

5.

- a. In Unity, collision detection is provided by the **box collider**, which defines a box-shaped collision area around a GameObject. The **Rigidbody** component allows a GameObject to act under the control of Unity's physics engine, which includes collision detection. There is a callback in Unity named **OnCollisionEnter** that can perform actions based on the collision detected in-game. This callback uses the **other** parameter that passes the information about the GameObject that has collided.
- b. True; example: if you were to add the same script to two wall objects and programmed a debug statement to state how many times the player has collided with the wall, colliding with Wall 1 would print out "1 time(s)," and colliding with it again would print out "2 time(s)." If you then collide with Wall 2, it would print "1 time(s) again." This is because Unity creates a separate instance of the script for each GameObject, so the collisions are handled locally.
- c. The GetComponent method in Unity is used to retrieve a reference to a component attached to a GameObject. An example would be accessing the Rigidbody's gravity component or the Mesh Renderer's color component. This method takes a component type (Rigidbody, MeshRenderer, etc.), which is placed in angle brackets (<>).