Extension - Creating their own problems

In order to solve *Cooperative Logic* problems students need to *understand* the numeracy related language within them.

You can go one step further and encourage students to *use* the language themselves by creating a problem of their own.

This can either be done with the whole group or, if there is a wide spread of abilities, it can be done with small groups who finish earlier than others.

Distribute some scrap paper cut into clue sized pieces.

Explain:

- *I want you to create a new 'What's the decimal number' problem – similar to the ones you have already solved*
- *First invent a decimal number*
- *Then write your own set of clues*
- *Later you will give it to another group to solve*
- *Make sure you use some of the decimal language that is in the other problems e.g. tenths, second decimal place, etc.*
- *Your problem is only a good one if it can be solved by other people*
- *So don't try to make it so hard that they can't solve it*
- *Remember to keep a copy of your solution to check with.*

The students' problems can be given to other small groups to solve either during that class or in a follow up session. Students tend to enjoy this aspect very much.

Get groups to compare answers and discuss any difficulties afterwards.

Although more time consuming, it may also be of benefit for them to observe another group trying to solve their problem as they can pick up any mistakes in language or expression for themselves.

What's the decimal number?

✂ Copy on paper or card and cut

What's the decimal number - 1 The decimal point is not at the end	What's the decimal number - 1 The digits are in order from smallest to biggest
What's the decimal number - 1 Only the digits 1 to 4 are used	What's the decimal number - 1 There are more hundredths than tenths
What's the decimal number - 1 There are no thousandths	What's the decimal number - 1 It is a decimal number with four digits

What's the decimal number?

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What's the decimal number - 2 The number is bigger than 5	What's the decimal number - 2 The number is smaller than 6
What's the decimal number - 2 The middle digit is 3	What's the decimal number - 2 The last digit is three times the second digit
What's the decimal number - 2 All of the digits are odd numbers	What's the decimal number - 2 It is a decimal number with three digits

What's the decimal number?

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What's the decimal number - 3 **The number is greater than 10**	What's the decimal number - 3 **The second digit is twice the first digit**
What's the decimal number - 3 **The three digits add up to eleven**	What's the decimal number - 3 **The tenths figure is an odd number**
What's the decimal number - 3 **The decimal part is a half**	What's the decimal number - 3 **The number is less than 100**

What's the decimal number?

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What's the decimal number - 4 The number has three digits	What's the decimal number - 4 The number is between 6 and 7
What's the decimal number - 4 The sum of the digits is 15	What's the decimal number - 4 The hundredths digit is the smallest
What's the decimal number - 4 The tenths digit is the largest	What's the decimal number - 4 One of the digits is 8

What's the decimal number?

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What's the decimal number - 5 The number is less than 3	What's the decimal number - 5 There are four digits
What's the decimal number - 5 The number is just bigger than 2	What's the decimal number - 5 There is a zero in the number
What's the decimal number - 5 There are almost 50 thousandths	What's the decimal number - 5 Two of the digits are 4 and 9

What's the decimal number?

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What's the decimal number - 6 **The number is greater than 7**	What's the decimal number - 6 **The number is smaller than 7.1**
What's the decimal number - 6 **The number has three digits**	What's the decimal number - 6 **Two of the digits are odd**
What's the decimal number - 6 **Zero is one of the digits**	What's the decimal number - 6 **Two of the digits total 10**

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What's the decimal number - 7	What's the decimal number - 7
The number has four digits	The first digit is double the last
What's the decimal number - 7	What's the decimal number - 7
The number is greater than 15	The are 7 tenths in the number
What's the decimal number - 7	What's the decimal number - 7
The number is less than 30	The difference between the middle digits is one

Numbers

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0	6
1	7
2	8
3	9
4	•
5	

0	6
1	7
2	8
3	9
4	•
5	

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DECIMALS – WHAT'S THE DECIMAL NUMBER?

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