

# Introduction to Programming

Scratch  
Lesson 2

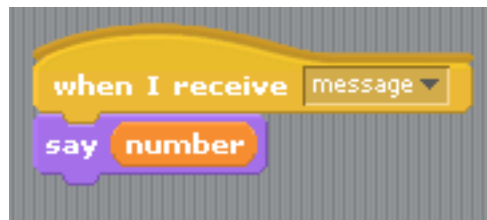
# Goals

- Events
- Keyboard interaction
- Creating Sounds and Images (Multimedia)
- Threads

# Events



```
when clicked
  set number to pick random 1 to 10
  say number
  if number > 5
    think Greater then 5
    broadcast message
  else
    think Less then 5
```



```
when I receive message
  say number
```

## Exercise:

What does this code do?

# Keyboard interaction



## Exercise:

### Program

- Up Arrow
- Down Arrow
- Left Arrow
- Right Arrow

to move your sprite in the correct direction

# Looks

## Exercise:

- Say something or think about something each time you change direction



# Sound: Record Sound

play sound

when space key pressed

play sound laugh

whenever space key is pressed  
play this sound

If your computer has a microphone, you can record your own sounds.



Go to Sounds and click Record.



Use this to record.  
Then click Okay.

play sound pop

Choose your sound  
from the menu.

# Images: Import images



# Threads

## Exercise:

Create a program as follows:

1. Get one sprite (*Sprite1*) to move around the screen in a random way when the green flag is clicked.
2. Use the keyboard to control the movement of the other sprite (*Sprite2*).
3. If *Sprite1* touches *Sprite2*, create an action by adding a sound and saying something
4. Count how many times *Sprite1* touches *Sprite2* by adding a variable

# Introduction to Programming

Scratch  
Lesson 3

# Goals

- Revising using Scratch cards
- Creating a Scratch Project

# Scratch Cards Checklist

- Change the Colour of your sprite
- Move to a drum beat
- Use the arrow keys to move your sprite
- Say something
- Glide
- Follow the mouse
- Dance and twist
- Interactive Whirl
- Animation
- Moving Animation
- Surprise Button
- Keep Score

# Project

Create a project that contains

- Repetitions
- Conditionals
- Variables
- Interaction with the keyboard
- Events

# Fetch

- There is 1 flag
- There is 1 player
- There is 1 zone
- There is 1 counter for the number of times the flag has been in the zone
- Goal:
  - Get the flag and return it to the zone

# Race

- Add an opponent that also tries to get the flag
- Add a counter for the number of times the opponent returns the flag to the zone

# Capture the flag

- The course is divided into 3 zones. It is impossible to leave the course
  - Red
  - Blue
  - White (Neutral)
- There are 2 flags on the course with fixed starting positions
  - Red flag
  - Blue flag
- There are 2 players with fixed starting positions
  - Red player
  - Blue player
- Goal:
  - Capture the flag of the opposite color and bring it to the zone with your color to get a point
- Rules:
  - If you have a flag and is touched by the other player you and the flag return to their starting positions
  - The one with the most points in the end wins

# Scratch Project



- Describe your project before you begin in Project Notes
- Describe the statements for each sprite in Project Notes

# Scratch Project



- Click Share
- Create an account
- Supply a project name.

# Music

## Exercise:

Music scale = CDEFGABC or doh, re, mi, fah, soh, la, te doh.

- Play a scale or a tune by mapping keys on your keyboard to the musical scale
- Use Looks to change graphic effect of the stage background and synchronise with the music
- Use iteration to create loops
- Can you create a composition?

