

## Apply understanding of the mean

## REHEARSE

Ellen, Luke, and William collected some shells, pebbles, and small pieces of driftwood in their buckets. Find the mean number of pebbles, shells and driftwood collected by the children.

	Shells	Pebbles	Driftwood
Ellen	6	12	3
Luke	8	4	8
William	7	8	4
mean average	7	8	5



## APPLY AND EXPLORE

Rose says that if you add any three consecutive numbers, their mean is always a multiple of three. Explain why she is correct. Pupils may provide examples to demonstrate and use their understanding of rebalancing.

## REHEARSE

Mr Carfax has noticed how short the pencils in his classroom have become. The table below shows the lengths of pencils for each table group.

<u>Red table group</u> 5cm, 7cm, 6cm, 6cm. Mean length 6 cm.	<u>Blue table group</u> 3cm, 8cm, 7cm, 6cm Mean length 6 cm.
<u>Yellow table group</u> 5cm, 5cm, 10cm, 4cm, 3cm, 3cm Mean length 5 cm.	<u>Green table group</u> 5cm, 3cm, 4cm, 7cm, 3cm, 4cm, 2cm Mean length 4 cm.

Look at the pencil lengths from each group and predict which table will have the longest mean length.

Prediction: Reason for prediction: Any response with valid reasoning.

Now find the mean lengths. As above.

Was your prediction correct? Explain your thinking.

## RETRIEVE

## Can I still find square and cubed numbers?

Here are some ways that children tried to find the number that is  $25^3$ . Circle the correct calculation.

$25 + 25 + 25$

$25 \times 3$

$25 \times 25 \times 25$

$25 \times 25$

Choose one of the incorrect calculations and explain what went wrong.

Explanations should focus upon the misunderstanding of what  $25^3$  means and the operations used.

## APPLY AND EXPLORE

Rice is packed in sacks with masses of 3kg, 5kg or 8kg.  
 Here are the mean amounts of rice that three delivery vans are carrying.  
 How many sacks of rice could each van be carrying and what could their masses be?



<p>A. Mean mass of rice            Various possible...            1 x 8kg bag and 2 x 5kg bags            6kg</p>	<p>B. Mean mass of rice            Various possible...            4 x 3kg bags and 1 x 8kg bag            4kg</p>	<p>C. Mean mass of rice            Various possible...            2 x 3kg bags and 2 x 8kg bags            5.5kg</p>
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Compare your solutions with others. Was your solution the only possibility each time?

## RETRIEVE

## Can I still describe sequences?

Here is part of a number sequence: ... 25, 40, 55, 70, 85 ...

Will the number 140 be in the sequence? **No. 130 and 145 would be in the sequence.**

Will the number -20 be in the sequence if we continue it backwards? **Yes. The sequence would go -20, -5, 10, 25...**