

Some inclusive lessons based on
challenging tasks for students from
Foundation to Year 5

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Overview

- This session will present details of some tasks suggestions that can form the basis of lessons structured to engage all students in creating and communicating mathematics, especially those who experience difficulty and those who complete the work quickly.
- The session will examine the commonalities and differences between the lessons and discuss the role of challenge in fostering better learning.

- Assume that, in each lesson, the task is posed with limited instruction, and that prompts are prepared for students experiencing difficulty and those who finish quickly.
- Also assume that the task is followed up with something similar to consolidate the learning.

- Write some sentences that have the same number of letters in each word.
- For each sentence, write down how many letters there are altogether.

- What is the mathematical point?
- What is the nature of the challenge?
- What is needed to introduce the task?
(Instruction vs Activation)
- What might be an enabling prompt?
- For what level is it most suited?

I emptied my piggy bank onto the table and arranged the \$1 coins in an array without gaps. What is an efficient way to work how much money I have?



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(Instruction vs Activation)
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- For what level is it most suited?

- Some people came for a sports day.
- When the people were put into groups of 3 there was 1 person left over.
- When they were lined up in rows of 4 there were 2 people left over.
- How many people might have come to the sports day?

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In what ways are the tasks similar and different?

The lesson

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- How many people might have come to the sports day?

Some “enabling” prompts

- Some people came for a sports day. When they were lined up in rows of 4 there were two people left over. How many people might have come to the sports day?
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- Some people came for a sports day. When the people were put into groups of 3 there was no-one left over. When they were lined up in rows of 4 there was no-one left over. How many people might have come to the sports day?

An extending prompt

- Some people came for a sports day. When the people were put into groups of 3 there was 1 person left over.
- When they were lined up in rows of 4 there was 2 people left over.
- When they were lined up in columns of 5 there was 4 people left over.
- How many people might have come to the sports day?

Additional tasks

- I have some counters.
- When I put them into groups of 5 there was 2 left over.
- When they were lined up in rows of 6 there was the same number in each column and none left over.
- How many counters might I have?

- **More remainders**

- Some people came for a sports day. When the people were put into groups of 3 there was 1 person left over. When they were lined up in rows of 4 there were 2 people left over. When they were lined up in columns of 5 there were 3 people left over. How many people might have come to the sports day?

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- **6 and 8**

- Some people came for a sports day.
- When the people were put into groups of 6 there was 1 person left over.
- When they were lined up in rows of 8 there were 2 people left over.
- How many people might have come to the sports day?

Clock angles

What might be the time?

I know that the minute hand of the clock is on 2.

The hands make an acute angle.

(Give as many answers as you can)

Angles and compass bearings

The quadrilateral $A B C D$ is a trapezium.

B is North East of A .

C is South of B .

D is South West of C .

A is West of D .

Give three different possibilities for the quadrilateral, writing the coordinates of A , B , C , and D for each one.