5a) The world coordinate system defines the positions and orientations of the GameObjects in the entire scene. The origin is always fixed at (0, 0, 0) in the world space. An example of a world coordinate system is in Assassins Creed how the locations of each area on the map are all relative to the world coordinate system, which could be measured by some form of longitude and latitude.

5b) The coordinate system relative to a GameObject’s own transform. The origin is centered at the GameObject’s pivot point wherein the axes are oriented based on the object’s current rotation. The local coordinate system of a car game object determines the movement of the car alone based off the direction that its wheels are facing.

5c) Vector3 is used to manipulate positions and directions in Unity. Vector3.forward and vector3.back make the GameObject move along the Z axis. Vector3.right and vector3.left move GameObject along the X axis. Vector3.up and Vector3.down move GameObject along the Y axis.

5d) The Rigidbody.AddRelativeForce method applies on a rigidbody relative its local coordinate system. It is used to move objects relative to their orientation. An example of a relative force added to a rigidbody component would be one that causes a bullet to leave a gun in a first person shooter.

5e) The Input.GetKey method is used to bind a key to an input that is recorded by Unity. The KeyCode enum defines the different keys on the keyboard. One example is that Input.GetKey(KeyCode.W) is a classic was to make a player move forward by pressing the key W.