Function machine: add and subtract decimals

Strand

Calculating

Learning objective

Calculate mentally with decimals

Type of starter

Recall

Whiteboard tools

- Use the 'options' menu to set the 'machine mode'. Select from 'manual' or 'random'.
- Select 'manual' to prepare your own number sentence, or 'random' to produce a computer-generated number sentence.
- Use the pop-up keypad, which appears when you press on a window to enter a number.
- Press the 'history' button to view a list of the number sentences completed during the lesson.

What to do

The aim of this activity is to find any missing decimal numbers or the function in order to complete the number sentence. Either you or the computer can generate these using either the 'random' or 'manual' mode options.

Manual mode: prepare some number sentences involving the addition or subtraction of pairs of one- or two-place decimal fractions or a mix of whole numbers to 10 and a decimal fraction – for example, $3.15 + 1.85 = \Box$; $2 - 1.31 = \Box$ and so on. Use the drop-down menu in the function window to select either a + or – operation. Press 'go' to check answers.

Random mode: the computer selects a number sentence, but hides the input, output and function windows on the machine. Decide which element to reveal first and press that window to open it. After one other element has been revealed, ask the children to write down and then display the missing number or function. Check their answers and then press 'go' to check the answer on the machine.

Differentiation

Less confident: work in 'manual' mode and limit the number range to whole numbers and one-place decimals, as required.
More confident: in 'manual' mode, focus upon adding pairs of two-place decimals.

Key questions

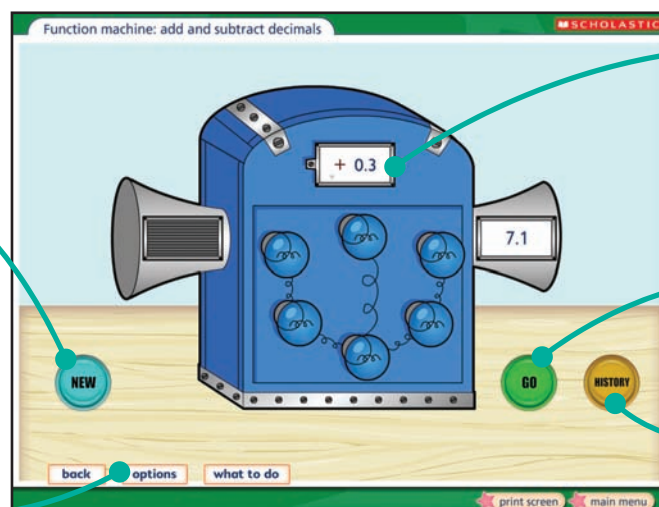- *How can you find the missing parts of the number sentence?*
- *How much do I need to show you before you can complete this number sentence?*
(Progressively reveal different parts of the number sentence.)

'new'
- Press to start again in 'manual' mode
- Press for number sentence in 'random' mode

'options'
- Select 'manual' mode to enter your own number
- Select 'random' mode for computer-generated numbers, initially hidden

windows
- Type numbers and functions in 'manual' mode
- Press to open in 'random' mode

'go'
Press to check answer

'history'
Press to reveal all number sentences used