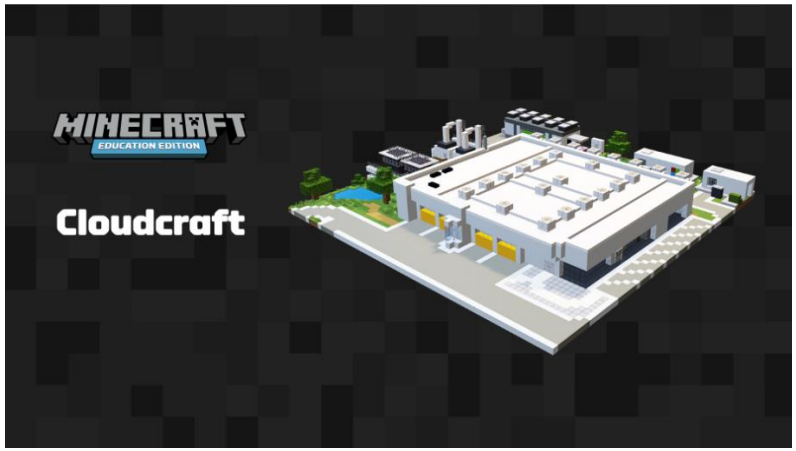
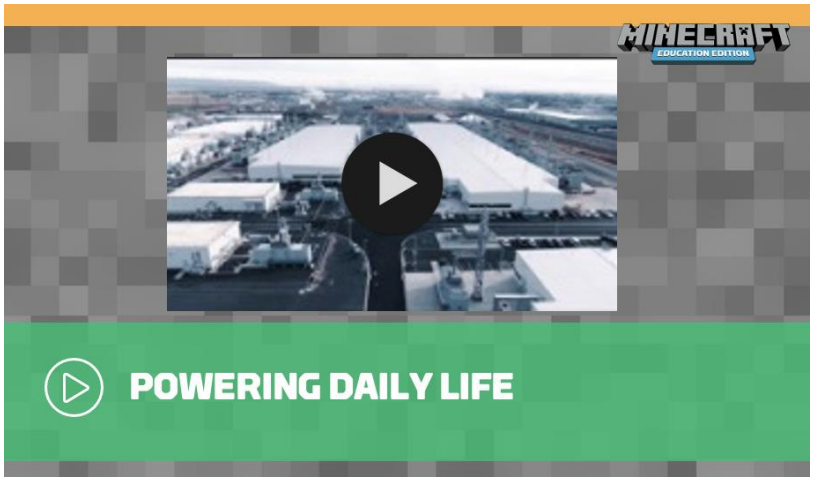
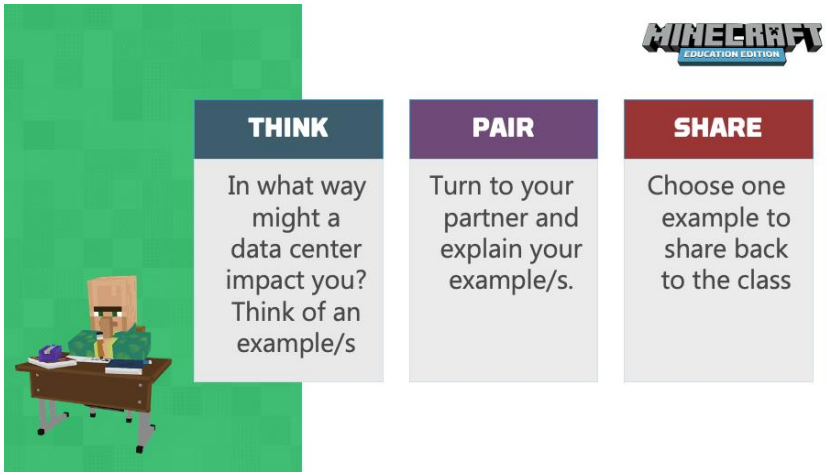
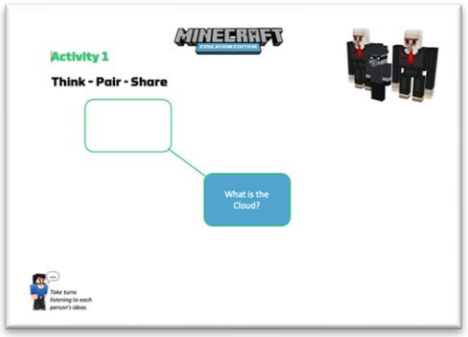
CLOUDCRAFT TEACHER LESSON PLAN

Remember to Download a copy of the PPT Deck and make edits
Download Torque Font and Noto Sans onto your computer so your slides have the right font

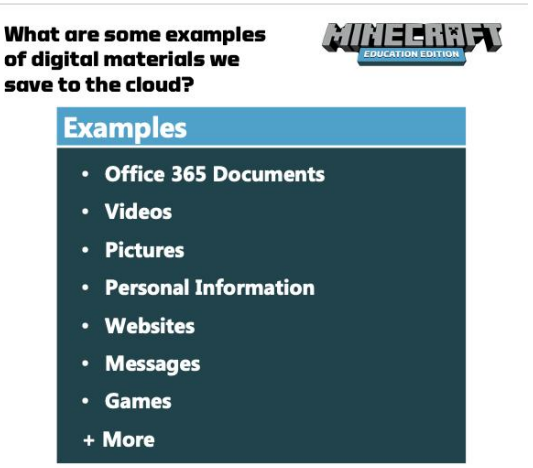
FULL AGENDA AND SCRIPT

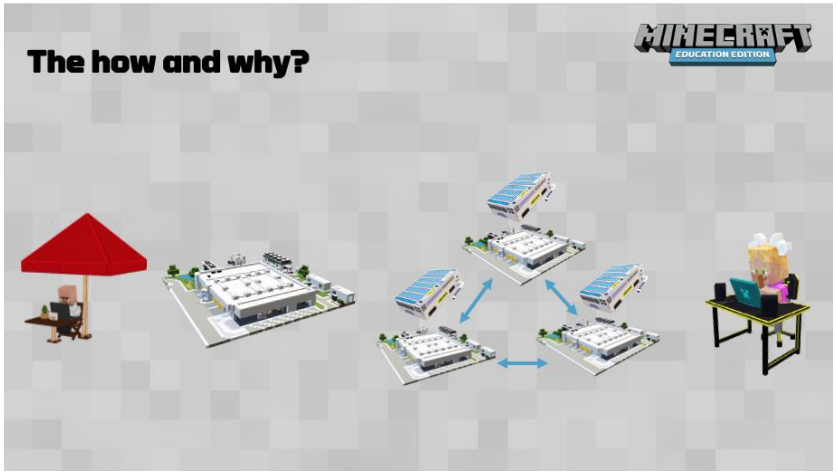
Timing	Suggested talking points	Presenter action	On screen
Prior		**Prior to the lesson ensure you have taken the time to read the teacher guide and made any of the resource's material available for your students to access as a paper or digital copy.**	

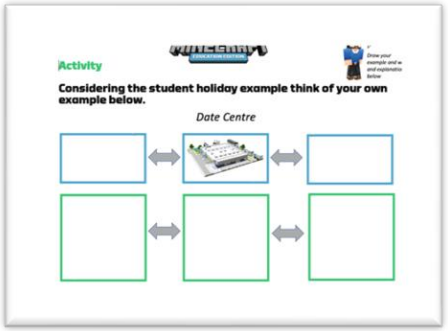
2 mins	**Say:** Welcome! I am excited to learn more about Datacenters through what will be a fun Minecraft experience. Before we start let's look over our learning intentions.	**Do:** Read over the learning intentions on the slide Advance to the next slide.	
1 min	**Say:** Let's know what this short video is to better understand what a data center is. After we are going to have a think about how you think it relates to you.	**Do:** Play video. Advance to the next slide.	

1 min	**Say:** Before we talk about what we just saw I what you to think "In what way might a data center impact you? Think of an example/s Then I want you to pair up with someone in the class and share your example. When time is up, I am going to ask some pairs to share back their answers.	**Do:** Facilitate the Think, Pair, Share activity with your students. If need you may like to use activity sheet 1 to assist students in brainstorming their ideas. Advance to the next slide.	 

30 sec	**Say:** Datacenters help power our daily lives. When you are working online it is saving to one of the many datacenters located worldwide. Here we can see four server racks side by side. A 20,000 square foot datacenter can hold more than 800 server racks. These act as the cloud's massive computing and storage location.	**Do:** Refer to the image on the slide when needed. As an example, 20 000 square feet = 7 Tennis courts Advance to the next slide.	 **What is the Cloud?** Microsoft Data Centres help power our daily lives. When you are working online it is saving to one of the many data centres located worldwide. Here we can see four server racks side by side. A 20 000 square foot data centre can hold more than 800 server racks. These act as the cloud's massive computing and storage location.

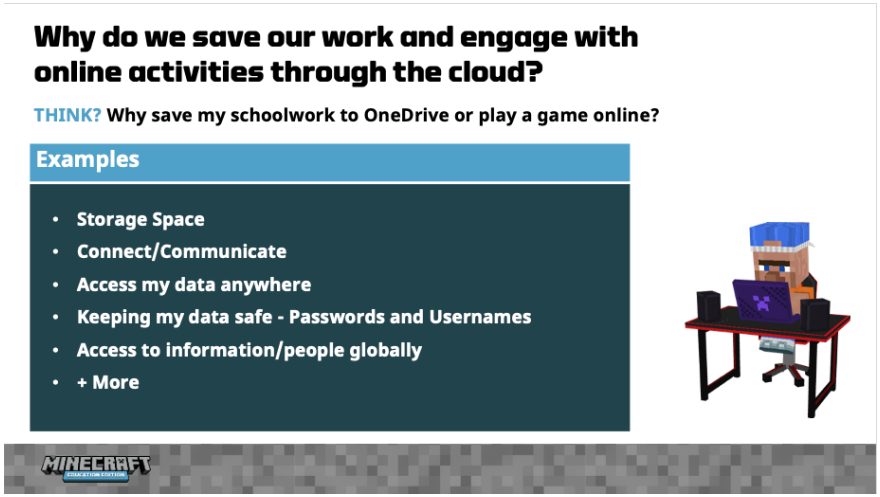
10 sec	**Say:** Let stop and think about the examples of digital materials we save to the cloud.	**Do:** If using activity 2 have the students write down or type their answers. If not, the students think then raise their hands to share. Possible answers: • Office 365 Documents • Videos • Pictures • Personal Information • Websites • Messages • Games Advance to the next slide.	  

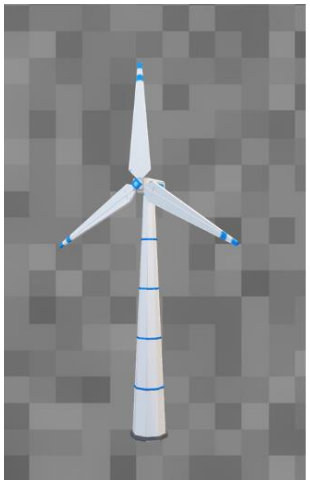
1 min	**Say: I**t's time to explore a little bit further. Let's look at what is required to run a data center.	**Do:** Play Video Advance to the next slide.	
30 sec	**Say:** Let's imagine you are on a holiday on the other side of the world during the school term. Your teacher and parents don't want you to fall behind at school so have organized some work for you to do whilst you're away. **Say:** You have access to a family device and internet. How might your	**Do:** Click through each stage as you read the script If using activity 3 ask the students to think of their own scenario. Advance to the next slide.	

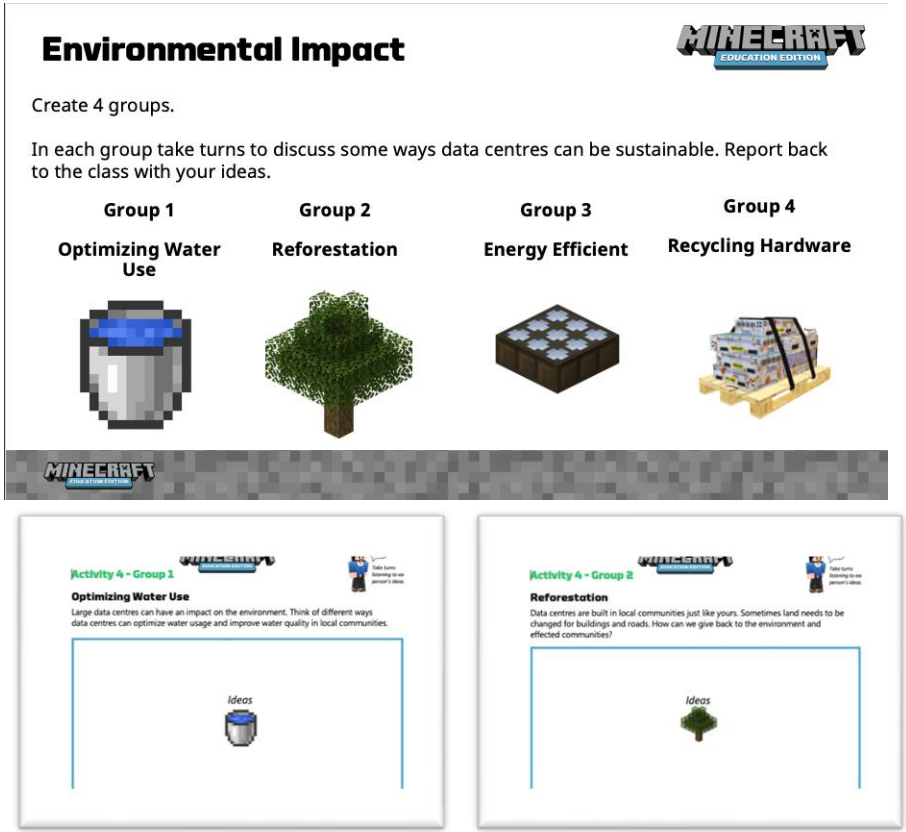
	teacher get work to you online? **Answers:** Will vary dependent on school (Email, LMS, Team, etc.) **Say:** You access your work, and it starts to load. **Say:** Where do you think the data is loading from? **Answer:** The Cloud or Data Center/s **Say:** Your computer is accessing one of the many global data centers which are large secure computer storage locations found throughout the world. We also refer to these as the cloud.		

	Say: Your information is saved and stored in multiple data centers. **Say:** Why is it important that our work or information is constantly being saved? **Say:** Because your work is saved to the cloud your teacher can see what you have done at any time providing feedback on how you are doing.		

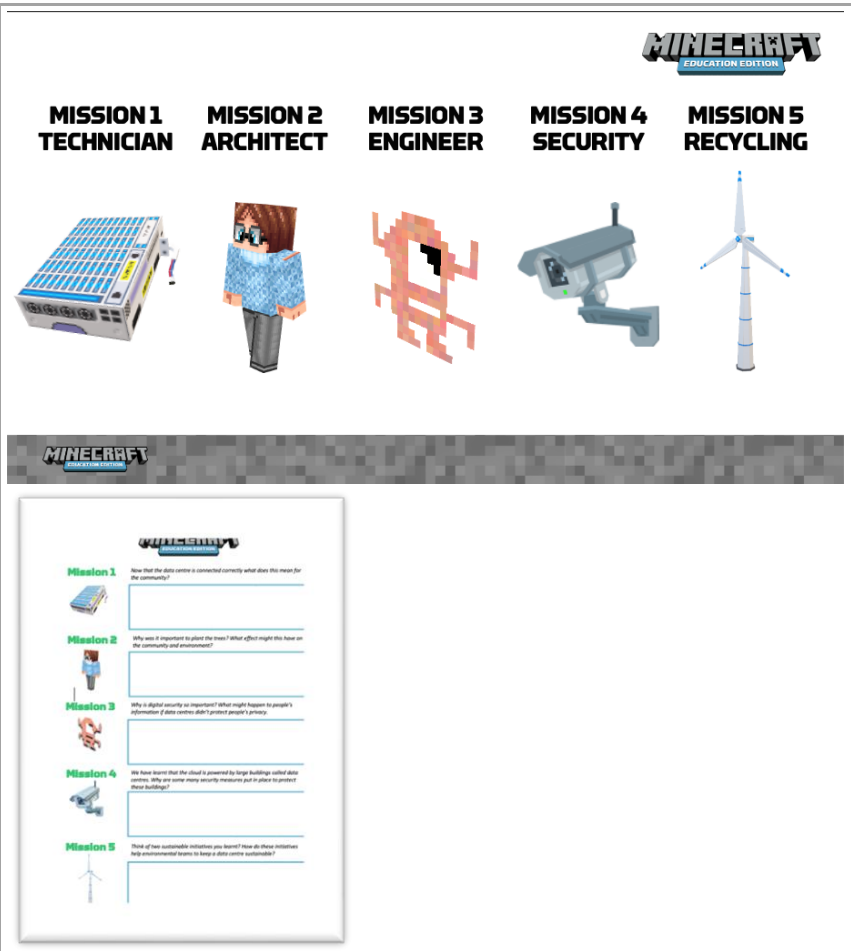
10 sec	**Say**: Datacenters are designed to facilitate the world's digital activities including the storage and management of data through sophisticated physical and logical security measures. Datacenters serve over 1 billion customers and 20 million companies worldwide. People trust with their data, processes and livelihood. In return society is provided with a safe, reliable and secure service.	**Do:** Go to the next slide.	 **Why Data Centers?** **Microsoft Data Centres are designed to facilitate the worlds digital activities including the storage and management of data through sophisticated physical and logical security measures.** **Microsoft Data Centres serve over 1 billion customers and 20 million companies world wide.** **People trust Microsoft with their data, processes and livelihood. In return society is provided with a safe, reliable and secure service.**

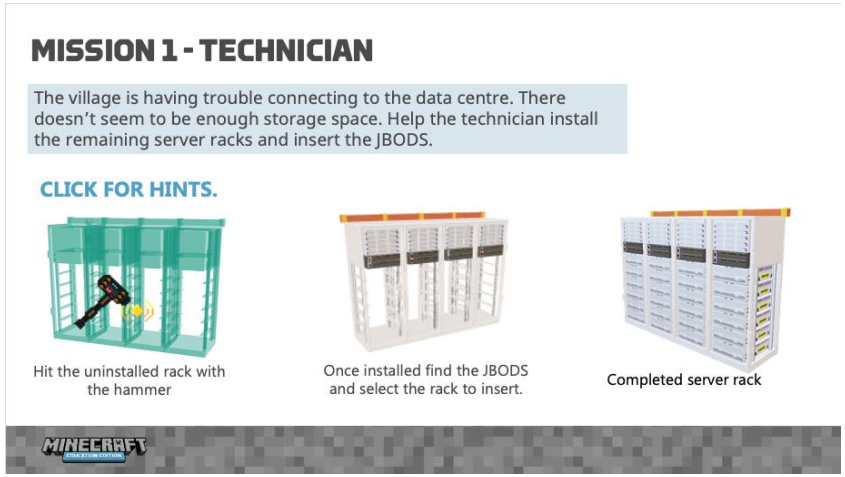
	Say: Let's think about why we use the cloud. What types of thinks do we save or how might we engage with others through the cloud?	**Do:** Click to reveal possible answers. If using activity 3 ask the students to think of their own scenario. Possible answers. • Storage Space • Connect/Communicate • Access my data anywhere • Keeping my data safe - Passwords and Usernames • Access to information/people globally Advance to the next slide.	 

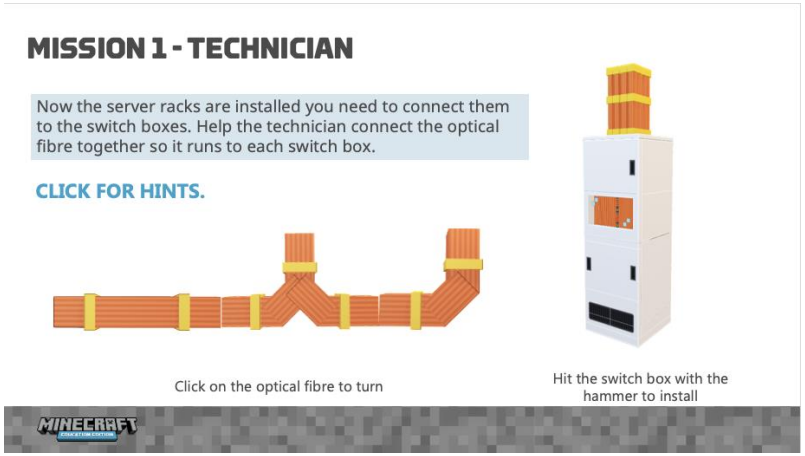
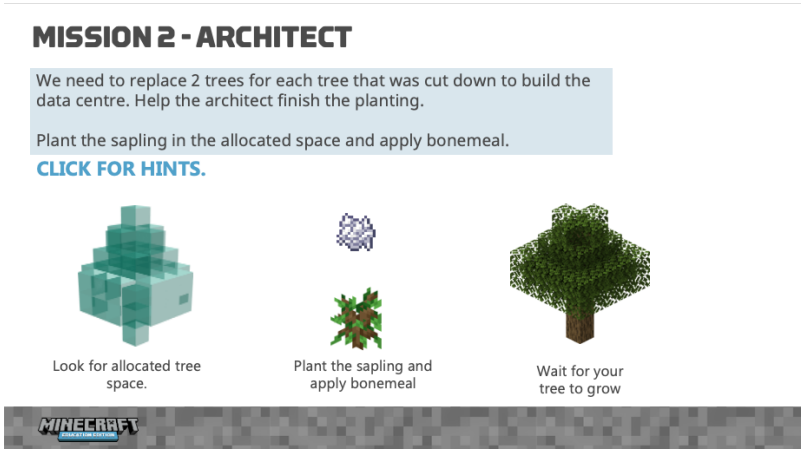
	Say: The last thing we are going to look at before we start is the environmental impact a data center can have on the environment. Datacenters exist to meet our demands. Services like online shopping, gaming and video chat would not be possible without datacenters. We must consider the impact this has on the environment. There are four key areas of environmental impact: • Carbon • Water	**Do:** Advance to the next slide.	 **Environmental Impact** Data centres exist to meet our demands. Services like online shopping, gaming and video chat would not be possible without data centres. We must consider the impact this has on the environment. There are four key areas of environmental impact: • Carbon • Water • Waste • Ecosystems

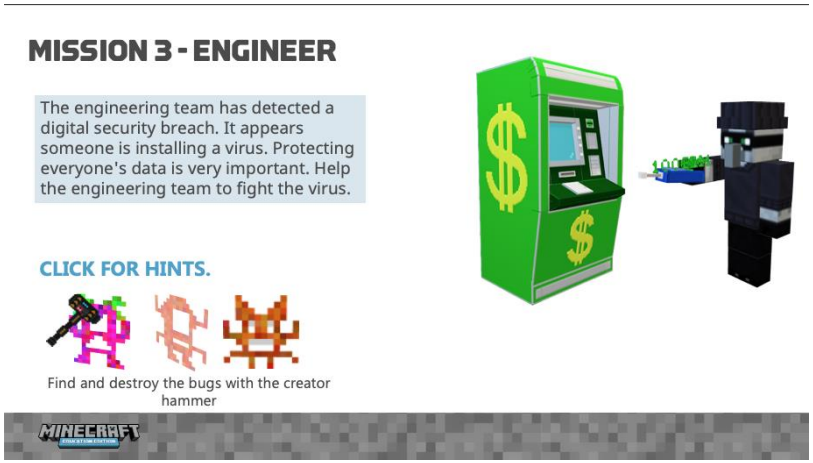
	• Waste • Ecosystems		
	Say: We are going to divide into 4 groups. Each group will be given a topic to report back to the class on.	**Do:** Divide the class into 4 groups. Each group will be given a topic. Allow enough time for each student to say and write their ideas. You may like to use activity sheets 5 to support this process. The leading questions are located on these sheets. Advance to next slide	

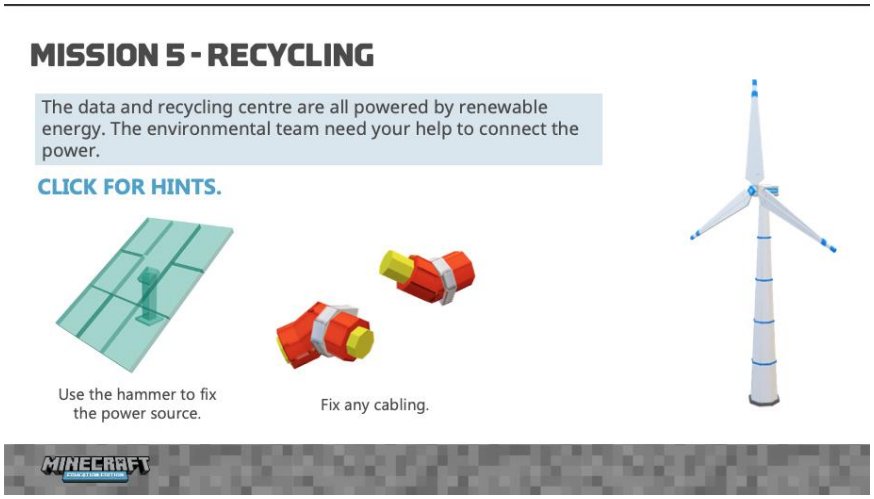
			 
	Say: Today you will arrive in an ordinary Minecraft village, however has just finished building a new datacenter. We need your help to make sure everything is up and running correctly so we can begin to provide services to the local community and world. In this world you will have five missions to complete.	**Do:** Advance to next slide	

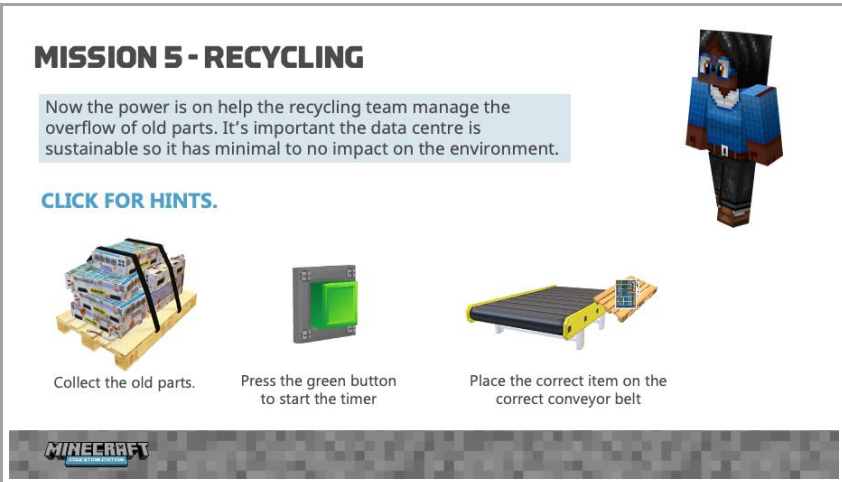
	Say: So these are the 5 missions you will need to complete. Each student will be asked to complete the missions in a random order.	**Do:** You may wish to use the Missions worksheet to support students in understanding what they have learned in each mission. Advance to next slide	

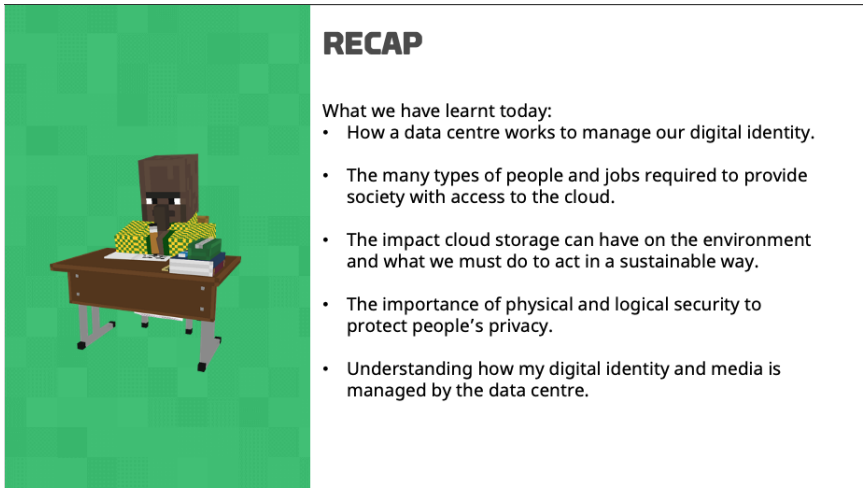
45 min	**Say:** Let's Play!	**Do:** Support Participants with starting the game. Advance to next slide	
30 sec	**DESIGNED TO SUPPORT IF PARTIPANTS NEED** **Say**: This mission is broken into two tasks. First, we must use the creator hammer to finish installing the server racks. Once all three are installed we must search the room for the JBODs and select the server racks to install them.	**Do:** Either click through slides 16 – 17 or demo in the game. Advance to next slide if required.	

	In the second part we must also install the switch boxes then select the wiring on the ground until each turns and connect to each other and the switch boxes.		
30 + sec	**DESIGNED TO SUPPORT IF PARTIPANTS NEED** **Say:** Alright, in this mission we need to replant some trees. The architect will give us saplings and bone meal to plant. We need to search from the allocated tree spaces, plant the sapling and apply the bone meal. Some planting	**Do:** Either click through slide 18 or demo in the game. Advance to next slide if required.	

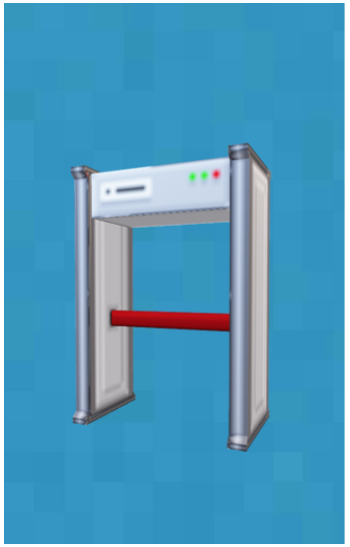
	locations maybe a bit tricky to get into.		
30 + Sec	**DESIGNED TO SUPPORT IF PARTIPANTS NEED** **Say:** So, this mission reminds me a bit of space invaders. We have been shrunk down into a computer to fight a virus. You have been given the creator hammer to fight the virus as it appears. This will get progressively harder until we defeat the virus.	**Do:** Either click through slide 19 or demo in the game. Advance to the next slide if required.	

30 + sec	**DESIGNED TO SUPPORT IF PARTIPANTS NEED** **Say:** This time we need to check the security cameras for intruders. Each time we see an intruder on the monitor we must activate the alarm and the security team will come and help.	**Do:** Either click through slide 20 or demo in the game. Advance to the next slide if required.	
30 sec	**DESIGNED TO SUPPORT IF PARTIPANTS NEED** **Say:** This mission requires a few steps in the correct order. So that we can power up the recycling machine, first we must find the broken cable and select it to fix it. After this we find out that there isn't enough power. We	**Do:** Either click through slide 21 - 22 or demo in the game. Advance to the next slide if required.	

	will have to use the creator hammer to finish installing the solar panels and wind turbines. Once the power is up and running, we can then clean up the stockpile, start up the recycling machine and sort out all the old parts. You may also notice that the recycled parts are then collected by the local community to be reused.		

10 sec	**Say:** Time to bring it all together! .	**Do:** Advance to the next slide.	
1 min	**Say:** Let's take a moment to recap what we have learnt today. We have had the opportunity to learn: • How a datacenter works to manage our digital identity. • The many types of people and jobs required	**Do:** Advance to the next slide.	

	to provide society with access to the cloud. • The impact cloud storage can have on the environment and what we must do to act in a sustainable way. • The importance of physical and logical security to protect people's privacy. • Understanding how my digital identity and media is managed by the datacenter.		

1 min	**Say:** It's also important to reflect on what we have learnt. I want you to select at least one of these questions and think of a response.	**Do:** Ask participants to answer the questions. You may wish to use the reflections worksheet to support students.	  **REFLECTION** What we have learnt today: • What was your favourite activity? • Name one way data centres help society. • Why is it important for data centres to protect our personal information? • What type of people work in data centres? • How can data centres reduce their impact on the environment?