# Sequential Questions

Sequential questions will help students develop conceptual understanding that will serve them when solving problems and learning more advanced course concepts. The question can have up to seven steps that students can answer.

Sequential questions are very similar in many ways to a standard question in Smartwork. The feedback after each attempt will give students the opportunity to course-correct and deepen their understanding. However, as these questions are pedagogically designed to walk students through the steps, building their knowledge as they work through the concept being taught, they cannot skip a step. Instead, students will receive specific feedback to any wrong answers they submit and can always view the solution to that specific step so that they can move onto the next step.

Hide All Answers

## Adding Sequential Questions to an Assignment

1. In an existing premade assignment or a new assignment, click **ADD QUESTIONS** in the assignment editor to open the Question Library.



2. To add a Sequential question to an assignment, click **TYPE** to reveal the dropdown. From the dropdown, click to

checkmark "Sequential" to view all the available questions.

- Sequential questions have an **S** icon next to the question title in the Question Library and in the assignment editor.



3. Click the **+** button next to Sequential question you want to add to your assignment.

4. Click **YOUR CURRENT ASSIGNMENT** at the top-right of the Question Library to see the Sequential question you added to your assignment. You can also click the arrow at the top-left to go back to Edit Assignment.

## *Previewing a Sequential Question*

1. In the assignment editor, you can preview the Sequential question by clicking the play button next to question title or clicking the **PREVIEW** button to view all the questions in your assignment.

| Questions | | Question Type | Avg.Time | Points | Attempts | Grade Penalties | Hints | | |
|---|---|---|---|---|---|---|---|---|---|
| *Adjust all question settings:* | | | | | ⌄ | ⌄ | ⌄ | | |
| ⠿ 01 | Dalton's Law of Multiple Propo... ▶ | Algo \| Numeric Entry | --:-- | 1 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 02 | Use information to collect and ... ▶ | Algo \| Numeric Entry | --:-- | 1 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 03 | Sort real-world examples by se... ▶ | Sorting | --:-- | 1 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 04 | Analyzing States of Matter and ... ▶ | Algo \| Mixed | 01:41 | 3 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 05 | Internal Energy Key Terms ▶ | Sorting | --:-- | 2 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 06 | [VPM] Ranking Molecules by N... ▶ | Ranking | 00:34 | 2 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 07 | The temperature of radiator co... ▶ | Numeric Entry | --:-- | 2 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 08 | Precision and Accuracy on a Da... ▶ | Multiple Select | 01:44 | 3 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 09 | **P** [POOL] Filtration ▶ Total Pool Questions:2 | Pool \| Sorting | --:-- | 1 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |
| ⠿ 10 | **NEW** **S** Chemistry Question ▶ ▶ Sequential Question | Sequential | --:-- | 8 | ∞ ⌄ | 0% ⌄ | ON ‖ | ✎ | ✕ |

▶ PREVIEW     *Not published*   ⟳ PUBLISH   🖫 SAVE

2. On the Sequential question, click **START** to begin.

**7 STEPS**      <u>View Steps</u>

## Sequential Question

This is a sequential question with multiple steps that need to be completed in order. You cannot move on to the next step until you submit a correct answer or view the solution.

▶ START

2. The first question step will be displayed and must be answered before proceeding to the next step.

1  2  3  4  5  6  7

**1st attempt**

See Periodic Table    See Hint

The pH scale is a numeric scale chemists use to express the relative acidity or basicity of an aqueous solution. Recall that $H_2O$ self-ionizes to produce small amounts of $H_3O^+$ and $OH^-$ ions.

$$H_2O\ (l) + H_2O\ (l) \rightleftharpoons H_3O^+\ (aq) + {}^-OH\ (aq)$$

*Placeholder for Animation*

What is the equilibrium constant expression for this autoionization of water?

$x^\square$  $x_\square$  $\frac{\square}{\square}$  $+\square$  log$_\square$  cos$_\square$  $\bar{o}$ .

$K_w =$ [          ]

✦ VIEW SOLUTION         ☁ SUBMIT ANSWER

< PREVIOUS: Introduction

Step 1 of 7
(1 point)

4. After a correct answer is submitted or the solution is viewed, the step will be marked as "STEP COMPLETED" and the circle for the step will be filled in.

> **Solution**                                                                    ⚡

∨  **1st attempt**                                                                  ✅

Feedback                                                    See Periodic Table  ○ See Hint

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$$H_2O\ (l) + H_2O\ (l) \rightleftharpoons H_3O^+\ (aq) + {}^-OH\ (aq)$$

*Placeholder for Animation*

What is the equilibrium constant expression for this autoionization of water?

| $x^\cdot$ | $x_\cdot$ | $\overset{\cdot}{=}_\cdot$ | $+_\cdot$ | log. | cos. | $\bar{o}$. |

✅

$$K_w = \left[H_3O^+\right]\left[OH^-\right]$$

✔ *STEP COMPLETED*

5.  Once all the steps are answered, the student will see a FINISH button.  When the student clicks the **FINISH** button,  a "Question Completed" confirmation will be displayed.

## Assignment Settings

If Sequential Questions are used in an assignment, some settings *cannot* be applied:

- Show Solution
    - Only after a correct answer, or all attempts are exhausted
    - Only after "Grades Accepted Until" date has passed
- Exam Settings

If you'd like to use one of the settings mentioned above, you'll need to remove the Sequential question from the assignment.

Sequential questions also *cannot* be edited.  The edit icon for the question in the assignment editor will be grayed out for the question and a message overlay will be displayed if you move the cursor over it.

| Questions | Question Type | Avg.Time | Points | Attempts | Grade Penalties | Hints | | |
|---|---|---|---|---|---|---|---|---|
| *Adjust all question settings:* | | | | ⌄ | ⌄ | ⌄ | | |
| ⠿ 01 Sorting acids and electrolytes (sp… ▶ | Sorting | --:-- | 2 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 02 Calculating Molarity ▶ | Algo \| Numeric Entry | --:-- | 3 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 03 Calculate mass of solute to prep… ▶ | Algo \| Numeric Entry | --:-- | 3 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 04 Molar Solution Preparation ▶ | Algo \| Numeric Entry | 07:34 | 1 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 05 Dilutions (Qualitative and Quant… ▶ | Mixed | --:-- | 2 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 06 Calculate Molar Absorptivity an… ▶ | Numeric Entry | --:-- | 2 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 07 Molar Concentration of Electrol… ▶ | Algo \| Numeric Entry | 04:30 | 3 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 08 Identifying Strong and Weak Aci… ▶ | Mixed | 07:13 | 3 | ∞ ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |
| ⠿ 09 🅿 [POOL] Determine Oxidation … ▶   ▶ Total Pool Questions:3 | Pool \| Short Answer | 03:04 | 2 | ∞ ⌄ | 0% ⌄ | | | |
| ⠿ 10 NEW Ⓢ Chemistry Question ▶   ▶ Sequential Question | Sequential | --:-- | 8 | = ⌄ | 0% ⌄ | ON ⫿⫿ | ✎ | ✕ |

Sequential questions cannot be edited.

▶ PREVIEW          *Not published*   🔄 PUBLISH   💾 SAVE