Activity: Codes

You will need...

Paper
A pen

There are many ways to make up codes; the more creative you are, the less likely someone will be able to break the code. But don't forget that you will want someone else to be able to decipher it, or there is no point in making the code in the first place! You will need to arrange in advance how the code is created and how the person receiving the message will unscramble it.

Ways of creating codes: some help...

A. Write down the alphabet and give each letter a number, in sequence: a=1, b=2, c=3, and so on to z=26. Send your message in the form of numbers... INVIGORATE = 9 14 21 9 7 15 18 1 19 5. For someone to decode this, you need to tell the person receiving it that you used a simple substitution.

B. To make the code a little more difficult to break, you can do something similar, but offset the numbers a=5, b=6, and so on to z=30 etc. INVIGORATE = 13 18 25 13 11 19 22 5 23 9. To decode the other person needs to know you used a substitution plus 4; perhaps you could add '4' to the start of the code so they know to add this number on to their simple substitution.

C. A way to make it more difficult is to put the letters of the alphabet in a grid, a 5x5 grid, or 2 x 13 etc. Read across then down - so H is 3 then 2 = 32.
Using the grid shown here, A=11, B=21, C=31, and INVIGORATE = 42 43 25 42 22 53 34 11 54 51. You can let the decoder know the type of grid by add 55 to beginning of your message. Remember you will need to be sure you and your partner write the letters in the same way (i.e. across and then down)!

D. Have a look online to figure out some other codes. The more research you do the better your code will be and the more information you will have to help you decipher someone else's code!

What to do...

1. Get into groups of four, and within each group of four, into two pairs.

2. With the other half of your pair (your ally), work out the type of code you are going to use. Take some time to work it out. Make a note of anything you need to decipher the code, but the less you have written down on paper the better!

3. Now separate and make up a message for each other, using your agreed code. Write the coded message out twice. Don't make the message too long - you can start with 3 or 4 words!

4. Now give your coded message to your ally and accept theirs. Give the other copy of your coded message to the other pair: to you, they are 'the enemy'!

5. Take some time to decipher the message from your ally. Once you have done that, get together with your ally and start working on trying to decipher the two messages you have picked up from the enemy!

6. You can do some more research to help you decipher your enemy's code...

   - Has each member of the enemy used the same code? Do they look similar?

   - Does it look like they may have used any familiar words? Hello, goodbye?

   - Does it look like they might have made some words shorter?

7. If you can't decipher their code, you will need to capture their information. The weakness of any code is any written information which will help the person decode it. Hand over all your written material to the enemy (they have captured your ship!), and receive theirs. Does this help you decipher the code now?