

# Keeping Data Safe and Sustainable Facilitation Guide

## Grades 4+

We can't wait to introduce you to the incredible technology and people who make Amazon possible. Use this facilitation guide to provide an excellent tour experience for students at home or in the classroom!

### 1. Prepare for the tour

- Review the key learnings and facilitation guide documents. Click through the tour (independent play link below) on your own.
- Distribute graphic organizers (PDF, Word, Google Doc) to students if desired.

### 2. Select your tour style and length

#### Host a tour with student devices

A host projects the tour to a group and students join to compete against each other from separate devices.

- [Full Tour \(~30 minutes\)](#)

#### Project the tour without student devices

The host projects tour to group without students joining on separate devices.

- [Full Tour \(~30 minutes\)](#)

#### Share the tour for independent student play

Students complete the tour by themselves on their own devices. Teacher cannot see student responses.

- [Full Tour \(~30 minutes\)](#)

For additional support in setting up Kahoot, including creating a FREE teacher account, visit: <https://support.kahoot.com/hc/en-us>

### 3. Facilitate the tour


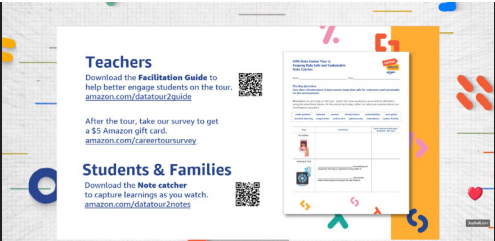
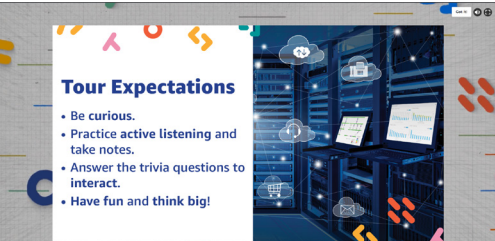
- Use the guide below to walk students through the tour. Ask students to share their thoughts or respond to questions to build more interaction.
- To advance slides, click "Got It" in the top right corner.
- Use our [Teacher Toolkit](#) for optional follow up activities and print completion certificates.

### Kahoot! Tips


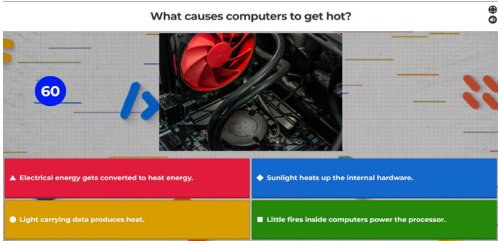
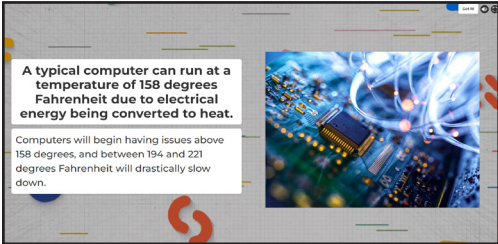
- If the video clips are playing too softly, check that the volume bar on the YouTube video is at maximum volume.
- There is no go back feature. If you need to go back to a video, the links to the segments on YouTube are provided in the facilitation guide below.
- Click the [ ] in the bottom right of the YouTube video to make full screen. Press esc to get out of full screen mode and return to the tour.
- **Warning:** Hitting space bar auto-advances the slide with no go-back feature.

**4. Get an Amazon gift card when you submit your feedback.** [Complete this survey](#) to help us improve future tours and receive a \$5 Amazon gift card (US only).

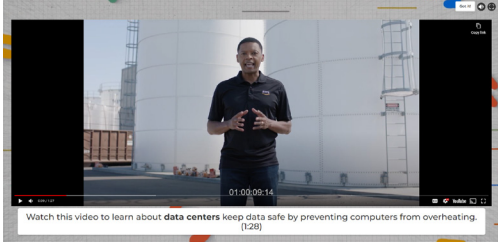
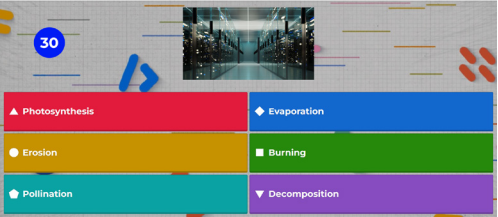
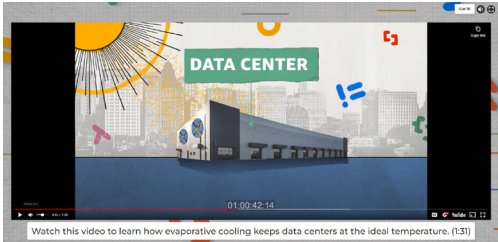
## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
1 30 sec		<p><b>Say:</b> “Today we’re going to take you behind the scenes at Amazon to learn how they keep your information safe and available at all times, and the careers that makes it all happen.”</p> <p><b>Optional:</b> Ask student if they think it’s safe to store their information, like pictures and homework, in the cloud? Why or why not.</p>	
2 0 sec		<p><b>Optional:</b> If you’d like your students to access digital notes, have them scan the QR code or access the doc at the tinyurl provided. Students should make a copy of the document. They’ll have to switch between the Google Docs and Kahoot tabs to answer questions and take notes.</p> <p>If using paper note catchers, this would be the best time to distribute.</p> <p>Tour Stop Organizer: <a href="#">PDF</a> <a href="#">Word</a></p>	
3 1 min		<p><b>Set tour expectations with your class.</b></p> <p>Read the expectations to students.</p> <p><b>Say:</b> “As we go through the tour, you may find some careers that you are interested in - be sure to take notes on your notecatcher! There will be a mix of polls and quiz questions. Polls won’t count towards your points, but the quiz questions will - the fastest CORRECT answers get the most points. Let’s see who will win today!”</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
4 1 min 40 sec	 A video player showing the Amazon Future Engineer Career Tours intro. The video has a blue background with the Amazon logo, 'future >> engineer', and 'career tours' in a red speech bubble. The video title is 'Let's start the tour! Watch this video to begin. (1:37)'.	<p><b>Play Video 1: Intro (1:38)</b></p> <p><b>Say:</b> "On the next slide, is a poll question. What causes computers to get hot?"</p>	
5 30 sec	 A poll question slide titled 'What causes computers to get hot?'. It features a background image of a computer fan. There are four answer choices: 'Electrical energy gets converted to heat energy.' (red), 'Sunlight heats up the internal hardware.' (blue), 'Light carrying data produces heat.' (yellow), and 'Little fires inside computers power the processor.' (green). A blue circle with the number '60' is in the top left corner.	<p><b>Read the poll question and answer choices to students: "What causes computers to get hot?"</b></p> <p><b>Students answer poll question. Acknowledge the poll answers.</b></p> <p><b>Correct Answer:</b> Electrical energy gets converted to heat energy.</p>	
6 15 sec	 A slide with a background image of a computer circuit board. It contains two text boxes. The first box says: 'A typical computer can run at a temperature of 158 degrees Fahrenheit due to electrical energy being converted to heat.' The second box says: 'Computers will begin having issues above 158 degrees, and between 194 and 221 degrees Fahrenheit will drastically slow down.'	<p><b>Quickly read the slide.</b></p> <p><b>Then Say:</b> "Let's now head to our first stop: keeping it cool."</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
7 1 min 30 sec		<p><b><u>Play Video 2: Stop 1 Part A (1:28)</u></b></p> <p><b>Say:</b> "What process do you think AWS uses to cool down data centers? This is a poll, and doesn't count towards your points!"</p>	
8 30 sec		<p><b>Read the poll question and answer choices to students. "What natural process do you think AWS uses to cool down data centers?" Students answer poll question. Acknowledge the poll answers.</b></p> <p><b>Correct Answer:</b> Evaporation</p> <p><b>Say:</b> "Let's learn what process AWS uses and how it works!"</p>	
9 1 min 35 sec		<p><b><u>Play Video 3: Stop 1 Part B (1:31)</u></b></p> <p><b>Say:</b> "Before we meet a Data Center Engineering Operator, we have a review question for you! This is worth points, so make sure you answer correctly and quickly!"</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide #  
(suggested time)

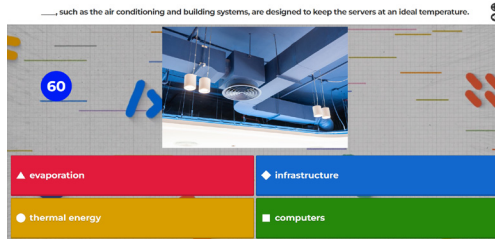
Slide Image

Facilitation Tips

Notes

10

30 sec

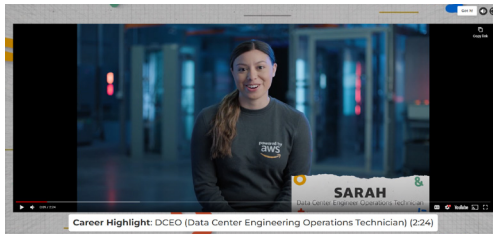


Read the question and on-screen answer choices to students. "\_\_\_\_, such as the air conditioning and building systems, are designed to keep the servers at an ideal temperature."

Answer: infrastructure

11

2 min

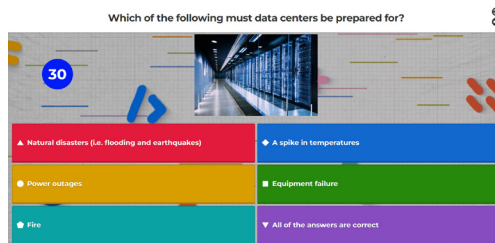


[Play Video 4: DCEO \(1:57\)](#)

Say: "Time for a poll question before our next stop."

12

30 sec



Read the poll question and answer choices to students: "Which of the following must data centers be prepared for?" Students answer poll question. Acknowledge the poll answers.

Correct Answer: All of the answers are correct



## AWS Data Center Tour: Keeping Data Safe and Sustainable

### Slide #

(suggested time)

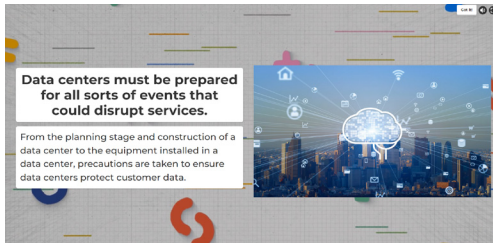
### Slide Image

### Facilitation Tips

### Notes

13

30 sec

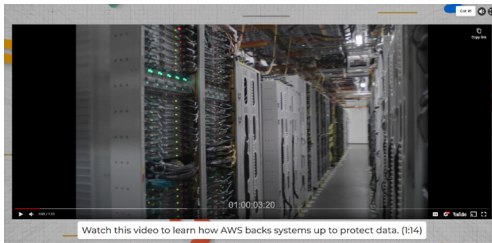


**Quickly read the slide.**

**Then Say:** "There's a LOT that data centers must be prepared for. They need to make sure data is available for all customers at all times. Let's learn how they prepare for things that could go wrong."

14

1 min 20 sec

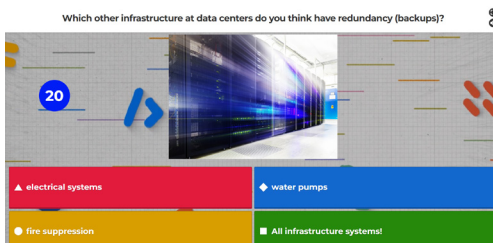


**Play Video 5: Stop 2 Part A (1:14)**

**Say:** "We have a poll question - What other infrastructure at data centers do you think have redundancy (backups)?"

15

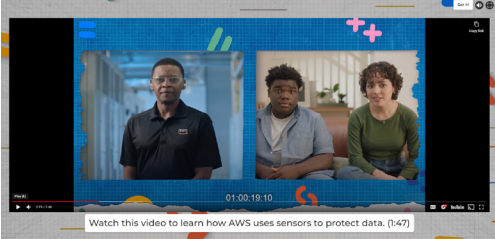
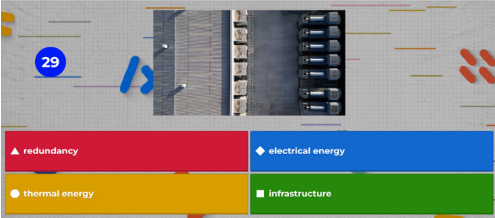

20 sec



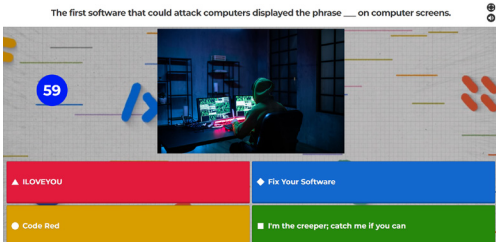
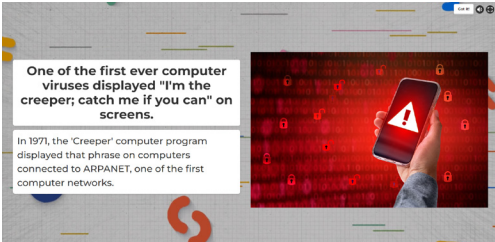

**Read the poll question and answer choices to students: "What other infrastructure at data centers do you think have redundancy (backups)?" Acknowledge the poll answers.**

**Correct Answer:** All infrastructure systems.

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
16 1 min 50 sec		<p><b><u>Play Video 6: Stop 2 Part B (1:47)</u></b></p> <p><b>Say:</b> “Before we meet our next professional, it’s time to answer a review question to make sure you’re paying attention! This is worth points, so answer correctly and quickly!”</p>	
17 30 sec		<p><b>Read the question and on-screen answer choices to students. “Data centers have a lot of backup equipment, like electrical systems, in case technology fails. This is an example of ____.”</b></p> <p><b>Answer:</b> redundancy</p> <p><b>Say:</b> “Our next video highlights another career: Control Technician. Take down notes of any information that sounds interesting to you about this career!”</p>	
18 1 min 30 sec		<p><b><u>Play Video 7: Control Technician (1:28)</u></b></p> <p><b>Say:</b> “I hope you enjoyed learning about that career. We have a poll question before our next stop.”</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable


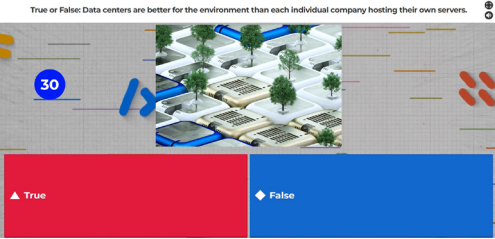
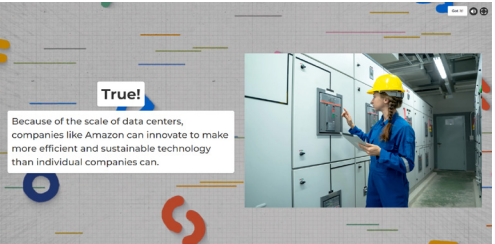
Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
19 30 sec		<p><b>Read the poll question and answer choices to students: “The first software that could attack computers displayed the phrase __ on computer screens.” Students answer poll question. Acknowledge the poll answers.</b></p> <p><b>Correct Answer:</b> I'm the creeper; catch me if you can.</p>	
20 15 sec		<p><b>Quickly read the slide.</b></p> <p><b>Then Say:</b> “One of the first cyberattacks occurred in 1971 with the Creeper program on the first computer network that existed even before the internet. Our next stop will teach us more about how Amazon protects against cyber attacks.”</p>	
21 1 min 20 sec		<p><b><u>Play Video 8: Stop 3 Part A (1:15)</u></b></p> <p><b>Say:</b> “What do you think? Does someone have to physically be at a data center to get access to servers?”</p>	



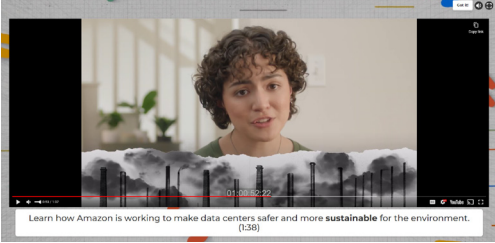
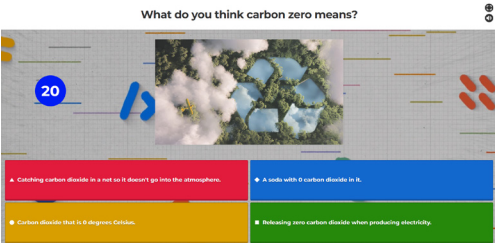

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
22 20 sec	A poll slide with a question at the top: "Does someone have to physically be at a data center to get access to servers?". Below the question is a video player showing a person in a server room. At the bottom are three answer buttons: "Yes" (red), "No" (blue), and "I Don't Know" (yellow). A blue circle with the number "20" is in the top left corner.	<p>Read the poll question and answer choices to students: "What do you think is faster than electricity?" Students answer poll question. Acknowledge the poll answers.</p> <p><b>Correct Answer:</b> No</p>	
23 1 min 50 sec	A video player interface showing a scene with a red server rack in the center, surrounded by black dots representing data points. A pink arrow points to the server rack. At the bottom, a caption reads: "Discover the cybersecurity measures in place that protect data. [1:49]".	<p><b>Play Video 9: Stop 3 Part B (1:49)</b></p> <p><b>Say:</b> "Before we meet someone who protects data, we have a trivia question!"</p>	
24 30 sec	A poll slide with a question at the top: "When data is protected with __, it is scrambled so only authorized computers can read the information.". Below the question is a video player showing a hand using a smartphone. At the bottom are four answer buttons: "machine learning" (red), "encryption" (blue), "malware" (yellow), and "evaporation" (green). A blue circle with the number "60" is in the top left corner.	<p>Read the question and on-screen answer choices to students. "When data is protected with __, it is scrambled so only authorized computers can read the information."</p> <p><b>Answer:</b> encryption</p> <p><b>Say:</b> "Our next video highlights a career that keeps data protected: a cybersecurity specialist. Take down notes of any information that sounds interesting to you about this career!"</p>	

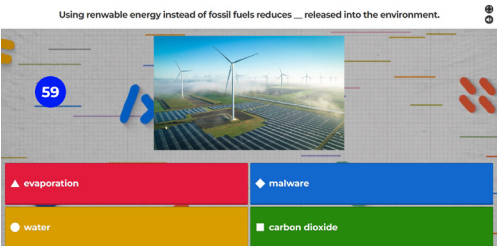
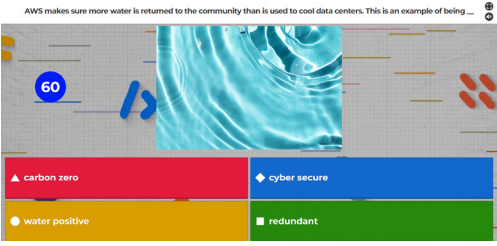
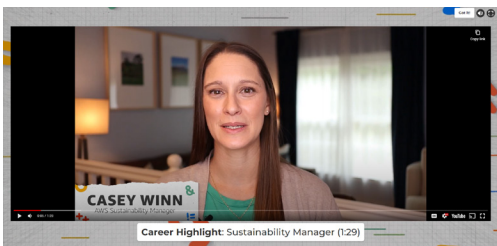
## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
25 1 min 50 sec		<p><b><u>Play Video 10: Cybersecurity Specialist (1:46)</u></b></p> <p><b>Say:</b> "Time for another poll before our last stop."</p>	
26 30 sec		<p><b>Read the poll question and answer choices to students: "True or False: Data centers are better for the environment than each individual company hosting their own servers." Students answer poll question. Acknowledge the poll answers.</b></p> <p><b>Correct Answer:</b> True</p>	
27 15 sec		<p><b>Quickly read the slide.</b></p> <p><b>Then Say:</b> "Let's learn more about how Amazon is making sure their data centers do not harm the environment."</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
28 1 min 30 sec		<p><b>Play Video 11: Stop 4 Part A (1:26)</b></p> <p><b>Say:</b> "What do you think carbon zero means?"</p>	
29 20 sec		<p><b>Read the poll question and answer choices to students: "What do you think carbon zero means?" Students answer poll question. Acknowledge the poll answers.</b></p> <p><b>Correct Answer:</b> Releasing zero carbon dioxide when producing electricity</p>	
30 2 min		<p><b>Play Video 12: Stop 4 Part B (1:53)</b></p> <p><b>Say:</b> "Let's review 2 more vocabulary words before our final career spotlight."</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
31 30 sec		<p><b>Read the question and on-screen answer choices to students. "Using renewable energy instead of fossil fuels reduces ___ released into the environment."</b></p> <p><b>Answer:</b> carbon dioxide</p>	
32 30 sec		<p><b>Read the question and on-screen answer choices to students. "AWS makes sure more water is returned to the community than is used to cool data centers. This is an example of being ___."</b></p> <p><b>Answer:</b> water positive</p> <p><b>Say:</b> "Our final career video highlights a career that keeps the cloud green - a sustainability manager. Take down notes of any information that sounds interesting to you about this career!"</p>	
33 1 min 30 sec		<p><b>Play Video 13: Sustainability Manager (1:29)</b></p> <p><b>Say:</b> "Before we finish up the tour videos and do some rapid review trivia, I'm interested to know: What career interested you the most today?"</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable

### Slide #

(suggested time)

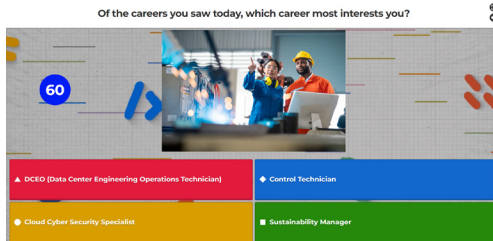
### Slide Image

### Facilitation Tips

### Notes

34

1 min

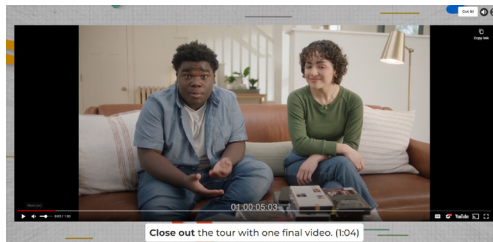


**Read the poll question and answer choices to students.**

**Optional:** Hold a discussion now or after the tour about which career most interests students and why.

35

1 min 10 sec

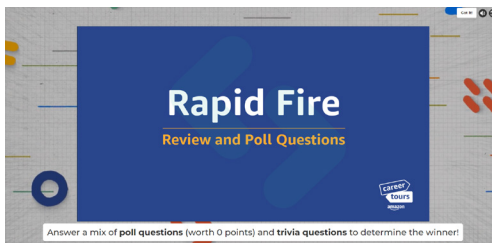


**Play Video 14: Tour Closer (1:04)**

**Say:** "You learned a LOT of information today about the cloud and careers. Let's do some rapid-fire review questions before we see who was the top of today's leaderboard!"

36

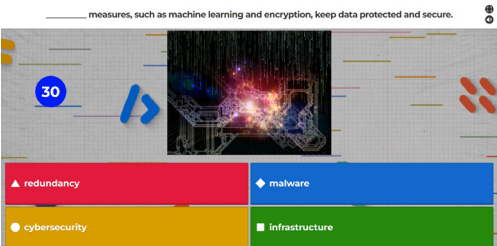
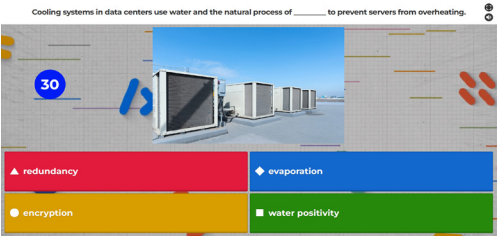
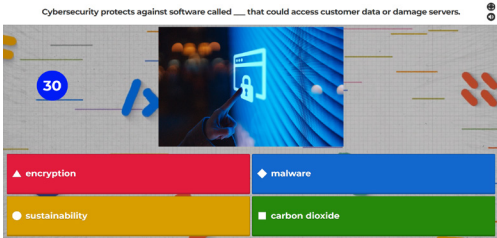
20 sec



**Say:** "The first few questions will be quiz questions worth points, then a few poll questions to help make tours even better in the future!"



## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
37 30 sec		<p>Read the question and on-screen answer choices to students. “___ measures, such as machine learning and encryption, keep data protected and secure.”</p> <p><b>Answer:</b> cybersecurity</p>	
38 30 sec		<p>Read the question and on-screen answer choices to students. “Cooling systems in data centers use water and the natural process of ___ to prevent servers from overheating.”</p> <p><b>Answer:</b> evaporation</p>	
39 30 sec		<p>Read the question and on-screen answer choices to students. “Cybersecurity protects against software called ___ that could access customer data or damage servers.”</p> <p><b>Answer:</b> malware</p>	

## AWS Data Center Tour: Keeping Data Safe and Sustainable

### Slide #

(suggested time)

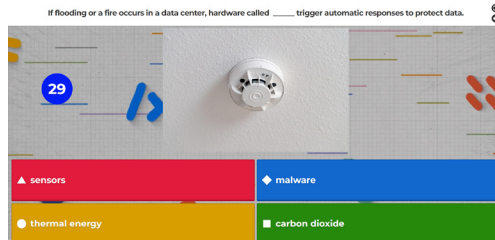
### Slide Image

### Facilitation Tips

### Notes

40

30 sec



**Read the question and on-screen answer choices to students. "If flooding or a fire occurs in a data center, hardware called \_\_ trigger automatic responses to protect data."**

**Answer:** sensors

41

30 sec

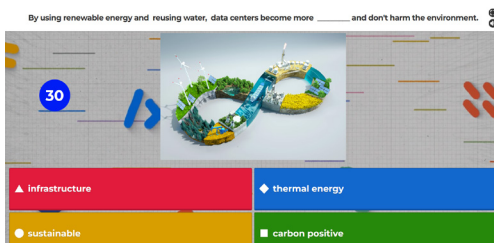


**Read the question and on-screen answer choices to students. "Cybersecurity specialists train systems using \_\_ so they can identify threats and immediately respond."**

**Answer:** machine learning

42

30 sec



**Read the question and on-screen answer choices to students. "By using renewable energy and reusing water, data centers become more \_\_ and don't harm the environment."**

**Answer:** sustainable

**Say:** "The next questions are some polls to give Amazon some information to help make their tours even better in the future. Then we'll find out the winner! The first questions asks about your tour experience on a scale from 1 to 5, with 1 meaning you did not like it, and 5 meaning you really liked it."

## AWS Data Center Tour: Keeping Data Safe and Sustainable

### Slide #

(suggested time)

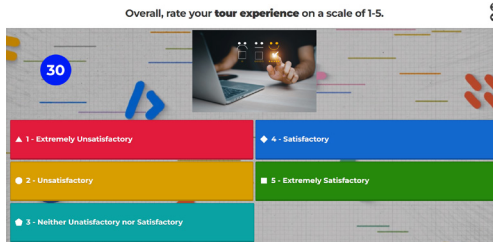
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### Facilitation Tips

### Notes

43

30 sec

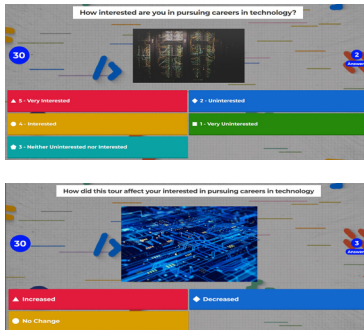


**Read the poll question and answer choices to students.**

**Say:** "The next question asks if you now are interested in having a career in technology. 1 means you really don't want a career in technology and 5 means you really do want a career in technology. Then we'll answer if the tour increased, decreased, or didn't change your desire to have a career in technology."

44-45

30 sec

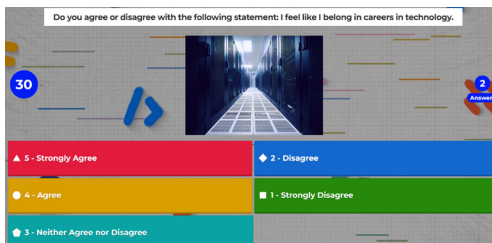


**Read the poll question and answer choices to students.**

**Say:** "The final question asks if you feel like you belong in a career in technology. 5 means you strongly agree that you belong in a career in technology, 1 means you don't feel like you belong in a career in technology."


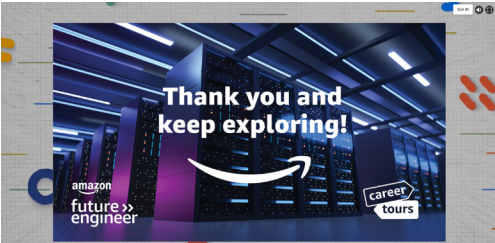
46

30 sec



**Say:** "Really great job today! Once I go through these next 2 slides we'll see the winner on our podium!"

## AWS Data Center Tour: Keeping Data Safe and Sustainable

Slide # (suggested time)	Slide Image	Facilitation Tips	Notes
47 0 sec	 A blue slide with a pattern of colorful arrows. The text reads: "Teachers, let us know how we did! Complete the survey to receive a \$5 Amazon gift card. (US Only)". Below the text is a QR code and the URL "amazon.com/careertoursurvey". At the bottom, it says "Teachers: Complete the survey to receive a \$5 Amazon Gift Card Code. (US Only)".	<b>Teachers only:</b> Scan the QR code on this slide or visit the link to take a survey and receive a gift card (US teachers only eligible for the gift card).	
48 0 min	 A slide with a background image of a server room. The text reads: "Thank you and keep exploring!". Below the text is the Amazon logo and the text "amazon future >> engineer". In the bottom right corner, there is a "career tours" logo.	<b>Optional:</b> Lead students in a discussion using the discussion questions or your own questions. Be sure to assign or take students on <a href="#">AWS Data Tour 1: Uncovering Cloud Computing</a> to teach students about the cloud and how we are able to stream moving from anywhere at any time. Or take another Career Tour! Show the podium. Celebrate the winners and all students for participating. Print and distribute <a href="#">student certificates</a> .	