# Smartwork Adaptive Assignments for General Chemistry

Adaptive chemistry assignments guide you through customized pathways of material until you attain mastery of learning objectives selected by your instructor. You will be presented with a series of questions that encompass those learning objectives, and you will continue to work within the assignment until you demonstrate a level of mastery over those learning objectives. Each student will receive a different set of questions determined by that student's current and past performance. In order to fill content knowledge gaps as you work toward mastery on an assigned objective, you may be given questions on prerequisite learning objectives, or you might see educational material such as eBook sections and animations. Therefore, the lengths of assignments will vary depending upon a student's demonstrated performance of assigned and prerequisite learning objectives.

Utilizing this functionality meets all students where they are; if you need more practice you will get targeted attention on material until mastery is achieved, or if you know the content well, you can quickly move on to tackling more challenging concepts.

Instructors can create chemistry assignments that are entirely adaptive or static assignments that contain an adaptive component.

## Learning Objectives

Each Norton question is tagged with a learning objective. A learning objective outlines a particular skill or learning goal that the student will pursue when working through the question.

Your professor will choose between one and six objectives per adaptive assignment.

### Prerequisite learning objectives

Instructors are given the option to include questions on previous chapters' prerequisite learning objectives as a means to correct a student's content knowledge gaps. This better prepares students to answer questions tied to the learning objectives that have been specifically chosen for the assignment at hand.

## Mastery

Mastery is a way to measure a student's proficiency in a given learning objective. Unlike many other systems, which define mastery identically for every student, Smartwork Adaptive determines the metric for mastery based on a unique blueprint of each student's knowledge. This means that there is not a set number of questions that all students must answer correctly in order to "master" a learning objective. Mastery is defined in a way that is sensitive to the many factors that go into learning.

The sophisticated algorithm builds an understanding of the knowledge of each individual student with data that includes, but is not limited to, the following:

- The student's past performance
- The number of questions the student answers correctly
- The student's demonstrated performance on related prerequisite learning objectives
- The length of time a student has left to complete the assignment before the chosen Grades Accepted Until date

Your mastery of a learning objective is automatically updated each time you submit an answer for a question in the adaptive assignment OR in the static portion of a Follow Up/Warm Up assignment. You can track your mastery of learning objectives via bar icons located on the top left of the student player. The mastery bars fill in 10% increments as you answer questions on each assigned learning objective. Credit points are also earned in 10% increments. When you completely master a learning objective, the bar will fill in completely. Your performance in questions tagged with prerequisite learning objectives do not directly factor into the filling in of a bar.

## Grading

Though your mastery of each learning objective may rise and fall as you get questions correct and incorrect, points are achieved according to your highest performance on each objective.

This highest performance is shown as a "high-water mark" on your mastery bars, alongside your current mastery.

**Fully Adaptive Assignments**

When you enter a Fully Adaptive assignment, you'll see a list of the learning objectives your instructor has selected, as well as a set of bars that correspond to the learning objectives. You'll be able to track your mastery of learning objectives via bar icons located on the top left of the student player.
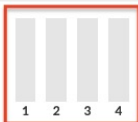
**Assignment**
Adaptive-only assignment
Welcome to Smartwork! This assignment is designed with rich feedback to guide you as you learn.

SCORE -- %

📅 03/28/24

ℹ️ Grades are accepted until March 28th, 2024, at 11:59 PM (Eastern Time).

▶ BEGIN ASSIGNMENT

| Learning Objectives | Time Spent |
|---|---|
| 1  1.B Recognize covalent compounds in various representations. | - |
| 2  1.H Identify SI base units and convert between SI prefixes. | - |
| 3  1.D Learn purification method basics. | - |
| 4  1.E Distinguish between physical and chemical properties. | - |
| Prerequisite Concepts | - |

Once you are 10% of the way to mastering a learning objective, the bar corresponding to that learning objective will start filling in. When you completely master a learning objective, the bar will fill in completely. Your performance in questions tagged with prerequisite learning objectives does not directly factor into the filling in of a bar.

**Note:** If assignments are completed over multiple days, the bars will still show an accurate status towards completion.



This Full Adaptive assignment is worth 5 points. You will earn full credit and complete this exercise upon mastering the following Learning Objectives.
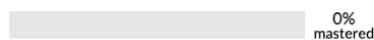
How does this work?
The score you get for mastering each objective corresponds to its percentage of the assignment. If an adaptive assignment contains 5 objectives, you will earn 20% of the points for mastering one objective. Once credit is awarded, points will not be lost even if mastery decreases. *To learn more about adaptive assignments, please visit the* Help Notes.
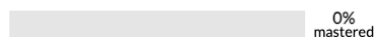
Even if your mastery meter goes down, you will not lose the points you've earned on this assignment.
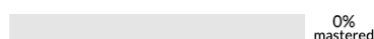
**Your Learning Objectives Mastery**

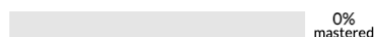1  1.B Recognize covalent compounds in various representations.
0% mastered

2  1.H Identify SI base units and convert between SI prefixes.
0% mastered

3  1.D Learn purification method basics.
0% mastered

4  1.E Distinguish between physical and chemical properties.
0% mastered

Once you click "Start" on the assignment, you'll see Smartwork questions that match the learning objectives selected by your instructor. You will continue seeing these questions until you master the learning objectives.

## Full Adaptive

Learning Objectives Mastery ↗

1   2   3   4

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1   Learning Objective: 1.B Recognize covalent compounds in various representations.
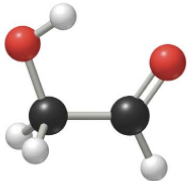
📖 See page 6

Adaptive Assignment

### Question

What is the chemical formula for the following compound?

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∨   **1st attempt**     🚩

📊 See Periodic Table

Chemists write organic formulas starting with the C followed by the H. The remaining atoms are listed in alphabetical order. Please follow this format when submitting your answers. Also, be sure to properly subscript as needed.



Chemical formula:

$X^{\cdot}$   $X_{\cdot}$   He   →   δ.

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You will have three attempts to answer each question correctly before you're moved on to the next question. If your instructor has opted to include previous chapters' prerequisite learning objectives in the assignment, you may also see questions that highlight skills learned in previous chapters. These prerequisite questions do not directly count toward mastery.

After working for 30 minutes, you will receive a Check In reminding you that you can take a break and continue where you left off at a later time.

Once you have mastered all the learning objectives, you will earn full credit and see a comprehensive report about the work you completed and your progress. You will see the bars full, and, below the bars, you will see a list of questions that you successfully or unsuccessfully answered. You have the option to review the assignment and all attempts by clicking on each question.

At this point, you may choose to leave the assignment or to continue answering Smartwork questions for ungraded practice. Continued practice may change your current mastery level; however, it will not change your earned grade. Points are determined according to your highest performance on each objective, shown as "high-water marks" in the mastery bars.

## Full Adaptive

Learning Objectives Mastery ⤢

1   2   3   4

### Congratulations, you've completed the Full Adaptive .

Great work! You've earned full credit on this adaptive assignment and attained mastery of all the assigned objectives.

Your full score on this Full Adaptive is locked in. You can always click "Practice" to continue practicing on your own. Practicing will change your mastery level on these objectives, but your score on this Full Adaptive will not be affected.

*To learn more about adaptive assignments, please visit the [Help Notes.](#)*

### Your Learning Objectives Mastery

**1**   1.B Recognize covalent compounds in various representations.

100% mastered

**2**   1.H Identify SI base units and convert between SI prefixes.

100% mastered

**3**   1.D Learn purification method basics.

100% mastered

**4**   1.E Distinguish between physical and chemical properties.
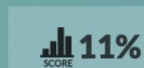
100% mastered

**PRACTICE**

## Assignments with an Adaptive Component (Warm Up or Follow Up)

When you enter an assignment with an adaptive component, you will see the adaptive component listed among the questions selected by your instructor.

An adaptive Warm Up will appear at the top of the list for you to complete before moving on to the assigned questions.

◈ Smartwork 5     CHEMISTRY: THE SCIENCE IN CONTEXT, 6E     student@wwnorton.edu ⚙

### Warm Up
with adaptive warm-up

Welcome to Smartwork! This assignment is designed with rich feedback to guide you as you learn.

📊 **11%** SCORE

0 OF 4 QUESTIONS COMPLETED

**RESUME ASSIGNMENT**

| Question | | Type | Points | Attempt | Status |
|---|---|---|---|---|---|
| ⟳ Warm Up | ▶ | Adaptive | 1.67 / 5 | - | In Progress |
| 01 The following depictions show red R and blue B atoms... | ▶ | Mixed | - / 3 | - / ∞ | Not Started |
| 02 Which of the following properties of water are chemic... | ▶ | Multiple Choice | - / 4 | - / ∞ | Not Started |
| 03 Which sentence best describes the change depicted in... | ▶ | Multiple Choice | - / 1 | - / ∞ | Not Started |
| 04 What class of matter does the diagram below represent | ▶ | Multiple Choice | - / 2 | - / ∞ | Not Started |

An adaptive Follow Up will appear at the bottom, for you to work on after completing all the assigned questions.



Once you click "Start Assignment" for assignments with a Warm Up, you will see a brief introduction with the learning objectives selected by your instructor for the adaptive component.

For assignments with a Follow Up, clicking "Start Assignment" will take you to the first assigned question that your instructor has chosen. Upon completing all the assigned questions, you will see a brief introduction to the Follow Up, with the learning objectives selected by your instructor for the adaptive component.

## Follow Up

Learning Objectives Mastery ↗

1  2  3  4

This Follow Up adaptive assignment is worth 5 points. You will earn full credit and complete this exercise upon mastering the following Learning Objectives.

How does this work?
The score you get for mastering each objective corresponds to its percentage of the assignment. If an adaptive assignment contains 5 objectives, you will earn 20% of the points for mastering one objective. Once credit is awarded, points will not be lost even if mastery decreases. *To learn more about adaptive assignments, please visit the* Help Notes.

Even if your mastery meter goes down, you will not lose the points you've earned on this assignment.

### Your Learning Objectives Mastery

**1**   3.B Define the SI unit mole and relate moles to particles.

0%
mastered

**2**   3.K Identify limiting and excess reagents in a chemical reaction.

0%
mastered

**3**   3.D Convert between moles and mass using molar mass.

0%
mastered

**4**   3.E Calculate the molecular mass of a compound.

0%
mastered

▶ START

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Once in the adaptive component, you will see Smartwork questions that meet the learning objectives. You will continue to see these questions until you have mastered the specified learning objectives.

You will have three attempts to answer each question correctly before you're moved on to the next question. If your instructor opted to include prerequisite learning objectives in the assignment, you may also see questions that highlight skills you learned in previous chapters. These prerequisite questions do not directly count toward mastery of the assigned learning objectives.

After working for 30 minutes, you will receive a Check In reminding you that you can take a break and continue where you left off at a later time.

Once you have mastered all the learning objectives, you will earn full credit and see a comprehensive report on the work you completed and your progress. You will see the bars full and, below the bars, you will see a list of questions that you have successfully or unsuccessfully answered. You have the option to review the assignment and all incorrect attempts by clicking on each question.

At this point, you may choose to leave the assignment or continue answering Smartwork questions for ungraded practice. Continued practice may change your current mastery level; however, it will not change your earned grade. Points are determined according to your highest performance on each objective, shown as "high-water marks" on the mastery bars.

## Follow Up

Learning Objectives Mastery ⬈

1   2   3

# Congratulations, you've completed the Follow Up .

Great work! You've earned full credit on this adaptive assignment and attained mastery of all the assigned objectives.

Your full score on this Follow Up is locked in. You can always click "Practice" to continue practicing on your own. Practicing will change your mastery level on these objectives, but your score on this Follow Up will not be affected.

*To learn more about adaptive assignments, please visit the* *Help Notes.*

## Your Learning Objectives Mastery

**1**   1.B Recognize covalent compounds in various representations.

100% mastered

**2**   1.E Distinguish between physical and chemical properties.

100% mastered

**3**   1.F Describe physical states and transitions at the macroscopic and particulate levels.

100% mastered

## Your Follow Up Questions

PRACTICE     EXIT FOLLOW UP