Autumn 2015

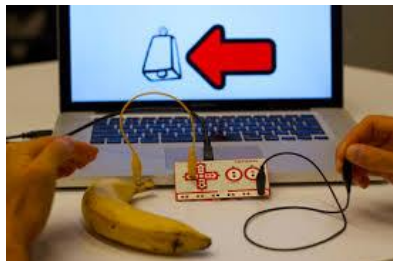## Computing / Coding / Technology Directory

Equipment and Kit ideas:

1. **Raspberry Pi:** The Raspberry Pi is a low cost, **credit-card sized computer** that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing, and to learn how to program in languages like Scratch and Python. It's capable of doing everything you'd expect a desktop computer to do, from browsing the internet and playing high-definition video, to making spreadsheets, word-processing, and playing games.

Books to accompany the Raspberry Pi:

- Adventures in Raspberry Pi (ISBN-10: 1119046025)
- Raspberry Pi for Kids (ISBN-10: 1781064148)
- Raspberry Pi for Dummies (ISBN-10: 1118904915)
- Raspberry Pi 2: The Beginners Guide (ISBN-10: 151157951X)

2. **Makey-Makey Kit:** MaKey MaKey is an invention kit for the 21st century. Turn everyday objects into touchpads and combine them with the internet. It's a simple Invention Kit for Beginners and Experts doing art, engineering, and everything inbetween. The kit will include everything you see above: MaKey MaKey, Alligator Clips, USB Cable.

3. Arduino: Arduino is an open-source prototyping platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online.

4. Kano Kit: Kano is a DIY "computer kit designed to help people of all ages assemble a computer from scratch, and learn basic coding skills."

5. Lego Minestorms: LEGO MINDSTORMS is a programmable robotics construction set that gives you the power to create and command your own LEGO robots. The new LEGO MINDSTORMS EV3 set includes everything you need to create robots that walk, talk, move and do whatever you want them to.

Coding Books

Scratch Coding:

- Scratch Programming: ISBN 1840786124
- Super Scratch Programming Adventures: ISBN 1593275315

- Coding for Kids (Scratch): ISBN 1781064504

KODU: (Very few guides as most of the information is web based and can be found on the KODU website)

- KODU for Kids: ISBN-10: 0789750767

Python:
- Python Basics (Levels 1-3): ISBN-10: 110765855
- Python for Kids: ISBN-10: 1593274076

Java:

- Java in Easy Steps: ISBN-10: 1840786213
- Java programming for kids: ISBN-10: 1503032434

Coding / Programming Apps

- Scratch JR
- Kodable Class
- Daisy the Dinosaur
- LightBot
- Move the Turtle
- My Robot Friend
- Cargo Bot
- ScriptKit

Websites

www.techwillsaveus.com Technology Will Save Us is one of the UK's most exciting design-led, technology start-ups focused on learning. We are on a mission to provide families, educators and young people – of all ages, backgrounds and interests – new opportunities to learn and create using technology. They provide hands on learning with technology that includes DIY Gadget kits, activities and online resources.

https://scratch.mit.edu Scratch is a programming language and an online community where children can program and share interactive media such as stories, games, and animation with people from all over the world. As children create with Scratch, they learn to think creatively, work collaboratively, and reason systematically. We use Scratch in at The Hall School as part of our Computing curriculum.

www.python.org Python is a widely used general-purpose, high-level programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than would be possible in languages such as C++ or Java.