers

## Question

### Step 3: Example answers

? This is a preview of how the question looks in the student interface. You can add example rationales here that will be shown as choices to students. You should at least provide a few example rationales for the correct choices. It's best if you provide a few rationales for each choice, even the incorrect ones.

### Chem ED Acids and Bases Q06

Your best friend Sam has completed a chemistry quiz and has a copy for you to review. The solution may have an error(s) in it. If there is an error, help Sam by:

- (i) Identifying **where** the error is found (parts A, B, C or D). If there are many errors, then state which is the most important error and explain why.
- (ii) Stating **what** is wrong with the solution Sam proposed.
- (iii) Explaining **how** the solution can be improved, or the error resolved. Provide your response as if you are writing to Sam.

If there are no errors, then choose E. Remember that you want to be a good peer so provide constructive feedback.

Question: A solution of 0.100 M  $\text{HC}_2\text{H}_3\text{O}_2$  ( $K_a = 1.80 \times 10^{-5}$ ) was mixed with a solution of 0.200 M  $\text{HC}_7\text{H}_5\text{O}_2$  ( $K_a = 2.80 \times 10^{-8}$ ) at 25 °C. What is the pH and the concentration of the following species at equilibrium?

$\text{HC}_2\text{H}_3\text{O}_2$ ,  $\text{C}_2\text{H}_3\text{O}_2^-$ ,  $\text{HC}_7\text{H}_5\text{O}_2$  and  $\text{C}_7\text{H}_5\text{O}_2^-$

For larger image, click here.

A handwritten student solution for the problem. It shows the dissociation of acetic acid and benzoic acid, sets up an ICE table, and calculates the pH and concentrations of the species at equilibrium.

	$\text{HC}_2\text{H}_3\text{O}_2$	$\text{C}_2\text{H}_3\text{O}_2^-$	$\text{H}^+$
Initial	0.100	0	0
Change	$-x$	$+x$	$+x$
Equilibrium	$0.100 - x$	$x$	$x$

$K_a = 1.80 \times 10^{-5} = \frac{x \cdot x}{0.100 - x} \approx \frac{x^2}{0.100}$

$x = \sqrt{1.80 \times 10^{-5} \cdot 0.100} = 1.34 \times 10^{-3}$

pH =  $-\log(1.34 \times 10^{-3}) = 2.87$

Concentrations at equilibrium:

- $[\text{HC}_2\text{H}_3\text{O}_2] = 0.100 - x = 0.0987 \text{ M}$
- $[\text{C}_2\text{H}_3\text{O}_2^-] = x = 1.34 \times 10^{-3} \text{ M}$
- $[\text{H}^+] = x = 1.34 \times 10^{-3} \text{ M}$

This page gives you a preview of how the question looks in the student interface.

To complete the question creation process, you must 'seed' the question (see next slide).

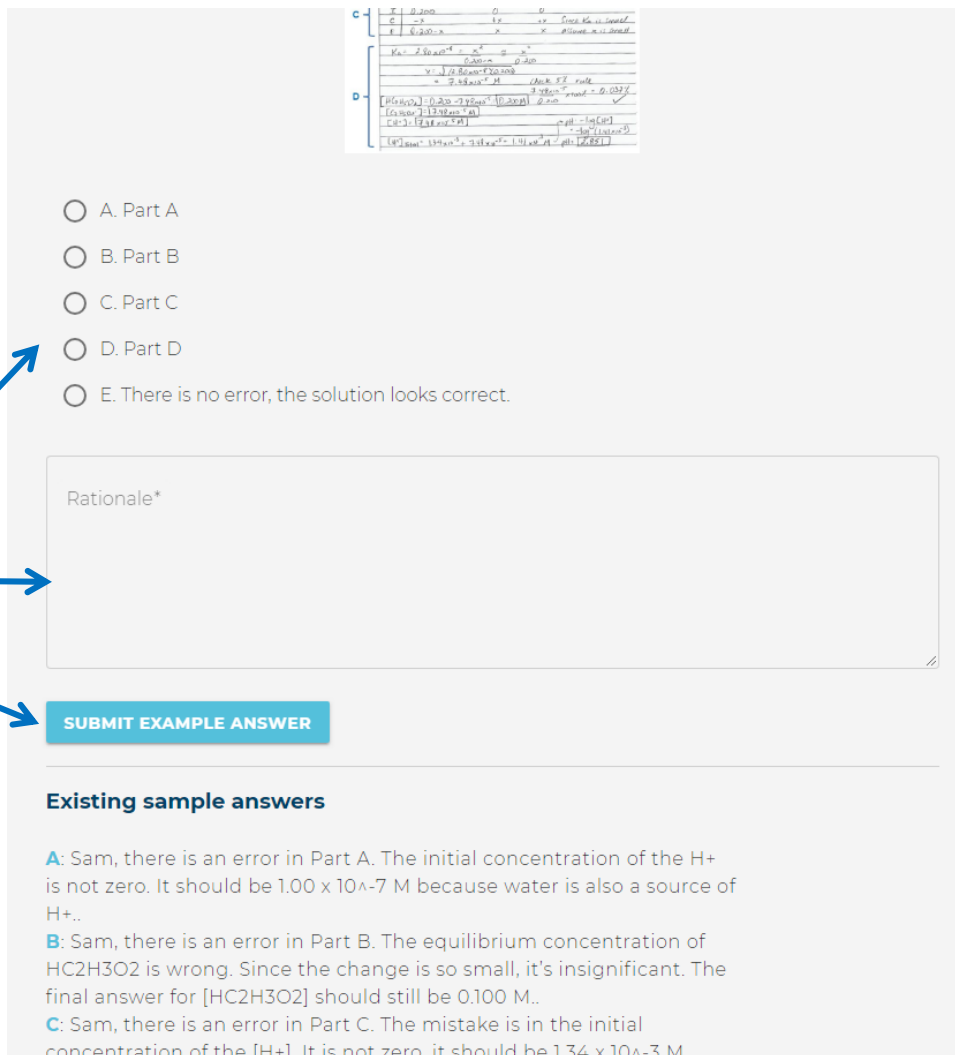
# Step 3: Example answers

To 'seed' the question, you must provide at least one rationale for the correct answer, and a **convincing** rationale for at least one of the incorrect answers. It is recommended that you provide one rationale for each answer choice.

To enter a rationale, click on the multiple choice answer, type in the rationale in the text box, then click on 'Submit Example Answer'.

You **cannot edit or delete a rationale** once it has been submitted so review your rationale carefully.

Repeat this process for each multiple choice option.



The screenshot shows a question interface. At the top, there is a small image of handwritten calculations for a chemistry problem involving the dissociation of a weak acid. Below this, there is a multiple choice question with five options: A. Part A, B. Part B, C. Part C, D. Part D, and E. There is no error, the solution looks correct. Below the options is a text box labeled 'Rationale\*' for entering a rationale. At the bottom of the form is a blue button labeled 'SUBMIT EXAMPLE ANSWER'. Below the form, there is a section titled 'Existing sample answers' which contains three entries: A, B, and C, each with a rationale for why a specific part of the solution is incorrect.

**Existing sample answers**

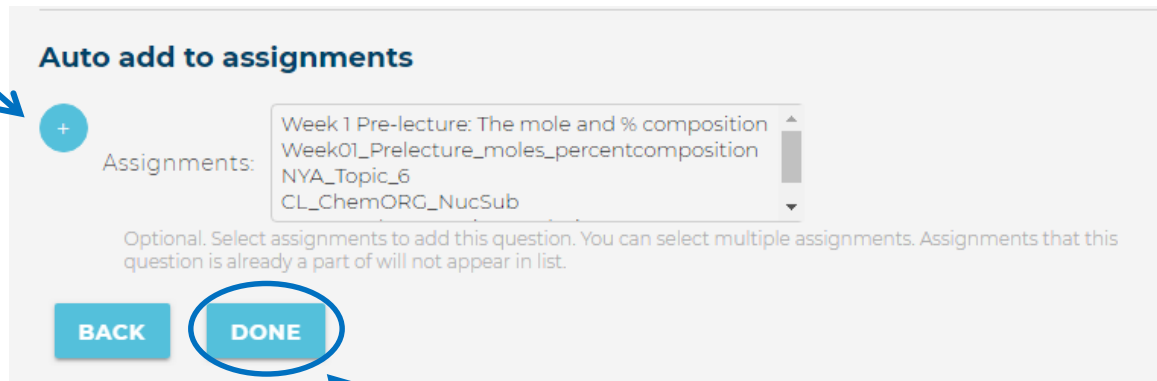
**A:** Sam, there is an error in Part A. The initial concentration of the  $H^+$  is not zero. It should be  $1.00 \times 10^{-7} M$  because water is also a source of  $H^+$ .

**B:** Sam, there is an error in Part B. The equilibrium concentration of  $HC_2H_3O_2$  is wrong. Since the change is so small, it's insignificant. The final answer for  $[HC_2H_3O_2]$  should still be  $0.100 M$ .

**C:** Sam, there is an error in Part C. The mistake is in the initial concentration of the  $[H^+]$ . It is not zero, it should be  $1.34 \times 10^{-3} M$ .

# Step 3: Example answers

To add the new question to an assignment, select the assignment from the list, then click on the + icon. The question can be added to more than one assignment.



**Auto add to assignments**

+

Assignments:

- Week 1 Pre-lecture: The mole and % composition
- Week01\_Prelecture\_moles\_percentcomposition
- NYA\_Topic\_6
- CL\_ChemORG\_NucSub

Optional. Select assignments to add this question. You can select multiple assignments. Assignments that this question is already a part of will not appear in list.

**BACK** **DONE**

Click 'Done' to complete the process!

A question can be edited at any point, unless a student has submitted an answer. When a question cannot be edited anymore, then you will have the option to '**clone**' it and make any changes you wish, but a new title for the question should be used.