

# A TechSpace for Kids

## Game Design & Coding Camp



### Game Design (Grades 6-8)

01  
Session

1. Students will learn how to use various game design tools to construct their own games.
2. We transition students from playing games to making their own games.
3. While learning to make games students learn to apply mathematics concepts such as coordinate geometry, randomization, and time to their designs.
4. Final Project: Students will design, code and present a game in the Scratch visual programming language.



### Android Mobile App Development: App Inventor (Grades 6-8)

02  
Session

1. In this course, students will use the App Inventor visual programming language to design and build their own Android app.
2. Students will work on 3- 4 small App projects that are designed to teach them Computational Thinking Concepts: decompose, pattern matching, abstraction and algorithm.
3. Final Project: Students will design, build, and present an Android app.



### Intro to Python/ Python 2 (Grades 6-8)

03 04  
Session

1. Programming is introduced using Python, the language used by major companies like Google, Facebook, Instagram and major universities.
2. Emphasis is placed on event-driven programming methods, including creating and manipulating objects and classes.
3. Final Project: Student will code a game

NOTE: Python 2 for Grades 6-8 Session 4

## Grades 6 - 8

Session 1: July 16 - 20

Session 3: July 30 - Aug 3

Session 2: July 23 - 27

Session 4: Aug 6 - 10



### Game Design with Python (Grades 9-12)

01  
Session

1. Students will learn how to use various game design tools to construct their own games.
2. We transition students from playing games to making their own games.
3. While learning to make games students learn to apply mathematics concepts such as coordinate geometry, randomization, and time to their designs.
4. Final Project: Students will design, code and present their game idea in Python programming language.



### Introduction to Java / Jav 2 (Grades 9-12)

02 04  
Session

1. This course introduces computer programming using the Java programming language with object-oriented programming principles.
2. Emphasis is placed on event-driven programming methods, including creating and manipulating objects and classes.
3. Final Project: Student will code a game

NOTE: Java 2 for Grades 9-12 Session 4



### 3D Game Design with Unity (Grades 9 -12)

03  
Session

1. Development of programming skills using Unity3D game engine and C# scripting language.
2. 3D concepts for game play, modeling, and programming.
3. Creation of original 3D object models for game world with incorporation of pre-created generic models.
4. Final Project: Students will create a 3D game

## Grades 9 - 12

