

# COMPUTING ACTIVITIES



## General Computing (30 minutes)

### 0. Pathways In Computing Talk

During this talk, the different pathways and opportunities in Computing are discussed. This includes exploring the typical career trajectories from the various Computing degrees available.



**COMPUTING OVERVIEW**



## Masterclass sessions (60 – 90 minutes)

### 1. Secret Codes in Python

Use Python to create a computer program that can encode and decode secret messages

### 2. Introduction to Coding

This session is aimed at those with little or no coding knowledge but want to find out more and try out some live coding. We will step you through a series of simple hands-on principles as we code together.

### 3. Online Arduino Programming

Using Online Arduino, code a program to demonstrate and harness the power of the Internet of Things and see how to connect devices.

### 4. Create your own website

Using online or on device tools (MEAN Stack) create a simple website to show the ease with which we can create meaningful content.

## Masterclass session (60 – 90 minutes)

### 5. Sensing and visualising weather data

Program a temperature sensor to collect and visualise weather data. Explore how to use connected 'smart devices' to the cloud and join physical devices with software to create an end-to-end smart solution.



## Taster session (30 minutes)

### 6. Introduction to Internet of Programming - Burglar detection system

Have a play with Internet of Things in action with this burglar detection system. An Introduction to IoT, one of the core components of smart computing and interconnected smart devices.

**SMART COMPUTING**



## Masterclass session (60 – 90 minutes)

### 7. Business & Technology Safari

Engage in a simulation activity that requires decision making based on business market conditions that impact the success of a business. This provides a fun and engaging method towards understanding potential factors that impact businesses placed in a competitive environment.

## Taster session (30 minutes)

### 8. Business Strategy Simulation

A introduction to applying business tactics to gain a competitive edge through a hands-on game simulation

## Masterclass session (60 – 90 minutes)

### 9. Make a Game

Use Unity and C# to make a computer game  
*On campus only activity*

## Taster session (30 minutes)

### 10. Game QA

Play an online game and explore how to improve aspects of the game to form ideas about how you might create a game





## Masterclass session (60 – 90 minutes)

### 11. Digital Detectives

Try out your cyber security skills as you uncover and piece together the secrets of digital data

If there are specific activities you would like that are not in this pack, please get in touch to discuss



**SOMETHING ELSE?**

**Sheffield  
Hallam  
University**  
**Knowledge Applied**