# Lesson 9– rock:paper:scissors Game Project

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| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * In this project will be introduced to the concept of radio communication and will use it along with other familiar programming blocks to program a seemingly simple game, the act of creating real world logic and functionality in a program is a vital skill in physical computing | * Understand how to use the radio blocks to broadcast radio signals to and from a micro:bit and use them to trigger other blocks * Apply programming knowledge to solve a problem * Understand how to apply a real-life game into a computational model |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| * This project is a game which is inherently engaging * The game is two player | **Expected Progress:**   * Learners will create a rock:paper:scissors game using the radio blocks   **Good Progress:**   * Learners will create a working multiplayer rock:paper:scissors game using the radio blocks   **Exceptional Progress:**   * Learners will augment the game beyond the Success Criteria |
| Links to KS 3 Programme of Study | |
| * Understand the software and hardware components that make up computer systems, and how they communicate with one another and with other systems * Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability | |
| Key Concepts | Key Words |
| * Applying a real-world game into a computational model * Using the radio as an input and an output * Setting the radio group across all devices | * Radio * Radio groups |
| Differentiation | Resources |
| Most Learners will be able to follow the instructions however the game logic can be challenging for some learners and so they may need some support when troubleshooting the program. | * Lesson 9 PowerPoint * Lesson 9 Activity Sheet * 1 micro:bit per Learner * (optional) battery pack for micro:bit * 1 USB cable to connect the micro:bit to a PC * A PC * Access to <https://makecode.microbit.org/> |
| Lesson Flow | |
| * Introduce the game and explain the internal logic, have learners play the game briefly with a partner * Introduce the success criteria for the project * Explain what the radio blocks are and discuss some ideas on how they could be used * Show learners where the resources are on the PC * Learners work through resource independently; teacher intervenes where appropriate * Ensure that learners test the program thoroughly, this is the fun part! * Encourage more advanced learners to attempt the stretch tasks once they complete main task * Encourage learners to reflect on how their product could be improved | |
| Making | |
| There is no making element in this lesson | |