Sequential Questions

Last Modified on 10/03/2025 2:11 pm EDT

A Sequential question is a set of steps which must be answered in order to proceed to the next question.

Hide All Answers

Answering a Sequential Question

1. If your assignment includes a Sequential question, it will have an **S** icon next to the question title and "Sequential" under the question type.

2. In the student player, you will see the Sequential question that your instructor included in your assignment. Click **START** to begin.

01 **Question** (7 points)

In this ChemTour, you will learn how pH is defined in terms of the autoionization of water and how to calculate the pH of a solution.

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

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

Note: You cannot move onto the next step unless you submit a correct answer or view the solution.

∨ **1st attempt**

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?

| $x^\square$ | $x_\square$ | $\frac{\square}{\square}$ | $+_\square$ | $\log_\square$ | $\cos_\square$ | $\bar{\sigma}_\square$ |
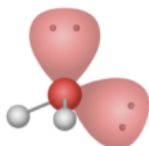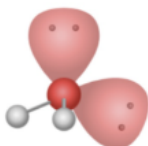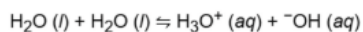
$K_w =$ [   ]

✦ VIEW SOLUTION   ⬆ SUBMIT ANSWER

4. After a correct answer is submitted or if the solution is viewed, the step will be marked as "STEP COMPLETED" and the circle for the step will be filled in. Click the NEXT button for the next step to proceed.

> **Solution**

⚡

∨ **1st attempt**

✅

Feedback   ⊞ 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?

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

✅

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

✔ *STEP COMPLETED*

5. Once you've completed all the steps, you'll see a FINISH button on the last step of your question. Click on the **FINISH** button and a "Question Completed" confirmation will be displayed.

View Steps

Clicking **View Steps** on the upper right of the Sequential question allows students to view the progress of each of the question steps included in the question. Students will also be able to view how many points they earned for each question step they answered correctly.

Reviewing or Practicing Sequential Questions

1. After you've completed the Sequential question, you'll be able to review each step. Click **REVIEW** to view each step in the question.

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.

▶ REVIEW

2. Click the "NEXT" button to review the next step.

> **Solution**

1st attempt

Feedback

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^* | x_* | $\frac{\square}{\square}$ | $+$ | log | cos | ∂

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

◈ PRACTICE   ✓ STEP COMPLETED

< **PREVIOUS: Introduction**   **Step 1 of 7** (1 point)   NEXT: Step 2 >

3. If your instructor has allowed for ungraded practice on the assignment, you will see a practice button on each step of the Sequential question.
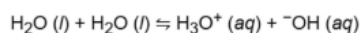
> **Solution**

∨ **1st attempt**

Feedback   ⬛ 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?

$x^\cdot \;\; x_\cdot \;\; \frac{\cdot}{\cdot} \;\; +_\cdot \;\; \log_\cdot \;\; \cos_\cdot \;\; \eth \cdot$

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

⬡ PRACTICE   ✔ *STEP COMPLETED*

<   **PREVIOUS: Introduction**   **Step 1 of 7**   NEXT: Step 2 >
                                (1 point)

Practice Attempt

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.

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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$_{\square}$ | ᵟ. |
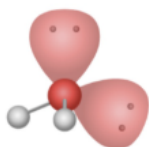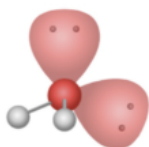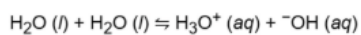
$K_w =$ ▢

🔾 CHECK PRACTICE   ✔ STEP COMPLETED

> Solution   ⚡

> 1st attempt   ✅