



Scratch: Build a Rocket Game

Activity (Teaching and Learning resources included)	Duration	Description	Key Skills Developed (Assessment)	Syllabus Areas covered (National Curriculum for Wales)	Learning outcomes, differentiation
Introduce Session with basic Motion of a Sprite	5 Minutes	Students learn about input in scratch, how to make a controller.	Physical Input and virtual output	ICT	All Students will do this, some may require assistance moving Scratch Blocks
Select and adapt a Rocket Sprite	5 Minutes	Students prepare their rocket, can change its shape and colour if desired.	Art, how to draw, adapt and move sprites	Art	All students will do this, some may need assistance moving sprites and finding the correct buttons
Make a Thrust Variable	5 Minutes	Students use the Variable block and learn how to make it change based on input.	Learn about variables.	Mathematics, Equation of a Straight line $Y=MX+C$ is a good progression from this (Also available as a Scratch Lesson) ¹	All students will do this, some may require assistance
Shrink Spaceship and learn about sensing	10 Minutes	Students will shrink space ship and make it interact when touching other sprites or colours.	Sensors (Virtual Input)	Science	All students will make the spaceship sense its environment either through colour or other sprites. Some may build on this in unforeseen ways.
Draw maze and make game	20+ Minutes	Students make a Games, using what they have learnt	Art, Use all the Skills developed to make a fun game	STEAM	All Students will make a basic game, Many will add destruction effects, game over and win outputs, a few will add sound effects and more than one level.

1: <https://scratch.mit.edu/projects/129922953/>