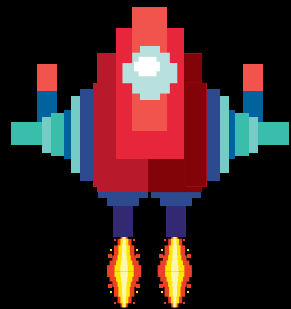# Skillscraft minigame

SPACE
TECHNOLOGY

(BGE 2nd, 3rd and 4th level)

LEARNING INTENTION AND SUCCESS CRITERIA

Learning intentions

Use the world of Minecraft to explore space travel. Consider what technology is used to help us explore space and the problems we may face.

Success looks like

- ✓ I can give examples of careers in space travel
- ✓ I can identify meta-skills used in these careers
- ✓ I can list the steps involved in a pre-launch for space travel
- ✓ I can be creative with technology to build a moon base in Minecraft

CURRICULUM OBJECTIVES

Technologies: TCH 2-12a, TCH 3-12a, TCH 4-12a

Sciences: SCN 2-06a, SCN 3-06a, SCN 4-06a

Literacy: LIT 2-02a, LIT 3-02a, LIT 4-02a

Maths: MTH 2-12a, MTH 3-12a, MTH 4-12a

Science: SCN 2-06a, SCN 3-06a, SCN 4-06a

META-SKILLS

- ■ **Self-Management:** Adapting
- ■ **Social Intelligence:** Collaborating
- ■ **Innovation:** Critical Thinking

USEFUL SPACE LINKS

Space Scotland | Scotland. The Place for Space

UK Space Agency – Educational resources

UK Space Agency – Space skills and careers resources

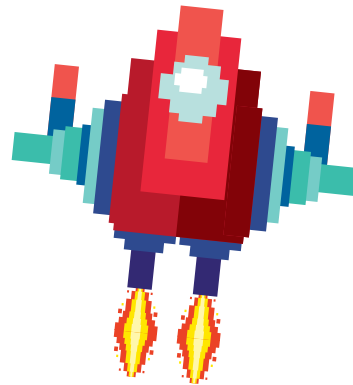UK Space - Space careers job profiles

My World of Work – Astronaut job profile

My World of Work – Aerospace Engineer job profile

Spaceperson Careers In Space

National Space Academy – Top 10 career tips

VOCABULARY

- Flight Director
- Spacecraft Communicator
- Propulsion Engineer
- Ground Controller
- Commander

LET'S GET STARTED

3-5 mins

(this can be think-pair-share or rapid response in groups)

GET THINKING

- What do we know about space travel?

- What materials in Minecraft would be best to create a rocket for space travel? List three.

- How many vocabulary word definitions could you explain to us? Ask your team and let's see who has the most.

- How many stages are involved on launch day before the actual launch? Have teams give an estimate.

DISCOVER

- Pupils can work in teams of two or individually.

- Go into the world and navigate your way to the Space Technology area and NPC, without using the portals in the main building.

- Once you find the NPC, click on the URL link.

- Be ready to share the three most important facts you find on the UK Space — Space Careers.

- Create a poster and add these facts using a mindmap.

- Blu tack the poster above your team's table for future reference.

TEACHER TIP:

**Suggest pupils write down what they learn from each NPC they meet.**

DESIGN
Space Technology: Parkour Challenge

20-25 mins

- **Pupils can work in groups of 2-3 or individually.**
- **One device is encouraged to allow for maximum collaboration. Pupils can swap roles at any time.**

TEACHER TIP:

- **Beginners should choose the difficulty Level 1**
- **Minecraft experts should choose the difficulty Level 2**
- **BOTH options are given when you approach the NPC guide**
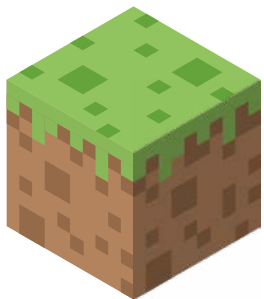
PARKOUR CHALLENGE

Your team will complete the following steps to reach the cockpit and launch the rocket:

1. Reach the Redstone torch platform. Place the Redstone torch in the marked location to activate the piston – this creates a new platform. This will allow you to continue the parkour. Players will also come across three lecterns on each 'checkpoint' platform. These contain information they need to complete the correct pre-launch sequence in the cockpit.

2. Finally, locate and use the ladder blocks to climb into the nose cone and cockpit of the rocket.

3. Once in the cockpit of the rocket, talk to the Astronaut NPC who will ask your team to complete the eight-step pre-launch sequence in the correct order. This is achieved by activating labelled buttons and levers in the correct order. If successful, launch sequence will be initiated. Next stop... the moon!

TEACHER TIP:

Suggest pupils write down the eight step pre-launch sequence each time they try this.

DEVELOP

20-25 mins
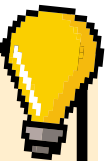
Check in plenary questions. The first list (1) is to be asked after the parkour challenge is introduced and the teams have discussed how they will complete the assignment.

1 BEFORE PARKOUR CHALLENGE

- Do you understand what you need to do?
- Who will be in charge of time management?
- Who will use the device first to attempt the challenge?

2 DURING CHALLENGE

- How far have you gotten?
- Is it a good time to switch roles and let your partner use the device?

3 NEAR COMPLETION TIME

- Has anyone found the correct sequence? What happened?

Have a team who has completed the challenge assist others that are struggling.

IF PLAYERS ARE STRUGGLING

- If players are unable to complete the minigame, you can skip to the build area using the following:
  - First, ensure cheats are enabled (press Escape to access settings, then scroll down to the 'Activate Cheats' button and select it).
  - Once you've started a minigame, press 'T' to open the command box. Then type in one of the following commands and press enter: **/function scripts/levels/technology/skip**

TEACHER TIP:

Those who finish early may move on to part two – build challenge. You may also wish to run part two as an additional lesson itself.
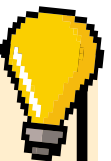
DISCUSS

BE PREPARED TO ANSWER THE FOLLOWING QUESTIONS AS A TEAM AT THE END OF THE PARKOUR CHALLENGE:

1. Did your team complete the challenge?

2. Did we find the definitions for all of the job roles/ vocabulary?

3. How did you perform together as a team?

4. What meta-skills did you develop during the lesson and the challenge?

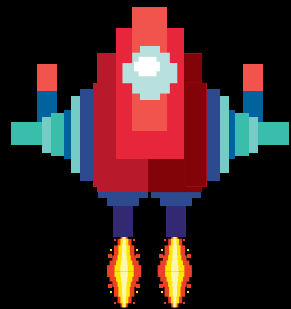5. What new information can we add to our mind maps? (Allow time for this)
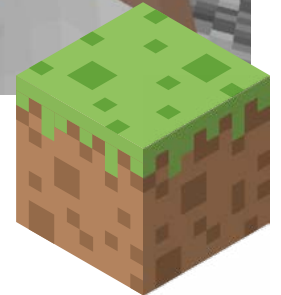
Skillscraft build challenge

SPACE
TECHNOLOGY

(BGE 2nd, 3rd and 4th level)

DELIVER

BRIEF

Design and build the first moon colony.

- Once pupils complete the parkour challenge, have the teams build a moon colony that MUST relate to the information they have learned in the minigame.

  - ☐ You now need to design and build a small moon village or colony, that can support a small population in space.

  - ☐ Think about what materials can withstand the environment, what is cost-effective to transport into space, and how to sustain a population in terms of energy, food etc.

A detailed guide on what makes a successful build is included on the next page.

You may wish to assign roles to each individual, i.e. xdesigner, project manager, builder.

Questions for teams during build challenge

1. **During challenge**

   - How far have you gotten?
   - Have you finished the design?

2. **Near completion time**

   - Is your build following the rubric?
   - Does your moon colony:
     - ☐ Match what your team designed?
     - ☐ Include the materials suggested by your team?

BUILD CHALLENGE RUBRIC

FEATURES TO INCLUDE	GOOD	EXCELLENT	MINECRAFT MASTERS
NPC GUIDES	■ NPC guides for 1/5 listed job roles ■ Each NPC explains their job role ■ 1 x URL button for more information	■ NPC guides for 2/5 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 moon colony or rocket	■ NPC guides for 3/5 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 moon colony or rocket

DESIGN (AS GRID PAPER)	■ Includes:
	  o Key for materials used
	  o Moon colony
	  o Location of NPCs
		■ Includes:
		  o Key for materials used
		  o Moon colony
		  o Rocket
		  o Location of NPCs
			■ Includes:
			  o Key for materials used
			  o Moon colony
			  o Rocket with launch pad
			  o Mission Control
			  o Location of NPCs

BUILD	■ Must include
	  o Moon colony
	  o 1 x NPCs
		■ Must include
		  o Moon colony
		  o Rocket
		  o 2 x NPCs
			■ Must include
			  o Moon colony
			  o Rocket with launch pad
			  o 3 x NPCs

BOOK & QUILL	■ Documents the building of the moon colony ■ Must include each teammates contribution to the build ■ Minimum of 2 pages ■ Minimum of 2 photos	■ Documents the building of the moon colony and rocket ■ Must include each teammates contribution to the build ■ Minimum of 3 pages ■ Minimum of 3 photos	■ Documents the building of the moon colony and rocket with launch pad ■ Must include each teammates contribution to the build ■ Minimum of 4 pages ■ Minimum of 4 photos

MINECRAFT SUPERSTAR BONUS POINTS	■ Use of
	  o Redstone
	  o Pistons
	  o Coding
	  o Floating structures		