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**Question 2a:**

A particle system in Unity allows the developer to add visual effects to the game. These visual effects can enhance the player experience and add to the game environment. Example visual effects include snowflakes, explosions, rain, mist, etc.. Particle systems can be created inside Unity itself through the console or be imported as an external asset. One example is in the popular game Fortnite. When shooting a gun, there usually is a visual effect emanating from the gun to show that it has been fired. The visual effect from a shotgun is usually more prominent than the visual effect from, say, a pistol. This feedback can help a player recognize what weapon they’re using (aside from all the other indicators).

**Question 4a:**

Animation Controller: The animation controller is a state machine that controls the animations a GameObject undergoes when under a certain state as well as the transitions to go from one state to the next.

Animation: An animation in Unity refers to the motion that a GameObject performs during a certain state. Animations can be imported from external assets or made inside Unity.

Transition: A transition in Unity is the movement from one state to another state in the corresponding animation controller. Transitions can be triggered through two ways: (1) exit time or (2) conditions. With exit time, the transition will occur after a certain period of time regardless of anything else going on in the game. With conditions, the transition will only take place when a certain condition has been met. For example, a zombie will only go into the walking transition from idle when the player goes close enough to the zombie.