



Economic  
and Social  
Research Council



Abertay  
University®

Putting 'you' in  
learning!  
Spelling and maths  
activity book  
**Teacher's Guide**

Ages  
9-11

Created by  
The Self Lab  
[www.selflab.co.uk](http://www.selflab.co.uk)



Supports the UK national curriculum,  
including Scottish levels.

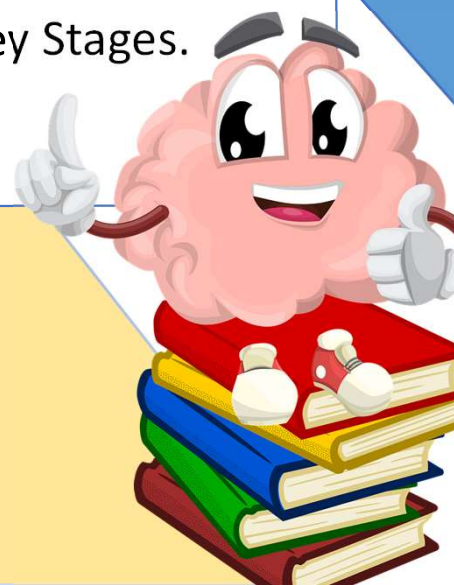
This guide includes additional information and answers to the children's workbook.

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 upper Key Stage 2 level of the National Curriculum, equivalent to the second level of the Curriculum for Excellence in Scotland. There is also a lower Key Stage 2 level workbook available, which corresponds to the first 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>

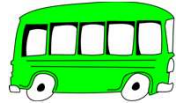


## Word problems



You are organising a school trip, and each bus can hold 40 students. If there are 234 students in total, how many buses will you need?

**6**



You are organising a picnic, and you want to provide fruit baskets for everyone. Each fruit basket contains 4 apples and 3 oranges. If you have 56 apples and 42 oranges, how many fruit baskets can you make?

**14**

You are planning a trip and need to convert currency. You have £250 and the exchange rate is £1 = \$1.25. How many dollars will you have after the currency conversion?

**\$312.50**



You are planning to buy a new bicycle. The bike you want costs £450, but there is a 20% discount. If you have saved £300, how much more money do you need to buy the bike?

**£60**

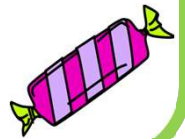


You are planning a school event and need to rent tables and chairs. The rental company charges £10 per table and £5 per chair. If you need 8 tables and 40 chairs, how much will it cost to rent them?

**£280**

You want to evenly distribute 36 sweets among you and your two friends. How many sweets will each person receive?

**12**



You are planning a party and need to buy drinks for the guests. Each bottle of soda costs £1.50, and each bottle of juice costs £2.75. If you want to buy 8 bottles of soda and 6 bottles of juice, how much will you spend in total?

**£28.50**

You are planning a camping trip and need to pack food for your group. Each person needs 3 meals per day, and you have a group of 12 people. If you will be camping for 4 days, how many meals in total do you need to pack?

**144**







# 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.

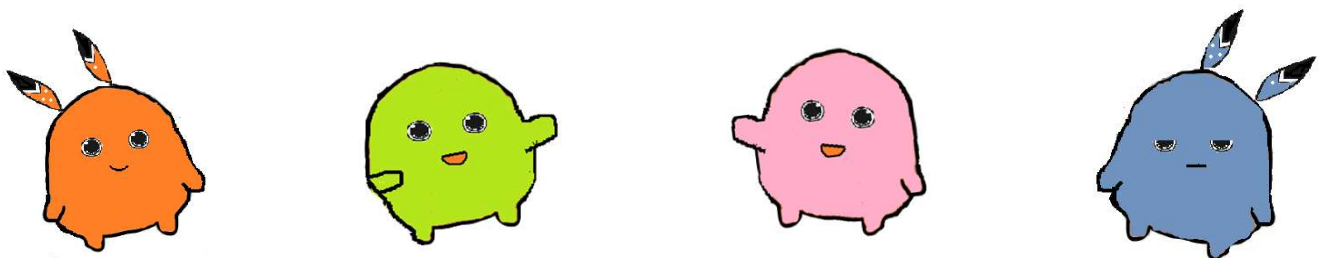
<p>Write a poem about yourself using as many of the spelling words as you can.</p> 	<p>Draw a picture of yourself with as many spelling words as you can.</p> 	<p>Write a sentence about yourself using each of the spelling words.</p> 
<p>Write a funny story about yourself using as many of the spelling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

## 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!

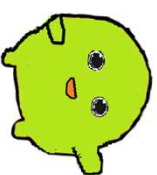
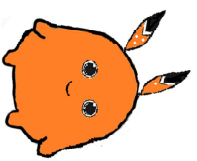
Research has shown that even when something belongs to us it facilitates attention and memory for it. This is even the case for items temporarily assigned during an experiment. For this task, children have been asked to pick a character, and then find their character along with the rest on the following 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](http://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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