Economic and Social Research Council

Abertay University

Putting 'you' in learning!

Spelling and maths activity book

Teacher's Guide

Ages 6-8

Created by The Self Lab

www.selflab.co.uk

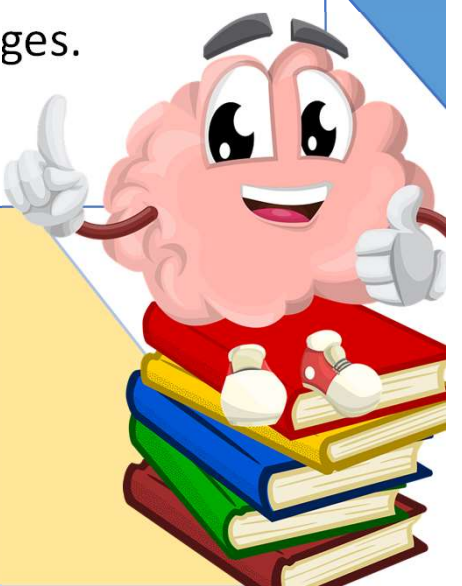
Supports the UK national curriculum, including Scottish levels.

This guide includes additional information and answers to the children's workbook.

The workbook questions are designed to incorporate the self, which research has shown to be beneficial for learning. It is suggested that encoding information that links to ourselves requires less cognitive effort.

The math word problems are aligned with the lower Key Stage 2 level of the National Curriculum, equivalent to the first level of the Curriculum for Excellence in Scotland. There is also an upper Key Stage 2 level workbook available, which corresponds to the second level in Scotland. Both workbooks feature identical tasks, with the only difference being the math word problems adjusted to align with the respective Key Stages.

The Self Lab



The Self and Maths

On the next page, you will find a set of math word problems along with their answers. Research has shown that when children are presented with math word problems that include the personal pronoun "you," it can lead to increased engagement, improved accuracy, and faster completion times compared to problems using other characters.

The following questions have been adapted in a similar manner. If you observe a student experiencing difficulty in comprehending a math word problem in class, despite their ability to independently carry out the necessary calculations, employing the personal pronoun "you" as part of the problem may potentially alleviate the cognitive demand. Implementing this strategy might aid in enhancing their problem-solving skills and provide additional support.

For further reading see:

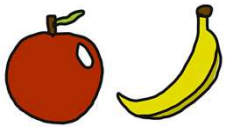
- Cunningham et al. (in press). Put you in the problem: Effects of self-pronouns on mathematical problem solving. *Quarterly Journal of Experimental Psychology.* https://doi.org/10.1177/1747021823117422
- D'Ailly et al. (1997). Where should "you" go in a math compare problem? *Journal of Educational Psychology*. https://doi.org/10.1037/0022-0663.89.3.562

Word problems

You have £268. You want to buy some concert tickets. They cost £45 each. How many can you buy?

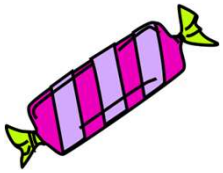
5

For the fair, you bought 93 apples and 67 bananas. How many pieces of fruit do you have altogether?



160

You bought 79 packets of sweets for 9p each. What was the total cost?



£7.11

You have 67 books. You have 14 fewer books than toys. How many toys do you have?

81

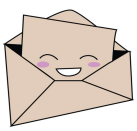
In the shop, you packed 136 fruits altogether, a mix of grapes and oranges. If 33 were grapes, how many were oranges?

103

In the warehouse you sorted 189 pictures and puzzles, but 37 were damaged. How many items were undamaged?

152

You have 57 letters to deliver. You bundle them in 6s. How many leaflets were not in a bundle of 6?



3

For the collection, you have 35 bags. You have 13 fewer boxes than bags. How many boxes do you have?

22

I am an amazing person!

This has been included as a fun activity, keeping with the theme of self!

Spelling grid challenge!

Relating information to ourselves self can capture attention and facilitate learning. Therefore, the activities below have been designed to encourage students to encoding information in relation to themselves. Please provide the student with a list of spelling words to learn.

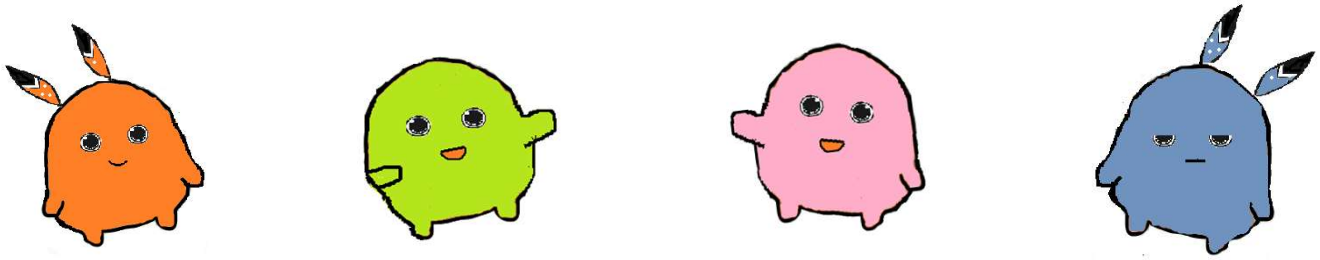
Write a poem about yourself using as many of the spelling words as you can. 	Draw a picture of yourself with as many spelling words as you can. 	Write a sentence about yourself using each of the spelling words. 
Write a funny story about yourself using as many of the spelling words. 	Draw memories of yourself with as many of the spelling words as you can. 	Write an adventure story that includes you and as many of the spelling words. 

For further reading see:

- Turk et al. (2015). Selfish learning: The impact of self-referential encoding on children's literacy attainment. *Learning & Instruction.* http://dx.doi.org/10.1016/j.learninstruc.2015.08.001

Spot the character!

Research has shown that even when something belongs to us it facilitates attention and memory for it. This is even the case for items temporarily assigned during an experiment. For this task, children have been asked to pick a character, and then find their character along with the rest on the following page. This is a fun task for them to complete, but also an interesting opportunity to explore whether their own character is easier to find.



For further reading see:

- Humphreys & Sui (2016). Attentional control and the self: The self-attention network (SAN). *Cognitive Neuroscience.* https://doi.org/10.1080/17588928.2015.1044427

Spot the character: answers are circled in red below

We hope you and your students found this workbook informative and enjoyable!

This workbook was designed to give some insight into applying the self in learning. If you want to learn more, and would like to explore the applications of self strategies across different subjects, you can visit our website on:

www.selflab.co.uk

Please also check out this article of our work in Futurum Careers:

https://futurumcareers.com/the-importance-of-self-referencing-as-a-learning-technique

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The pictures used in this workbook were sourced from pixabay.com