# Unit 1 - Lesson 1. Introduction to Unity and C# (pronounced as C-sharp)

**Aim:**

* How do we write a simple C# script and run it in Unity?

**Objectives:** After the lesson, students should be able to:

* Obtain basic understanding of video game development
* Obtain basic understanding of Unity
* Obtain basic understanding of C# Scripting and syntax

**CLASS PROCEDURE:**

***Ice – breaker:***

Take out your cell phone, pick a photo and share it with your neighbor. Tell your neighbor one of the most interesting thing you did in the summer.

***Do Now:***

1. List three of your favorite games.
2. What are the different types of games?
3. What is a good game? What is a bad game? Give a couple of examples and justify your reasons.

***Pair – sharing Activity #1:*** Create an Unity account and Unity ID if you do not already have one.

Go to [www.unity.com](http://www.unity.com), click on “sign in” to create a new Unity account and an account ID. You may use your school email and information. Choose the FREE indie version instead of the professional version.

***Discussion / Presentation:***

1. What is Unity? Why is Unity one of the most popular game engines?
2. What are the other popular game engines besides Unity?
3. Where can we find the course outline and what are the expectations?

***Pair – sharing Activity #2:***

1. Work with your partner, use online resources as references and “translate” the following C# program into Java, and explain what the script would do?

using UnityEngine;

using System.Collections;

public class Test : MonoBehaviour {

public int numBoxes = 10;

public float spacing = 1.41f;

public GameObject[] boxes = new GameObject[10];

// Use this for initialization

void Start () {

for (int i = 0; i < numBoxes; i++) {

GameObject box = GameObject.CreatePrimitive(PrimitiveType.Cube);

boxes [i] = box;

}

}

// Update is called once per frame

void Update () {

int i = 0;

foreach (GameObject go in boxes) {

float wave = Mathf.Sin(Time.fixedTime + i);

go.transform.position = new Vector3(i\*spacing, wave, 0);

i++;

print (i);

}

}

}

1. Open Unity, create a new project and make sure it’s on your USB flashdrive. Save the scene as “Test” and then add a C# script test.cs to the main camera. Open the script in Visual Studio and copy paste the code above to the script. Save the script, build solution and test it in Unity and see what happens.

***Class Discussion:***

Based on the program given, what are some of the differences between C# and Java?

***Pair – sharing Activity #3:***

1. write a C# script to place 25 cubes on the Unity game scene screen in 5 x 5 format with appropriate spacing. (Hint: research on C# 2-D array).
2. Make the cubes “dance” in your favorite pattern.