Amazing Makers	
Video	**Activity**
Session 1	
Infomercial- This video will give your class an insight into the different roles available in the Digital Manufacturing industry. Meet Lydia and Rob, both employees at Fishtek Marine, a company that makes marine-safe technology for the fishing industry. Watch them battle in a race to make one of their products. Key Language: Marine, manufacturing, 3D printing, CO2 emissions.	<u>Make Something to Protect our Environment</u> Fishtek use technology to design and make equipment that protects marine life from fishing equipment. Can you think of something you could make to protect our environment? It could be a variation of something that already exists or something completely brand new. Use your imagination, this could be as creative as you like. It could be a drone that automatically detects litter and collects it. What would your idea look like? How would you make it? Draw and label it.
Session 2	
Workplace Tour- This video goes into more detail of the specific roles in a Digital Manufacturing company. You will see employees and the equipment they use. Introducing Fishtek! Fishtek use technology to make special equipment for fishing boats that protects marine life. Follow Lydia as she shows you around their factory, workshop and offices. Key Language: Marine, manufacturing, 3D printing, LED light, component, programming, circuit boards.	<u>Make Something to Protect our Environment</u> Get set up on https://www.tinkercad.com/ (instructions below). Have a go at using the shapes and tools to make a 3D shape. See if you can make something similar to the Fishtek objects. There are tutorials you can work through to get the hang of using this software. Alternatively: Use gridded or plain paper to design a piece of technology that could help protect the environment, this time specifically for animals or plants. This could be something used in the sea, sky or any part of the environment to protect animals or plants. Draw you design and label it.
Session 3	
Employee Profile- This video focuses on one or two specific employees and their roles within the company. Meet Rob, Head of Science and Uptake at Fishtek Marine. Key Language: Marine biology, engineering, computer aided design	<u>Make Something to Protect our Environment</u> Use https://www.tinkercad.com/ to create a 3D design of your invention from the first session. You can save your progress by exporting the design as an .stl or your progress can be saved on the Tinkercad website. Alternatively: Finish your design of a piece of technology that could help protect the environment on paper.
Session 4	
<u>Challenge: Finish 3D Design</u> Log back into the Tinkercad website and finish your invention to show a 3D model of what it would look like. Your progress should be saved on the website but if not you can upload your work from the .stl file if this is how you saved it last time. What is your invention used for? How does it protect the environment? What materials have you used? How would you make it? Whether you designed your invention on Tinkercad or on paper- have a go at presenting it to the rest of the class. What do they think? Get some feedback so you can improve your design for the future.	

Alternatively: Draw and label the type of machine that would be used to make the piece of technology you invented. For example, if you invented a drone that detects and collects litter, how would this be made? Would it be 3D printed, or each individual part be made by a different machine or person and then all fixed together?

How to set up Tinkercad:

1. Make a log in
2. Create a classroom- go to Classes > Create new class > Fill in the details > Click on the class > Click 'Add Students' and either add their first name or paste a class list.
3. This will generate nicknames for the students. Click Class Code > Click 'Copy Code' > Share the code with your students
4. Once they have typed in the code, share the list of nicknames with them so they can type in theirs.

For Students to join the Tinkercad Classroom:

1. Go to https://www.tinkercad.com/
2. Click join now in the top right hand corner
3. Click 'Students join a class'
4. Paste or type in the code from your teacher
5. Click 'join with nickname' and type in your nickname (which your teacher will share with you)
6. Click Create new design- You're ready to start your invention!