

LESSON NAME: Taking Climate Action



PREP

- Microsoft Forms app
- A3 or A4 Graph paper
- Minecraft Education App
- One to two devices per team with the Minecraft Education app installed and ready for use

VOCABULARY

- Sustainability
- 5 R's
- Zero Waste
- Weather
- Climate
- Ecosystem

RESOURCES

- [Zero Waste](#) (YouTube)
- [Climate Kids: Climate Change](#) (web page)
- [Japan's Town with No Waste](#) (YouTube)

CURRICULUM OBJECTIVES

Curriculum for Wales: Areas of Learning Experience Progression Steps 2 & 3:

- Science and Technology: Design thinking and engineering offer technical and creative ways to meet society's needs and wants
- Languages, Literacy and Communication: Expressing ourselves through languages is key to communication
- Humanities: Enquires, exploration and investigation inspire curiosity about the world, its past, present and future

DCF:

- Citizenship (online behaviour)
- Interacting & Collaborating (teamwork)
- Producing (constructions)
- Data/Comp. Thinking (problem solving & debugging)

LNF:

- Oracy across the curriculum
- Using measuring skills
- Using data skills

ALN:

- Break processes, text and spoken language down into small steps
- Ensure that key concepts and vocabulary are revisited and reused

LET'S GET STARTED

- What is climate?
- How is it different from weather?
- What is climate change?
- Break students into teams of three (four maximum) - Let's look at the roles you will take on for the activity today? (Show role definitions) Decide who will be doing what when we go to over the activity for today?
- Check for understanding and move on to the *Discover* portion of the lesson

DISCOVER

Teacher Note: Use a strict time limit of between 20 - 25 minutes to complete the following task(s).

- Work in teams of three (four maximum) with students taking on the following roles:
 - Climate Expert
 - Sustainable Construction Expert
 - Zero Waste Designer
- Using the web pages and YouTube video (See *Resources* section) teams will create a Microsoft Forms **Quiz** to assess knowledge of the vocabulary words above (See *Vocabulary* section). **Helpful Question:** Which team member(s) would be best to research this? What will you use to make your Microsoft Forms Quiz?
- Research what sustainable materials within Minecraft can be used to build a sustainable building with solar panels. ADD INFORMATION TO THE MICROSOFT FORMS QUIZ. (NO BUILDING AT THIS STAGE). **Helpful Question:** Which team member(s) would be best to research this? How will you record what materials are best for a sustainable building or to help with net zero goals?
- Teams may also add more questions to their quiz if time allows.

DESIGN

Using your researched information your team must construct a sustainable school that has the following features. Incorporate all of the features on the rubric to help your team become Minecraft Masters!

Features to include	Good	Excellent	Minecraft Masters
NPC guides (using job roles listed below)	NPC guides for 1/3 listed job roles Each NPC explains their job role 1 x URL button for more information	NPC guides for 2/3 listed job roles Each NPC explains their job role 1 x URL button for more information 1 x command button to teleport user to a feature of the Net Zero Village	NPC guides for 3/3 listed job roles Each NPC explains their job role 2 x URL button for more information 1 x command button to teleport user to a feature of the Net Zero Village
Design (A5 grid paper)	Includes: Key for materials used Net Zero Village Location of NPCs	Includes: Key for materials used Net Zero Village Recycling Centre Location of NPCs	Includes: Key for materials used Net Zero Village Recycling Centre Carbon neutral transportation Location of NPCs
Build	Must include Net Zero Village with 2 houses 1 x NPCs	Must include Net Zero Village with 3 houses Recycling Centre 2 x NPCs	Must include Net Zero Village with 4+ houses Recycling Centre Carbon neutral transportation 3 x NPCs
Book & Quill	Documents the building of the Net Zero Village Must include each teammates contribution to the build Minimum of two pages Minimum of two photos	Documents the building of the Net Zero Village and Recycling Centre Must include each teammates contribution to the build Minimum of three pages Minimum of three photos	Documents the building of the Net Zero Village and Recycling Centre with carbon neutral transportation Must include each teammates contribution to the build Minimum of four pages Minimum of four photos

Job Roles: 1. Climate Expert 2. Sustainable Construction Expert 3. Zero Waste Designer

DEVELOP

Check in plenary questions.

Check in plenary questions. The first list (1) is to be asked before the **Design** section is introduced and the teams have discussed how they will complete the assignment.

1 - Before build challenge

- Do you understand what you need to do?
- Do your expert and designer know what materials to use for the build?
- Who will use the device first to attempt the challenge?

2 - During challenge

- Has your designer completed the design? Are you following it to build your village?
- Is it a good time to switch roles and let your partner use the device?

3 - Near completion time

- Is it clear how your village exemplifies a Net Zero lifestyle? Did you follow the rubric (from the **Design** section above)?
- **Have a team who has completed the challenge assist others that are struggling**

DELIVER

EXTENSIONS:

Mild

Use of Redstone in build

Spicy

Use of pistons or floating structures

Hot

Use of coding or command blocks

DISCUSS

BE PREPARED TO ANSWER THE FOLLOWING QUESTIONS AS A TEAM AT THE END OF YOUR BUILD:

1. Did your team complete the challenge?
2. Did your team complete the mind map?
3. How did you perform together as a team (1 -10)?
4. What new information can we add to our Microsoft Forms Quiz? (Allow time for this)