Evil Clutches: Stage 10

This is the final STAGE of the EVIL CLUTCHES tutorial. Do not proceed until you have completed all other stages. Since you will see much of what you are creating as you create it, there is no point in generating hypothesis statements. However, there is a Test and Evaluation to complete at the end of this tutorial. During this game build, you may have thought that the **room** for your objects is a little boring since it is grey. In STAGE 10, you will add basic **background** art to the game **room**. You will also add **sound effects** to the objects and background music that **loops** to make the gaming environment more exciting. As you created your objects from the assets, you may have noticed that the asset folder contains several different types of **file formats**, also called **file types**. They are all identifiable based on the **file extension** after the file name. This is the set of letters that come after the file name and the "dot" (period). Examples of these are *.gif*, *.bmp*, *.mp3*, *.wav* and so on. If the file extensions are not visible in the Evil Clutches Assets folder, your teacher will show you how to change the file list so it shows **file extensions** (or right click on each file to see the full name in the properties). The **graphic assets** used for objects in Evil Clutches are *.gif* files (Graphics Interchange Format) for objects and *.bmp* (bitmap) for the background. The **audio assets** needed to create sound effects and music uses *.wav* (waveform audio file) and *.mp3* (Moving Pictures Expert Group) files. You will deepen your understanding of **file types** in later lessons. For now, it is important to know that there a various formats and that it will be up to the programmer to know which ones work best for the game being created.   Add the *new vocabulary* definitions from the Glossary to your Tutorial Guide.

(▶) YOU MAY USE THE TEST BUTTON IN THIS ACTIVITY AS YOU WISH TO SEE THE ROOM.

START HERE: Make sure you are in advanced mode and that you open your file *initials_clutches*.

STAGE 10a:

Placing a background in your room

1- Select **Create a background** from the menu bar.
2- Click on the **Load Background** button. Find and select the ***background.bmp*** file from the Evil Clutches Assets folder.
   NOTE: The background file is a Bitmap with a size of 640 x 480 pixels. This is the typical file format and pixel area for backgrounds in Gamemaker.
3- In the Name field, save it as ***bkgd_cave***. Don't check any of the boxes.
4- Click the **OK** button.

Rooms and Backgrounds

Every story that is played out in a game occurs in a **room**. The **room** is the area or space where game play takes place. During this build, you have placed instances of your objects in a room. Rooms may even change as a player gets better, moving from room to room as the level of play becomes more challenging. Rooms should have a **background**. This is the artwork that sets the mood and the story for the gaming environment. Future tutorials will show you how to design programs for higher levels of play, including the advanced use of multiple **rooms** and **backgrounds**. Read more in about it Concepts Explained.
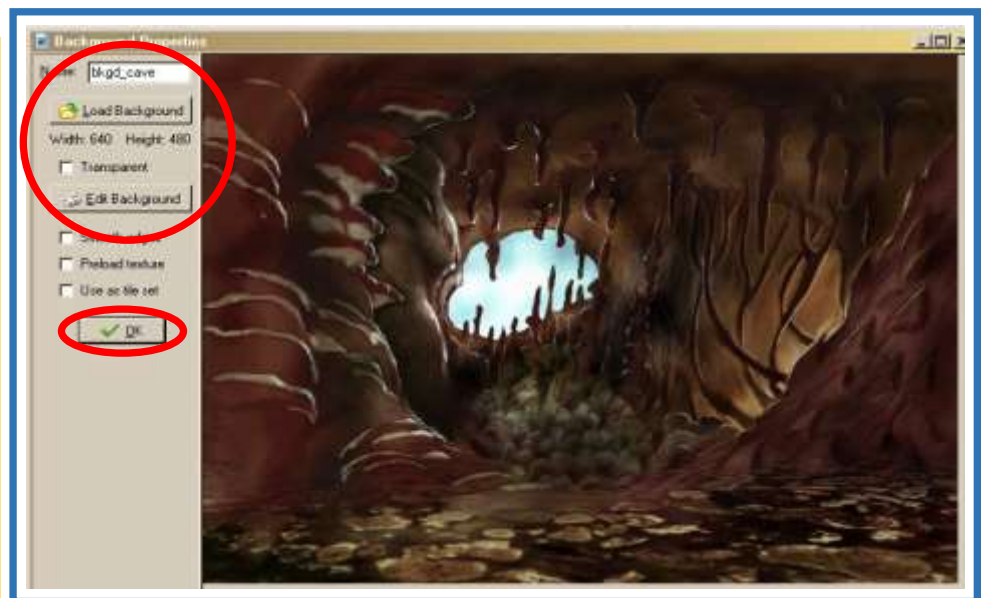
SAVE YOUR GAME

5- Re-open *room_first* by clicking on the filename under the **Room** folder.
6- Select the **backgrounds** tab. Change **<no background>** to the *bkgd_cave*.
7- Uncheck the box at the top for **Draw background**. Uncheck the boxes for **Tile Hor.** and **Tile Vert.** These properties are not needed because the 640 x 480 pixels size should fit in the room perfectly.
8- Click on the **Green Check mark** button near the top. The room is finished!
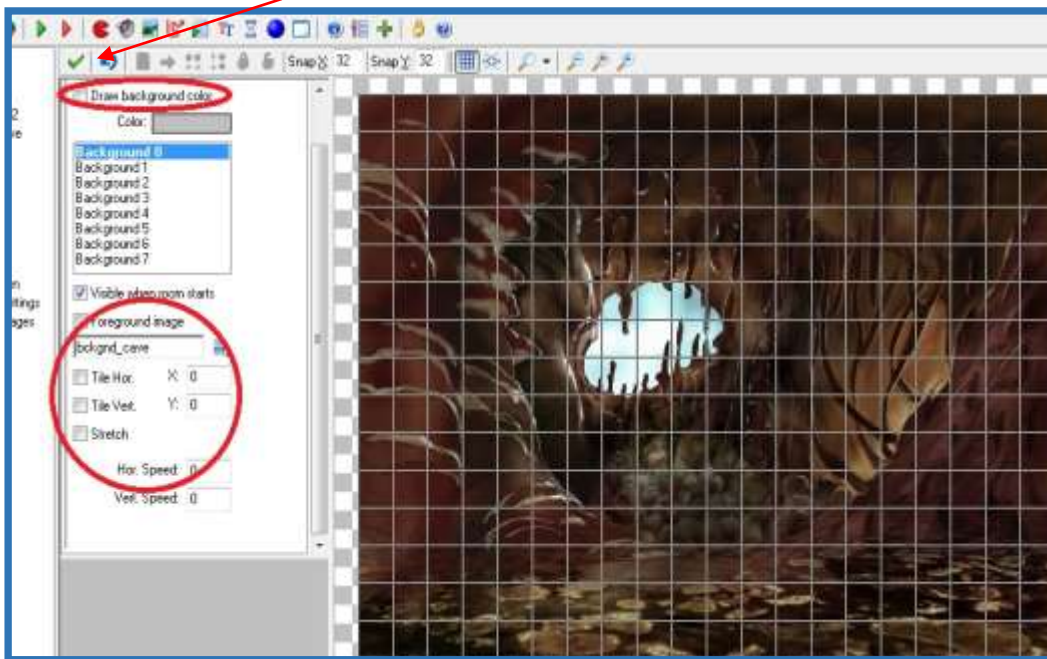
Graphic assets

Computer files are comprised of information, or data, saved in specific **file formats**. A **file format,** or **file type,** is the way the bytes of data are organized and stored so that they can be recognized by programs. Gamemaker recognizes numerous formats. In this game, you used two graphic, or image, formats for objects. They are GIF (Graphics Interchange Format) and BITMAP. The **file extensions** *.gif* and *.bmp* help you identify the file type. As you learn more about different kinds of computer files, learn to look for **file extensions** (the dot followed by several letters) at the end of a file name. You will study more about **file types**. Look for this in Concepts Explained.

STAGE 10b:

Sound for music

1- Click on the **Create a sound** icon on the toolbar, then click the **Load Sound** button. Find then select the *Music.mp3* file in the Evil Clutches Assets folder.
2- In the Name field, save it as *snd_music.*
3- Click the **OK** button.

MP3 (file extension .mp3)

The *Moving Pictures Experts Group (MPEG)* is a panel of experts who were formed to create international standards for audio recording. One of the **file formats** that was standardized is the *MP3* format, which stands for *MPEG 1 Audio Layer 3*. In this file format, sound frequencies that can't be heard by the human ear are removed from sound data. This greatly reduces the number of bytes in the, making it much smaller. This makes the file faster and easy to process in audio players, computer games, and other presentations. Because they are smaller, *MP3* files can be transferred faster on the internet. You will learn more about file formats in future tutorials. Read more about them in Concepts Explained.

SAVE YOU'RE THE CHANGES YOU HAVE MADE

4- Open up *obj_boss* and open up the **Create Event** that is already in the properties.
5- From the **Main 1** tab, drag a **Play a sound** action.
6- Select the file *snd_music*.
7- Select **true** in the **loop** field.
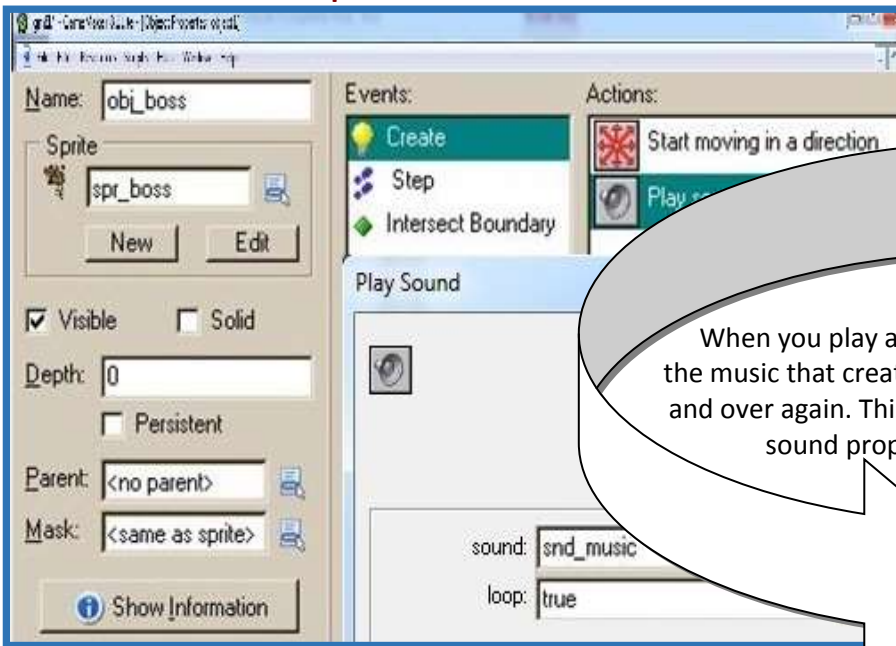
When you play a computer or video game, sometimes the music that creates a mood for the game will repeat over and over again. This is called a **loop**. You can program your sound properties to do this in Gamemaker.

STAGE 10c:

1- Create sounds for *snd_demon* and *snd_baby* from *Demon.wav* and *Baby.wav* in the assets folder following the same procedure in STAGE 10a, STEPS 1, 2, & 3.
2- Open up **obj_demon.** Open the **Collision Event** with the **obj_fireball.**
3- From the **Main 1** tab**,** drag and drop a **Play a sound** for **snd_demon.** Leave the loop set for **false**.
4- Open up **obj_baby.** Open the **Collision Event** with the **obj_fireball.**
5- From the **Main 1** tab**,** drag and drop a **Play a sound** for **snd_baby**.

WAVE (file extension .wav)
The *Waveform Audio File Format (WAVE)* is another **file format** for audio. These files are not as small, or compressed like *MP3*. Because of this, the audio held in this file is closer to its raw recorded form. Hence, the quality may be a little better. A sound in .wav format will likely be larger than the same sound in .mp3. Hence, it will take longer to process than .mp3. Your demon and baby **sound effects** are much shorter in duration than your music files and they will play without a **loop**. Since this is the case, it makes sense to use the higher quality **file type**. Read more about it in Concepts Explained.

(▶) TEST THE GAME AGAIN, THIS TIME OBSERVING ALL ASPECTS OF THE GAME BUILD.

DO THIS ON YOUR TUTORIAL GUIDE

STAGE 10 FINAL TEST & EVALUATION: After testing, answer the following questions.
- **Does the background appear as it does in the tutorial image?**
- **Is the music playing smoothly in a loop?**
- **Do all of the objects produce a sound effect during collisions?**

IT WAS FUN TO BUILD. HAVE FUN PLAYING EVIL CLUTCHES. YOU'LL HAVE TO SAVE IT FIRST!