Try this game a few times.

1. What answers do you get when you start with:
   (a) 100
   (b) 1000
   (c) a fraction or a decimal
   (d) a negative number

   Can you explain your results?

Flagcharts are a useful way to write down the operations you are doing.

2. Use the flagchart once or twice to make sure you understand it.
3. To prove the game **always** works, it may help to start with x (or y or z or ...). Use the same flagchart. Write x in the first circle and work out each stage as you go.

Do you finish with 1?

4. Draw a flagchart. Try starting with

(a) an integer. *(whole number)*

(b) a fraction or a decimal

(c) a negative number

(d) a letter

5. Invent a game which always ends with 3.