1: Scratching the Surface

This lesson will cover

- The Scratch environment, including
  - Sprites & stage
  - Properties
    - Scripts
    - Costumes/backgrounds
    - Sounds
- Creating a program with animation & sound

Introduction

Watch the video introduction to Scratch. This will introduce you to Scratch and its screen layout.

http://www.youtube.com/watch?feature=player_detailpage&v=jxDw-t3XWd0

All the world’s a stage

A Scratch program contains sprites (characters) that “perform” on a stage. Sprites and the stage have three kinds of properties (or settings):

1. Scripts
   These are the instructions that control a sprite. Scripts are made from blocks.
   There are eight different kinds of blocks – to do with motion, control, looks, etc. – and over 100 blocks in total. Note that sprites need scripts to perform a task.

2. Costumes/Backgrounds
   Costumes are “outfits” for a sprite. The same sprite can have several costumes and so be made to look completely different.
   The stage can have different backgrounds which can be changed. Backgrounds are just like costumes for the stage.

3. Sounds
   These are sounds that sprites or the stage can use. Again, each sprite (or the stage) can have many different sounds. Scratch lets you import (bring in) recorded sounds or even record your own using a microphone.
Task 1: Up on the Catwalk

Watch screencast Catwalk.

This will go over the main elements within Scratch and take you through the task of creating your first computer program. If you get stuck, go back in the screencast or ask your partner.

Task 2: Frère Jacques

Watch screencast FrerelJacques.

This will show you how to create a simple tune in Scratch. If you get stuck, go back in the screencast or ask your partner.

Did you know...? Frère Jacques is one of the best-known songs in the world. It is a French song about a religious monk (“Brother John” in English) who has the job of ringing the morning bell before the days of alarm clocks. Unfortunately, poor Jacques has overslept!

Task 3: My Tunes

Once you have completed Task 2, try creating a program that plays another simple song. Choose one where lines of the music repeat, so you can use the repeat command.

Congratulations – you have just started your journey to become a computer programmer!
Putting things in order

Blocks in the same script get executed (carried out) in sequence, one after the other. Blocks in separate scripts can sometimes be executed at the same time. This is called parallel processing – having the computer do more than one thing at a time.

For example, if you have several scripts, they will all get executed together when the green flag is clicked.

Extension 1: Dance away

Try to make a sprite dance in time to your music, starting the program when the green flag is clicked. There are two ways you could do this:

- create a single script that includes the sprite movement blocks amongst the play note blocks
- have separate scripts for the same sprite – one script plays the tune whilst the other makes the sprite dance.

You can find another screencast (Dancing Queen) to give you some inspiration at http://info.scratch.mit.edu/node/164.

Make sure you create a tune, rather than just use a music loop, though!

Extension 2

Experiment by adding some other blocks to your program, such as the looks blocks e.g.

These let you create some really fun effects!