# Worksheet 1: Introduction to GameMaker (GM)

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| **Learning Intentions**: We are learning to be able to … |
| Become familiar with the GM environment. |
| *Why are we learning this?* |
| So we can use GM to develop our computational thinking over the coming term. |
| **Success Criteria**: I will be successful if I can … |
| • Correctly answer teacher questions about the GM environment, including the positioning and direction system• Describe the etiquette GM programmers must follow• Be able to create, run, save and close a GM file, and retrieve it on-queue. |

## Instructions:

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| Acquire and integrate knowledge: |
| 1. Read the geometry system and GM etiquette (below the questions on this worksheet).

*The following picture applies to questions two through to six:* 1. Assuming the default dimensions of the room have not been changed, give an approximate X and Y position of:
	1. The purple square: Click here to enter text.
	2. The aqua ball: Click here to enter text.
	3. The yellow brick in the bottom right corner: Click here to enter text.

 1. What **direction** **value** (using the GM geometry system) would the aqua ball have to face to be looking towards:
	1. The purple square: Click here to enter text.
	2. The yellow brick in the bottom right corner: Click here to enter text.
2. If the *purple square* was to **move towards** the *aqua ball* **in its default direction (0)***,* would the movement be positive, negative or no change along the:
	1. X axis: Click here to enter text.
	2. Y axis: Click here to enter text.
3. If the *aqua ball* was to **maintain its default direction but head towards the purple square**, would the movement be positive, negative or no change along the:
	1. X axis: Click here to enter text.
	2. Y axis: Click here to enter text.
4. To practise saving your work, on your computer:
	1. Create a new folder to save your GM files in
	2. Open GM in **advanced** mode, and on an empty project add a room by right-clicking on the **Rooms** folder, and selecting **Create Room**:

* 1. Now save the file in your freshly created GM folder – call it “empty game”
	2. Hit Play:

* 1. Close the GM windows once you have finished
	2. Re-open GM, and find and load your “empty game” file.
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| Extend and refine knowledge: |
| 1. Browse these game titles - <https://www.yoyogames.com/showcase>
2. Which games have you played, of all these games made in GM?

Click here to enter text.1. Pick one of these games and find the awards it won (they were all made in GM):

***Undertale****: 2.5 million steam owners****Hotline Miami****: 2.2 million steam owners****Risk of Rain****: 1.5 million steam owners****Gunpoint****: 800k steam owners****Nidhogg****: 670K steam owners****Nuclear Throne****: 500K steam owners****Hyper Light Drifter****: 400K steam owners****VA-11 Hall-A****: 150K steam owners****Rivals of Aether****: 100K steam owners*(list current as of 2016)Click here to enter text. |
| Use knowledge meaningfully: |
| 1. Investigate <https://opengameart.org/> and start thinking about a game you’d like to make. Download some assets that you think are cool, you can import them later into GM. Keep your files organised.

What makes a good game? Is it better to have better graphics, or better game play? 2D games can be awesome! |

# Geometry system:

**room\_width** *global variable* default value = **640**

**room\_height** *global variable* default value = **480**

**room\_speed** *global variable* default value = **30**, meaning 30 “steps” (a.k.a. “cycles”) per second.

# GM etiquette:

1. always name sprites meaningfully (*sprite0* is not acceptable)
2. always name objects meaningfully (*object0* is not acceptable)
3. useCamelCase or under\_scores when naming.. doesn’t matter which style you use, just be consistent
4. consider the device you are building for. For example, if you are developing for a laptop, perhaps your users might not have a precision mouse
5. make it clear how to play your games. The user should not have to think unnecessarily for themselves.