# Code Pirates

Primary Computing resources

for

# EU Code week

7th - 22nd Oct 2017

Curriculum ICT & e-learning Team

Northumberland

Northumberland County Council

# Introduction

This pack of Primary teaching resources has been produced by the Curriculum ICT Team to support Europe Code week.

Within the pack you will find a range of coding activities for pupils from Nursery through to Year 6.

All the activities follow the pirates theme and there are unplugged tasks, where pupils can engage in coding through paper based activities, as well as computer based activities.

The materials in the pack may be used in a number of ways, ranging from the whole school being involved to individual classes, code clubs or as an activity in the local library.

Included in the pack are launch materials for a school assembly. It is for the school to decide how they structure the activities in their school, these could take place for a day or over a number of afternoons during the week.

It is suggested that if the launch materials are used, then there should also be a plenary event (follow up assembly) where children engaged in the different activities 'report back' on how they tackled the tasks.

The activities are planned to cover the following year groups, but as with most activities, depending on the ability and previous experience of pupils you can shuffle them around.

| Year | Theme | Unplugged activity | Computer activity |
|---|---|---|---|
| Nursery / Reception | All aboard | Walking the plank | Little red pirate ship (Direct control mode) |
| Year 1 / 2 | Treasure Island | Treasure maps | Little red pirate ship (Coding mode) |
| Year 3 / 4 | Pieces of Eight | Load the treasure | High seas adventure (Guided) |
| Year 5 / 6 | Secret codes | Counting the treasure | High seas adventure (Self managed) |

CODEWEEK

Europe Code Week is a grassroots initiative which aims to bring coding and digital literacy to everybody in a fun and engaging way.

7-22 October 2017

# Overview of activities

The theme of the pack is Code Pirates and there are a range of activities for children from Nursery/ Reception to Year 5/6.There are two types of activity in the pack:

**Unplugged activities** - do not require a computer, but introduce the concepts of programming, such as sequences of instructions, loops and repetition.

**Plugged activities** - which may be online with a computer or iPad.

## Nursery / Reception

### All aboard!

In the unplugged activity, Nursery / Reception pupils play out the pole of the Pirate crew, walking the plank to get onboard the pirate ship.

The children have to write simple algorithms to get the crew member (their partner) aboard. This role play activity, using simple forwards, backwards, right and left cards, is supported by number labels which can be put down or fixed to P.E. benches to make the route they need to follow to build up a sequence of commands or algorithm.

All aboard is supported with an online activity where the pupils control the Little red pirate ship, in direct control mode, to sail safely to the treasure island. There are a series of maps of increasing complexity.

## Year 1 / 2

### Treasure Island

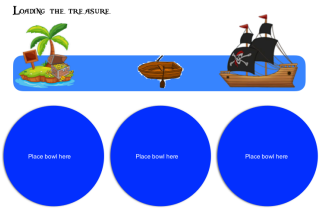
In this activity Year 1 / 2 pupils write programs to guide the crew around the treasure island to collect the treasure. They can then create their own treasure map and test it out with other pupils in the class. This unplugged activity is supported by a range of grid and command sheets.

The supporting online activity uses the Little red pirate ship programme again, only this time in Coding mode where the pupils write their own code to get the pirate ship to treasure island.

# Year 3 / 4

## Pieces of Eight

This unplugged activity has **year 3 / 4** pupils writing programs to load the pirate ship with treasure. It introduces loops and sub routines to make the programming more efficient.



The online activity uses the free Google CS-first coding activity High Seas Activity this is an introductory activity designed for use in a classroom setting and uses a combination of video instruction and Scratch programming. It is suggested that yr 3 / 4 pupils are guided through this first experience of CS-First.

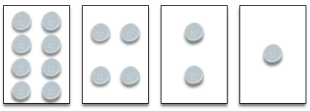
CS-First is a bank of free activities and resources from Google for teaching Computer Science. The activities are based on the Scratch programming language and resources include lesson plans, solution sheets and extension activities.

# Year 5 / 6

## Secret Codes

The final stage for the pirates is to count their loot! But the pirates need to be careful to keep how much treasure they have secret.

This activity introduces **year 5 / 6** pupils to binary code and the idea of different computer languages. The pupils learn to use binary code to count the treasure, next they create a secret code (their own computer language) to send the message that they have all the treasure onboard!



For on online activity it is suggested that the CS-first High Seas activity be used again with Yr 5 / 6 pupils but in the self programming mode where pupils are much more free to explore the coding activity at their own pace and modify it for the pirate theme.

The next section has more details on the individual activities and supporting materials and resources.