

USER GUIDE

HAZWOPER Challenge

Game Intended for Instructional Use During Hazardous
Waste Operations & Emergency Response Training
Classes

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| What is the HAZWOPER Challenge?

The [HAZWOPER Challenge](http://hazmania.org/#) is an instructor-led, classroom-based online game that allows instructors to provide amplifying information to students attending their training classes. Game play facilitates emphasizing and review of specific modules covered during training while simultaneously testing students' knowledge of all aspects of OSHA standards related to hazardous waste operations and emergency response. HAZWOPER Challenge covers both hazmat technician roles: emergency responder and hazardous waste operator.

Users can access the game by visiting <http://hazmania.org/#> and selecting *Play HAZWOPER Challenge* or directly via <http://hazmania.org/hazwoper/>.

| What training material is covered?

Material assessed includes information learned during the HAZWOPER training session(s). The questions and scenarios encountered during game play cover the following modules, also called Categories within the game:

Game Icons	Module/Category
	Chemical and Physical Properties
	Decontamination
	Hazard Detection and Air Monitoring
	Hazard Recognition



Personal Protective Equipment



Product Control Techniques



Regulations and Standards



Response Organization



Toxicology

| What are game modes?

HAZWOPER Challenge consists of three game play modes: Lecture, Meltdown, and Quick Play. Instructors can select a game mode that best suits their lesson plan and time availability. Each mode requires the instructor to lead (host) the game.

Lecture Mode

Teams must keep their cool as they face off for a round of trivia questions. Highest score wins.

Estimated Duration: 30+ minutes; varies depending on the categories selected

Total Questions: varies depending on the categories selected

Perfect Score: varies depending on the categories selected

Question Formats:

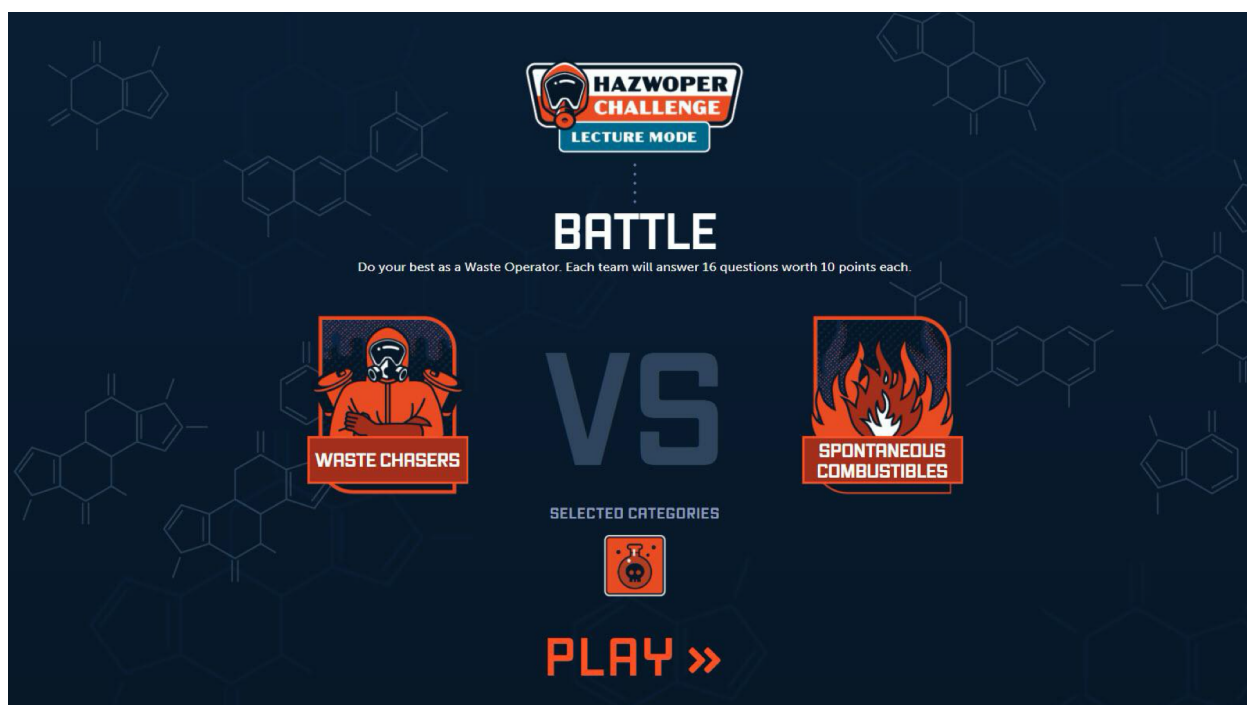
- Multiple Choice

- Multiple Choice with Video
- Multiple Choice with Images
- Sequence

During Lecture Mode, two teams of hazmat technicians will take turns answering a series of trivia questions worth 10 points each. The team with the highest score wins.

All available trivia questions will display for each of the selected module/category(ies). Trivia questions will display in a pre-defined order that best supports the training material, building upon knowledge. The total number of questions and the estimated duration to complete the round will change according to the role and category(ies) selected.

Instructors can see how many questions each team will answer based on their selections when viewing the following instruction screen.



Example of instruction screen for lecture mode

If multiple categories are selected, the game will progress through all available questions for each category in the following order:

Display Order	Module/Category	Game Play	
		Emergency Responder Role	Waste Operator Role
1	Regulations and Standards	Estimated Duration: 35 minutes Total Questions: 18 per team Perfect Score: 180 points	
2	Hazard Recognition	Estimated Duration: 60 minutes Total Questions: 26 per team Perfect Score: 260 points	
3	Toxicology	Estimated Duration: 35 minutes Total Questions: 15 per team Perfect Score: 150 points	Estimated Duration: 35 minutes Total Questions: 16 per team Perfect Score: 160 points
4	Chemical and Physical Properties	Estimated Duration: 35 minutes Total Questions: 14 per team Perfect Score: 140 points	Estimated Duration: 35 minutes Total Questions: 15 per team Perfect Score: 150 points

Meltdown Mode

Teams will face off for a round of trivia questions. Next, both teams will respond to a hazardous situation. Highest score wins.

Estimated Duration: 30 minutes

Total Questions: 12 per team (7 in round 1; 5 in round 2)

Perfect Score: 130 points

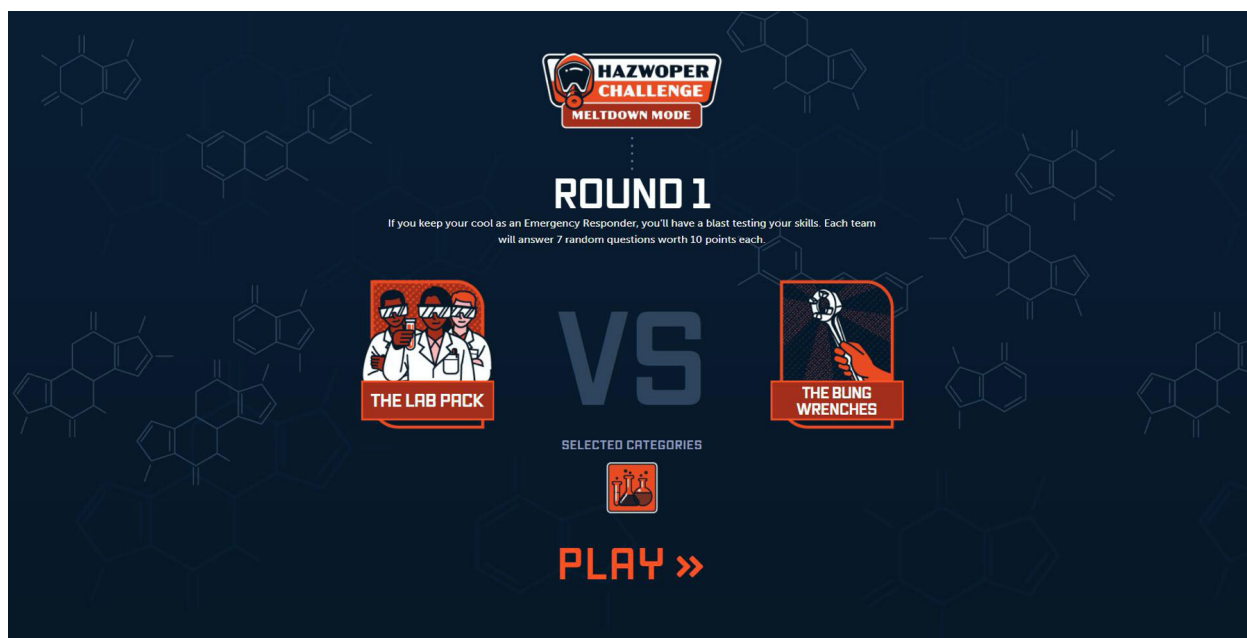
Question Formats:

- Multiple Choice
- Multiple Choice with Video
- Multiple Choice with Images
- Sequence
- Scenario-based Multiple Choice (Round 2 only)

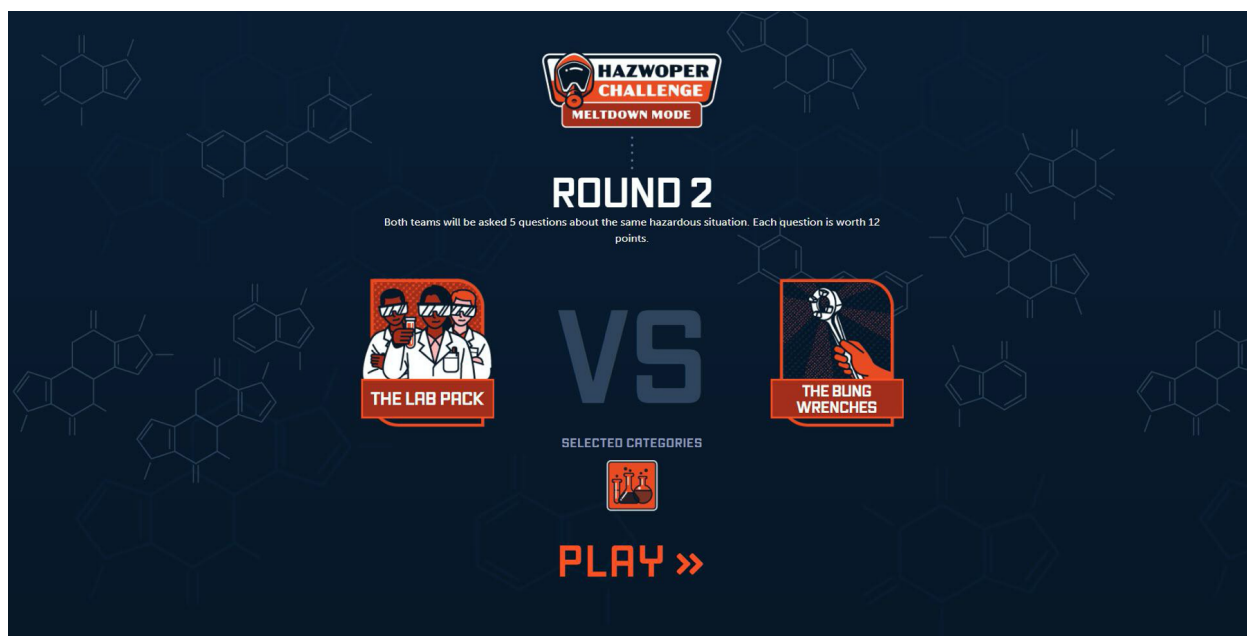
In Meltdown Mode, both teams will first compete during round one consisting of seven randomized trivia questions from the selected module/category(ies). In this round, each question is worth 10 points.

Following the trivia round, both teams will proceed to round two and will be presented with a reality-based hazardous scenario. They will both answer five scenario-based multiple choice questions related to the same situation. In this round, each question is worth 12 points.

The team with the highest score from both rounds wins.



Example of instruction screen for round 1 of meltdown mode



Example of instruction screen for round 2 of meltdown mode

Quick Play Mode

Both teams must step up to the challenge when thrown into a hazardous situation. Highest score wins.

Estimated Duration: 15 minutes

Total Questions: 5 per team

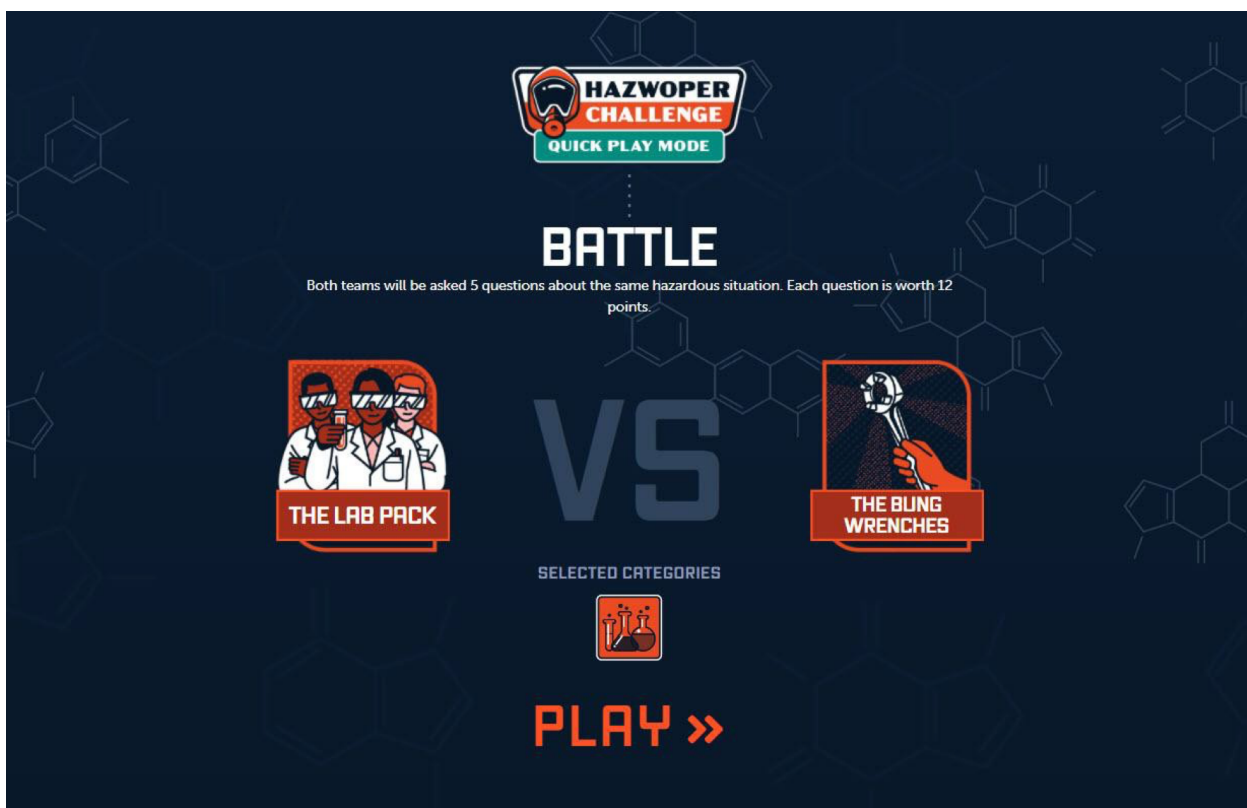
Perfect Score: 60 points

Question Formats:

- Scenario-based Multiple Choice

In Quick Play Mode, both teams will be presented with a reality-based hazardous scenario. They will both answer five multiple choice questions related to this situation. Each question is worth 12 points.

The team with the highest score wins.



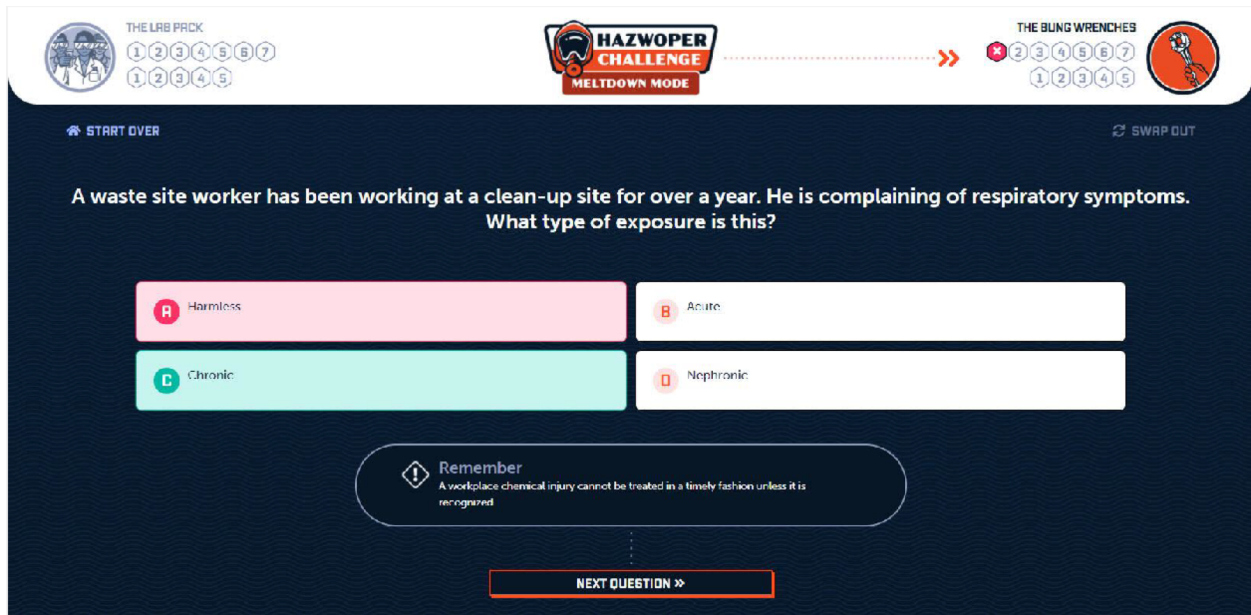
Example of instruction screen for quick play mode

| How do I answer the different types of questions?

Questions are formatted as multiple choice, multiple choice with video, multiple choice with images, sequence, and scenario-based multiple choice questions. Refer to the game modes above to see which question formats are presented during each game mode.

Multiple Choice

Available in Lecture Mode and Meltdown Mode. To answer this question, read the question and all answer choices. Click on the answer that best answers the question asked. Click on "Lock it in." After feedback is provided, the score will update and the correct answer will display in green. If answered incorrectly, the selected answer choice will display in red. To progress through the round, click on "Next Question."



Example of a multiple choice question answered incorrectly

Multiple Choice with Video

Available in Lecture Mode and Meltdown Mode. To answer this question, read the question, watch the video displayed below the question, and read all answer choices. Click on the answer that best answers the question asked. Click on “Lock it in.” After feedback is provided, the score will update and the correct answer will display in green. If answered incorrectly, the selected answer choice will display in red. To progress through the round, click on “Next Question.”

The screenshot displays the HAZWOPER Challenge Meltdown Mode interface. At the top, there are two scoreboards: "THE LAB PRICK" on the left and "THE BUNG WRENCHES" on the right, both showing scores of 1 through 7. The central question is "What type of hazard is being tested for in the video?". Below the question is a video player showing a person in a yellow hazmat suit and red gloves using a pH test strip on a white liquid in a metal tray. The video player has a "Watch on YouTube" button. Below the video are four answer choices: A Corrosiveness (highlighted in light blue), B Toxicity (white), C Flammability (white), and D Radioactivity (pink). Below the answer choices is a "Remember" box with a warning icon and text: "Using pH paper routinely will help identify the corrosiveness of materials that can injure employees or damage and weaken containers." At the bottom is a red "NEXT QUESTION" button.

Example of a multiple choice with video question answered incorrectly

Multiple Choice with Images

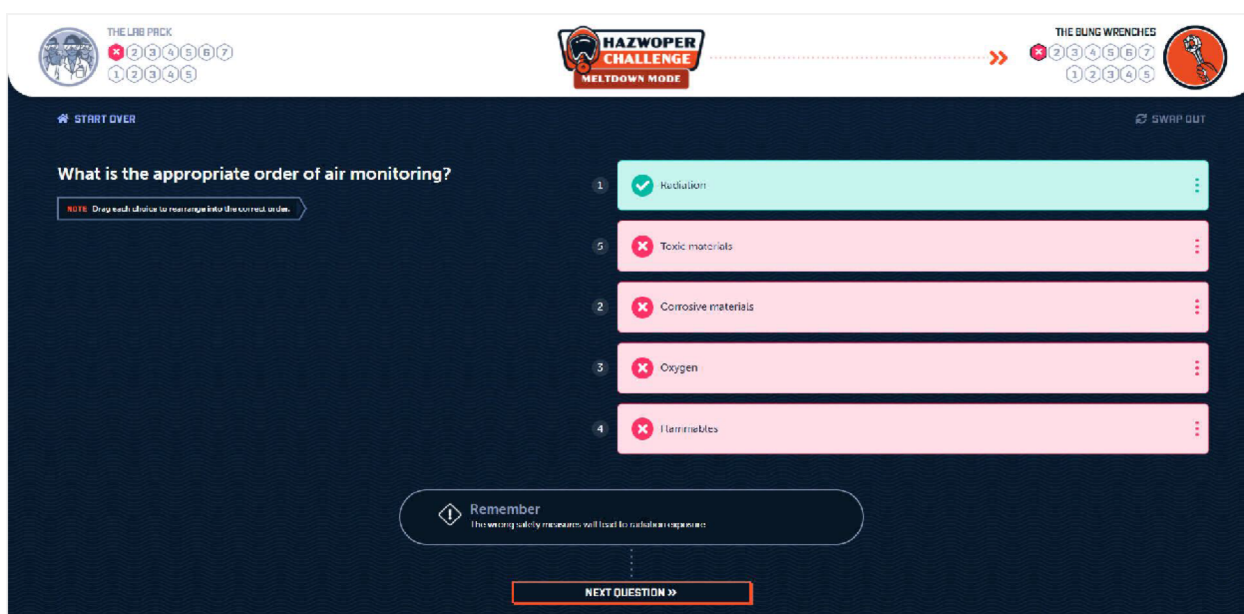
Available in Lecture Mode and Meltdown Mode. To answer this question, look carefully at the image(s) presented and read all answer choices. Click on the answer that best answers the question asked. Click on “Lock it in.” After feedback is provided, the score will update and the correct answer will display in green. If answered incorrectly, the selected answer choice will display in red. To progress through the round, click on “Next Question.”

The screenshot displays the HAZWOPER CHALLENGE MELTDOWN MODE interface. At the top, there are two scoreboards: "THE LAB PACK" on the left and "THE BLING WRENCHES" on the right, both showing scores of 1 through 7. The central header reads "HAZWOPER CHALLENGE MELTDOWN MODE". Below the header, there are "START OVER" and "SWAP OUT" buttons. The main question is "Which of the following is a high pressure rail tank car?". Three images are presented as answer choices, each in a colored box: A (green), B (white), and C (pink). Image A shows a black rail tank car with "NATX 16012" and "16012" markings. Image B shows a black rail tank car with "NATX 16012" and "16012" markings. Image C shows a white rail tank car with "16012" and "16012" markings. Below the images, a "Remember" box states: "High pressure railcars only have fittings in a single protected housing on the top." At the bottom, there is a "NEXT QUESTION" button.

Example of a multiple choice with images question answered incorrectly

Sequence

Available in Lecture Mode and Meltdown Mode. To answer this question, read the question and all answer choices. Click on and drag each answer choice to move them. Drop (release drag) each of the choices to arrange them into the correct order to best answer the question asked. Click on “Lock it in.” After feedback is provided, the score and answer choices will update based on whether or not the choices were placed in the correct order. In order to get the question correct, all answer choices must be in the correct order. A number will display to the left of each answer choice to denote the correct order. In addition, correctly placed choices will display in green with a checkmark and incorrectly placed choices will display in red with an “x”. To progress through the round, click on “Next Question.”

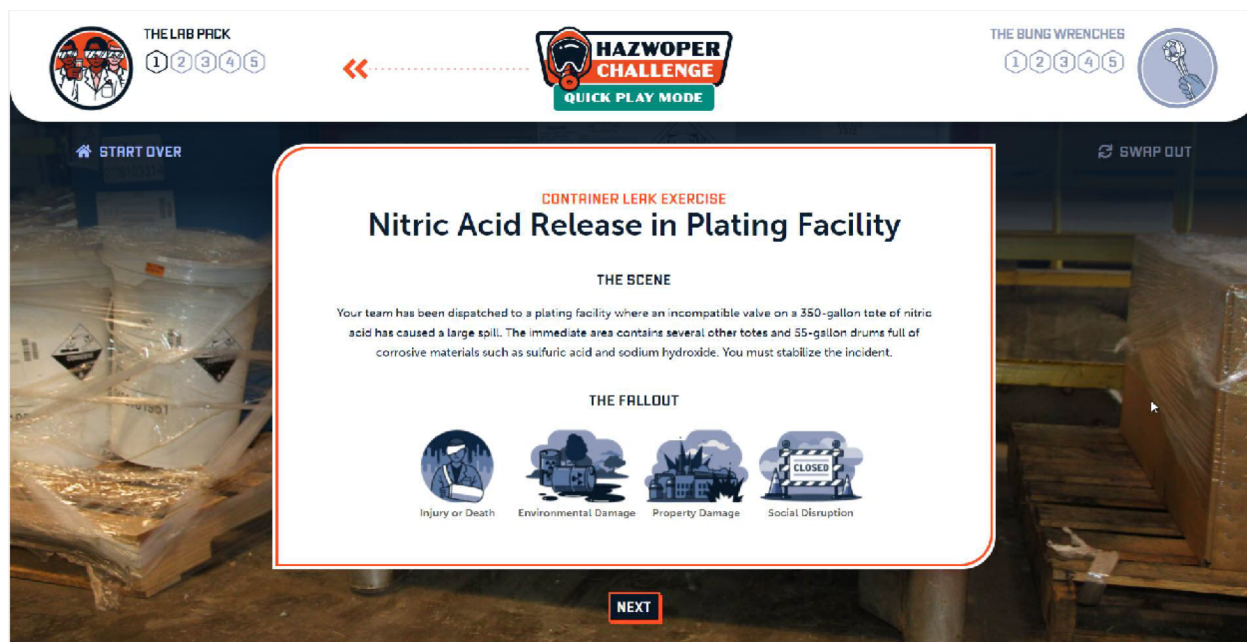


Example of a sequence question answered incorrectly

Scenario-based Multiple Choice

Available in Meltdown Mode and Quick Play Mode. To answer this question, first read the presented scenario and fallout given. Click “Next” to be taken to the question screen. Scenarios will relate to one of the following exercises:

- Cleanup exercise
- Container leak exercise
- Contamination exercise
- Transportation exercise
- Waste site exercise
- Waterway exercise

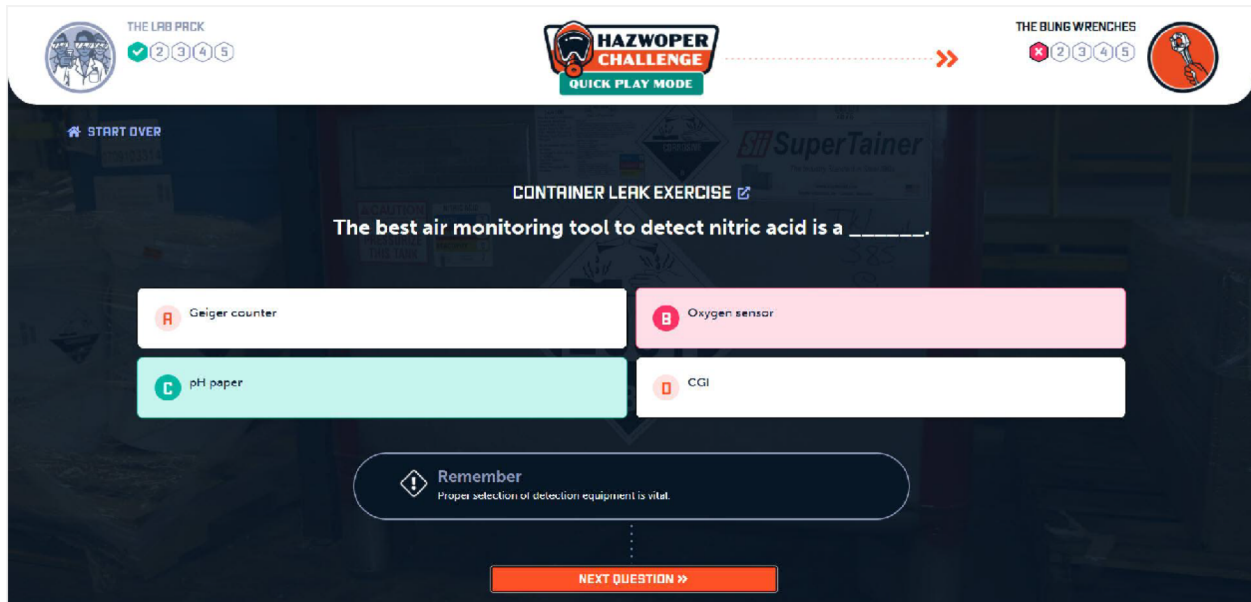


Example of a scenario for a scenario-based multiple choice question

Scenarios are also associated with one or more consequences – the same consequences represented for incorrect feedback. These will display under the scenario fallout section.



Read the question and all answer choices. Click on the answer choice that best answers the question asked. Click on “Lock it in.” After feedback is provided, the score will update and the correct answer will display in green. If answered incorrectly, the selected answer choice will display in red. To progress through the round, click on “Next Question.”

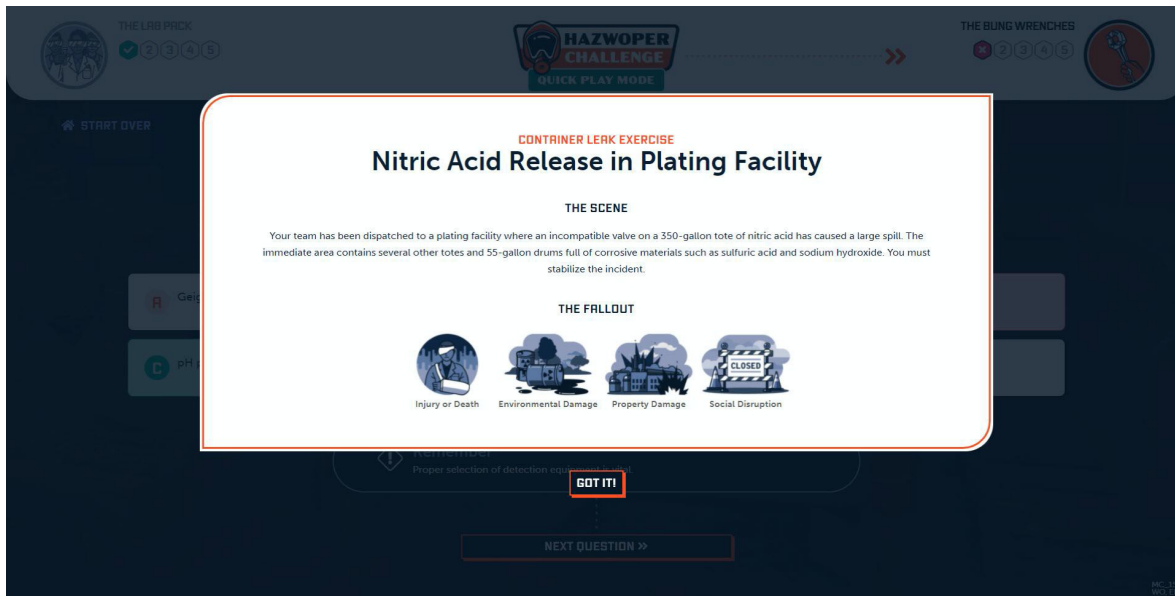


Example of a scenario-based multiple choice question answered incorrectly

When viewing a scenario-based question, players can access scenario information by clicking the “View Scenario” button next to the scenario title.



This opens a modal that reloads the scenario information in a scrollable area. Players can close the modal by clicking the “Got It!” button or clicking outside of the modal window.



Example of the scenario modal

How does a team win?





In Lecture Mode and Quick Play Mode, the team with the highest score at the end of the game wins. In Meltdown Mode, the team with the highest score at the end of both rounds wins. If both teams earn the same score, the game is tied and both teams are declared winners.

Each correctly answered question will increase a team's score by 10 points, with the exception of scenario-based multiple choice. These questions are worth 12 points each. Once a team "Locks In" their answer, they will be provided feedback on whether they answered correctly or incorrectly. If the selected answer is correct, a correct feedback modal with the amount of points they earned will display. In addition, audio feedback will play, which includes a pleasant tinkling sound.



Examples of the correct feedback modals worth 10 points and 12 points

Each question is associated with one of four possible consequences. If answered incorrectly, the associated consequence will display in the incorrect feedback modal, and the team will not earn any points. In addition, audio feedback will play an unpleasant gong sound.

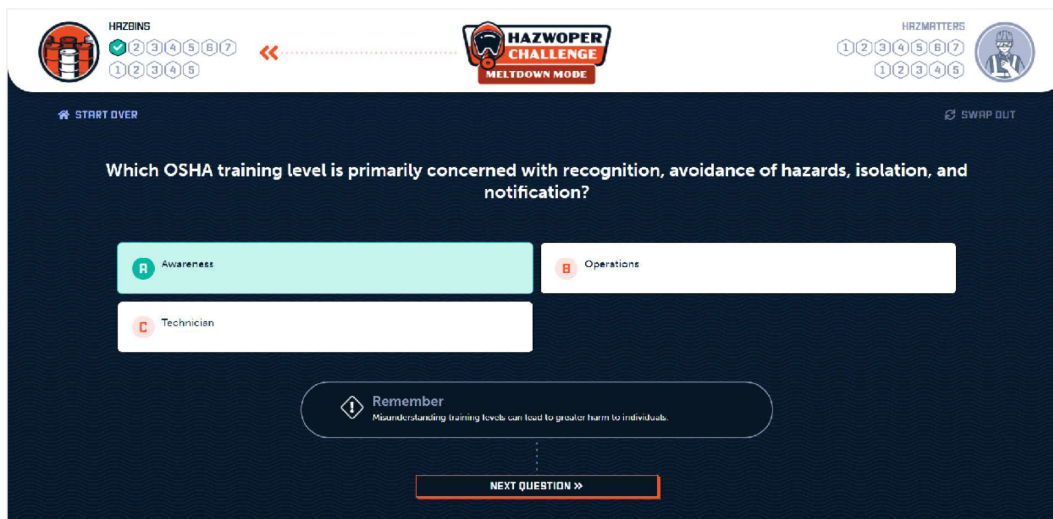
Incorrect Feedback Modal Consequences	
<div>Environmental Damage</div> <div></div> <div>WHAT A WASTE!</div>	<div>Injury or Death</div> <div></div> <div>OOPS! THAT'S A GOOF.</div>
<div>Property Damage</div> <div></div> <div>DON'T HAVE A MELTDOWN!</div>	<div>Social Disruption</div> <div></div> <div>WHAT A DRAG.</div>

TIP | FOR INSTRUCTORS

Feedback modals will automatically disappear after a few seconds. To dismiss them sooner, click anywhere outside the modal window.

| What is Remember Text?

Each time an answer is submitted, feedback is displayed to provide amplifying information for the team. Instructors can use this information as remediation. Users will see “Remember” along with a short explanation. The text displayed is the same, whether the question was answered correctly or incorrectly.



Example of a correctly answered question with remember text

| What is Swap Out?

Swap Out is a feature available while playing in Meltdown and Quick Play Modes, but functions slightly differently in each mode and round. **During Round 1 in Meltdown Mode**, an instructor can swap out the currently displayed question for another by clicking the “Swap Out” button at the top right of the screen. If there are not enough questions to swap one out for another, this button will be disabled. Selecting multiple categories adds more questions to the question bank, ensuring there are enough questions remaining to swap out and complete the game.

During Round 2 in Meltdown Mode, and while playing in **Quick Play Mode**, an instructor can swap out the currently displayed scenario for another by clicking the “Swap Out” button at the top right of the screen before moving on from the scenario. Selecting multiple categories adds more questions to the question bank, ensuring there are enough questions remaining to swap out and complete the game. If there are not enough scenarios to swap one out for another, this button will be disabled. Only a scenario can be swapped; not questions for the scenario.

DISPLAY AND PERFORMANCE

| Optimization

HAZWOPER Challenge is designed and optimized for display on a large TV screen or computer monitor at an aspect ratio of 1368 x 912 pixels for use during classroom instruction. Users may need to scroll to view all information displayed if the game is viewed or played on smaller monitors.

The game has many graphic images and videos. Users may notice a delay in load time if their internet connection is slow or unstable.

| Recommended Browsers

Users can access HAZWOPER Challenge on Chrome, Firefox, or Edge. Safari is not recommended, as there is a known issue with icons loading correctly.

HOW TO PLAY THE GAME

| Game Set Up

1. Prepare to Play

Visit <http://hazmania.org/#> and click “Play” under the HAZWOPER Challenge icon or directly visit the game via <http://hazmania.org/hazwoper/>.

You will be taken to step one of five. On the first, you set the language.

Choose English or Español and click “Next.” Make sure your computer’s speakers are on.

2. Choose a Role and Game Mode

Choose the role the players will assume during game play: Emergency Responder or Waste Operator. Based on your selection, only questions applicable to that role will display.

Next, select a mode of play: Lecture, Meltdown, or Quick Play. Click “Next.”

3. Choose Categories

Choose the module category or categories to test and click “Next.”

If playing Meltdown Mode or Quick Play Mode, and multiple categories are selected, questions will be randomly selected from all categories.

4. Select Teams

Divide the class into two teams and have each team choose a name from the team name options displayed. Click “Next.”

Team 1 Names	Team 2 Names
<ul style="list-style-type: none">● Atomic Strikers● Hazbins● Team Isotope● The Lab Pack● Waste Chasers	<ul style="list-style-type: none">● Hazmatters● Spillbusters● Spontaneous Combustibles● The Bung Wrenches● Velvet Moonsuits

5. Flip Coin

The last step is to determine which team will go first. Click “Flip Coin” below the coin. An animation will play and the avatar of the team that will answer the first question will display.

If playing Meltdown Mode, the selected team will go first in Round 1 and the other team will go first in Round 2.

Click “Begin Challenge.”

6. Instruction Screen

A screen with instructions will appear, displaying the mode selected (at the bottom of the game icon in the header area) and confirming which role was selected along with the number of questions to answer during the game. Both team avatars and the selected module category(ies) will also display.

Hover over each module/category icon to see which module it represents.

Click “Play.”



| Playing the Game

Lecture Mode

In Lecture Mode, both teams will answer all available trivia questions for each of the selected module/category(ies). Questions will be worth 10 points each. The team with the highest score wins. The total number of questions will change according to the category(ies) and role selected. The game will progress by asking all questions for one category before moving to the next category if more than one category is selected. The swap button is not available to swap questions in this mode.

TIP | FOR INSTRUCTORS

During Lecture Mode, questions cannot be swapped or skipped. Teams **MUST** progress through all the questions. Lecture Mode can be time intensive if multiple categories are selected. It is recommended to play one module category at a time.

Not all module categories are available for Lecture Mode. Refer to the Lecture Mode section to see which categories are available and how many questions are associated with each.

After clicking “Play,” a screen will appear with a question beneath a header area at the top of the screen. This header area tracks the score and total number of questions answered, displays the current game mode, and indicates which team is in play with an arrow pointing towards an animating team avatar. When a question is correctly answered, the total correct next to a green check will increase by one. If the question is answered incorrectly, the number next to a red x will increase by one.



When answering questions, players must choose the response that best answers the question and click “Lock it in.” Refer to the section [How do I answer the different types of questions?](#) for more information on questions. Players will receive audio and visual feedback on whether they answered correctly or incorrectly. If an incorrect answer was chosen, it will be highlighted red, while the correct answer will be highlighted green. Once the feedback modal disappears, the question will update to display “remember” text along with whether the answer chosen is correct or incorrect. Refer above to the section [What is remember text?](#) for more information.

Click on “Next Question” to proceed through the game. It will be the other team’s turn to answer the next question. Teams will continue taking turns until all questions are answered.

Once all questions have been answered, a “See Score” button will appear at the bottom of the screen. Refer to [Game End](#) for more information.

TIP | FOR INSTRUCTORS

If at any time you want to start the game over, click on the “Start Over” button at the top left of the screen. This will take you back to the “Prepare to Play” screen, where you will choose a language and set up game play.

Meltdown Mode

In Meltdown Mode, both teams first compete during one trivia round consisting of seven randomized questions from the selected module category(ies). In this round, each question is worth 10 points. Following the trivia round, both teams will be presented with a reality-based hazardous scenario. They will both answer five multiple choice questions related to this situation. In this round, each question is worth 12 points. The team with the highest score from both rounds wins.

After clicking “Play,” a screen will appear with a question beneath a header area at the top of the screen. This header area tracks the score and total number of questions answered, displays the current game mode, and indicates which team is in play with an arrow pointing towards an animating team avatar. When a question is correctly answered, that round’s question number

next to a green check will increase by one. If the question is answered incorrectly, the number next to a red x will increase by one.



When answering questions, players must choose the response that best answers the question and click “Lock it in.” Refer to the section [How do I answer the different types of questions?](#) for more information on questions. Players will receive audio and visual feedback on whether they answered correctly or incorrectly. If an incorrect answer was chosen, it will be highlighted red, while the correct answer will be highlighted green. Once the feedback modal disappears, the question will update to display “remember” text along with whether the answer chosen is correct or incorrect. Refer above to the section [What is remember text?](#) for more information.

Click on “Next Question” to proceed through Round 1. It will be the other team’s turn to answer the next question. Teams will continue taking turns until all questions are answered.

During Round 1, if you would like to swap out the current question for another, before answering the question, click the “Swap Out” button at the top right of the screen. If there are not enough questions to swap one out for another, this button will be disabled.

TIP | FOR INSTRUCTORS

If you select multiple module categories, you will have more questions in the bank to be able to swap out questions or scenarios. You can then swap out questions to cycle through various questions.

Note that the button will disable to ensure that enough questions remain to complete the game.

Once all seven questions have been answered for each team for Round 1, click the “Next Round” button to progress to Round 2. An instruction screen will appear for Round 2. Click “Play.” The team that did not go first during Round 1 will go first for Round 2. Teams will continue taking turns answering five questions for round 2. Refer to answering [scenario-based multiple choice questions](#) for more information.

During Round 2, if you would like to swap out the current scenario for another, click the “Swap Out” button at the top right of the screen before moving on from the scenario. If there are not enough scenarios to swap one out for another, this button will be disabled. Only a scenario can be swapped; not questions for the scenario.

Once all questions have been answered for round 2, a “See Score” button will appear at the bottom of the screen. Refer to [Game End](#) for more information.

TIP | FOR INSTRUCTORS

If at any time you want to start the game over, click on the “Start Over” button at the top left of the screen. This will take you back to the “Prepare to Play” screen, where you will choose a language and set up game play.

Quick Play Mode

In Quick Play Mode, both teams will be presented with a reality-based hazardous scenario. They will both answer five multiple choice questions related to this situation. Each question is worth 12 points. The team with the highest score wins.

After clicking “Play,” a screen will appear with a question beneath a header area at the top of the screen. This header area tracks the score and total number of questions answered, displays the current game mode, and indicates which team is in play with an arrow pointing towards an animating team avatar. When a question is correctly answered, that round’s question number turns green. If the question is answered incorrectly, that round’s question number turns red.



Read the scenario and click “Next” to begin answering questions. If you would like to swap out the current scenario for another, click the “Swap Out” button at the top right of the screen before moving on from the scenario. If there are not enough scenarios to swap one out for another, this button will be disabled. Only a scenario can be swapped; not questions for the scenario.

TIP | FOR INSTRUCTORS

If you select multiple module categories, you will have more scenarios in the bank to be able to swap out other scenarios.

When answering questions, players must choose the response that best answers the question and click “Lock it in.” Refer to the section [How do I answer the different types of questions?](#) for more information on questions. Players will receive audio and visual feedback on whether they answered correctly or incorrectly. If an incorrect answer was chosen, it will be highlighted red,

while the correct answer will be highlighted green. Once the feedback modal disappears, the question will update to display “remember” text along with whether the answer chosen is correct or incorrect. Refer above to the section [What is remember text?](#) for more information.

Click on “Next Question” to proceed through the game. It will be the other team’s turn to answer the next question. Teams will continue taking turns until all questions are answered.

Once all questions have been answered, a “See Score” button will appear at the bottom of the screen. Refer to [Game End](#) for more information.

TIP | FOR INSTRUCTORS

If at any time you want to start the game over, click on the “Start Over” button at the top left of the screen. This will take you back to the “Prepare to Play” screen, where you will choose a language and set up game play.

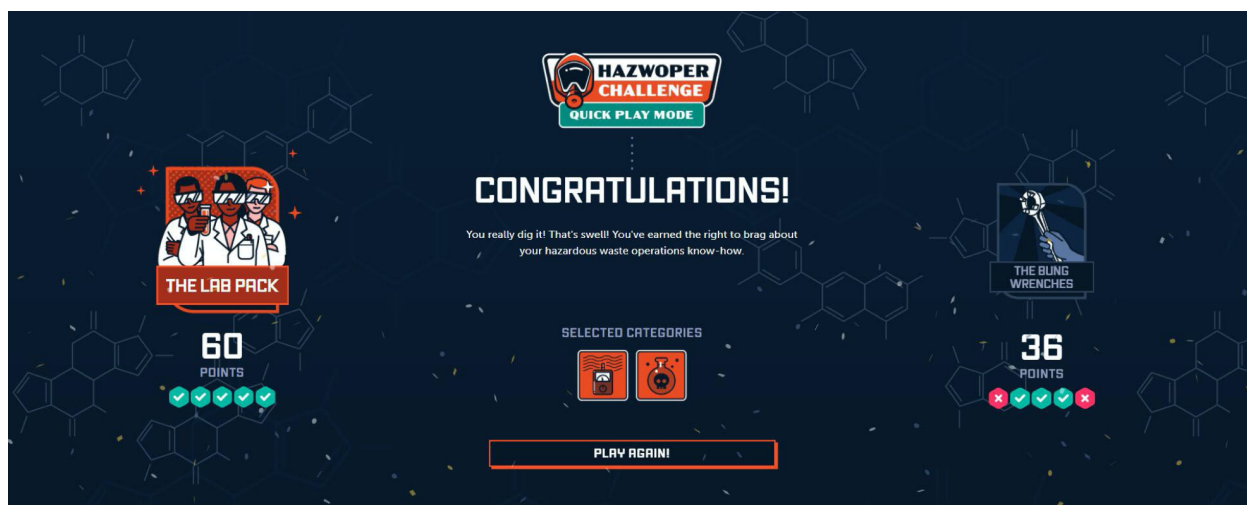
| Game End

Once all questions have been answered, a “See Score” button will appear at the bottom of the screen. This replaces the “Next Question” button. Click “See Score” to view the winning team and see both teams’ scores.



The team with the highest score at the end of the round(s) wins.

The losing team’s avatar and team name displays gray and small. The winning team’s avatar displays orange and large with animation. Each team’s score is displayed along with the number of correct and incorrect answers chosen. Hover over the selected categories to view their module titles. Click “Play Again” to go back to the Prepare to Play screen.



Example of a winning team's score for quick play mode

If both teams earn the same score, the game is tied and both teams are declared winners. A different message will display depending on the score percentage of the tied teams.

Tied Score Percentage	Message
Positive Message for 80% or above	You've got the skills. Both teams really have what it takes to respond to hazardous waste operations. Consider those bragging rights earned!
Neutral Message for 51-79%	Seems we've met our match. Everyone has earned the right to brag about their hazardous waste operations know-how. High fives all around!
Negative Message for 50% or below	Too bad you can't win 'em all! Both teams should brush up on their hazardous waste operations response skills to earn those bragging rights next time.