# Worksheet 6: Challenge – Pacman

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| **Learning Intentions**: We are learning to be able to … |
| Make decisions on how to integrate user events with Scratch’s motion system for a particular context. |
| *Why are we learning this?* |
| The problem solving process is an action-ongoing process, which requires you to analyse, plan, implement, reflect and refine. |
| **Success Criteria**: I will be successful if I can … |
| Develop a solution to the Pacman problem, utilising:  o A best possible control system  o Sprite sizing, direction fixing or costume adjustment where necessary  o Obeys game play laws:   * Side wall boundaries * Enemies |

## Instructions:

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| Acquire and integrate knowledge: |
| 1. Draw Pacman, setting costume center:      1. Draw maze, using a simple outline of a maze on the *background* area of the Stage:      1. add Code Blocks to Pacman:      1. Finished product, test and play:      1. Can you:    1. Add background music?    2. Add costumes for going up, down, left and right, that change?    3. Animate the costumes? |
| Extend and refine knowledge: |
| 1. Can you also:    1. Add an enemy?    2. Add edible pellets that hide when collided?    3. Add a second player?    4. Add a timer? (there is one available in the **sensing blocks area**)    5. Screen wrap a corridor / tunnel from one side of the screen to the other    6. Improve the control mechanics at all – i.e. can my Pacman maintain speed and direction without holding the keys down? |
| Use knowledge meaningfully: |
| 1. We haven’t studied variables yet, but if you want to read up on them here - <https://wiki.scratch.mit.edu/wiki/Variable> - you can, and perhaps you can also:    1. Add scoring    2. Add bonuses:       1. Super pellet pickups (invincibility, but only appear after some time)       2. Fruit (random appearing, increase score) |