**GameMaker 2 – Sprites**

***Sprites*** are the images that we use when we build our games. Games will often use dozens, or even hundreds of different sprites in its construction. When we create sprites we will also give them a name that starts with *spr*, followed by a description, with each word in the description having its first letter capitalized. Example: *sprMarioLeft*

**Vocabulary**

Origin – The part of the sprite that is considered its location. Usually the center of the sprite, but can be altered.

Collision Mask – What part of the sprite should be considered a collision.

Frame – An animated sprite will have several frames, representing the different steps in the animation sequence.

Size – The size of a sprite is measure in pixels and is expressed in (width, height) format.

Import – Bringing in an existing image to create a sprite

Scale – Changing the overall size of the sprite without changing the way the sprite appears.

Canvas – The background upon which our sprite is drawn. The canvas is usually transparent.

Speed – Measure in frames per second. This measure how quickly the frame of an animation will cycle through.

Loop – Whether or not a animation will endless cycle, or just play through once.

Ping-Pong – A ping-pong animation will go forward through the frames, then reverse through them.

Spritesheet – A single picture containing dozens of smaller images used within a single game.



**GameMaker Sprite Editing Tools**

Nearly every tool we learned in Fireworks is available to us in GameMaker:

* Magic Wand – Used to create transparent backgrounds
* PaintBrush Tool – Can select from different shape and size brushes
* Eraser Tool
* Fill Tool (bucket)
* Draw/Fill Rectangle
* Draw/Fill Ellipse
* Eyedropper Tool
* Line Tool
* Color Remove/Color Replace

\*Mirror and Flip are available from the Image menu

**Importing Into GameMaker**

* Images imported into GameMaker will often need to be resized to match the rest of the objects in the game.
* Animated GIFs will automatically be animated when imported into GameMaker.
* We will often use Spritesheets to create the sprites that will be used in our games.
* If you are more comfortable editing in Fireworks, you can still do so, then import the image into GameMaker.

**Assignment**

Create a GameMaker project called Sprites Assignment – This assignment will only require you to create sprites. For each sprite you are given the size of the sprite and, if animated, the number of frames in the animation sequence.

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| --- | --- | --- | --- |
| **Sprite Name** | **Number of Frames** | **Size(W x H)** | **Description** |
| sprSmileyFace | 1 | 64 x 64 | Create a smiley face |
| sprBouncingBall | 8 | 64 x 128 | Draw your own Bouncing Ball animation that constantly bounces up and down. Using ping-pong on this one. |
| sprPacman | 3 | 32 x 32 | Create an animation using the Pacman Spritesheet. Pacman should face to the right in this animation. Make the background transparent, also. |
| sprCharacterLeft | Depends | 32 x 64 | Pick one of the characters from the Characters Spritesheet and create four animated sprites from it. There should be an animation for up, down, left and right. |
| sprCharacterRight | Depends | 32 x 64 |
| sprCharacterUp | Depends | 32 x 64 |
| sprCharacterDown | Depends | 32 x 64 |