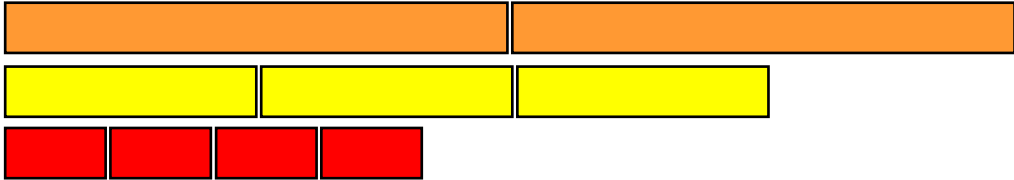


<h2>Trains</h2>	<h2>Skill practised:</h2>
<p><i>Children use the same size 'carriages' (rods) to make a 'train' of 20 units.</i></p>	<ul style="list-style-type: none"> • Counting in 2s, 5s and 10s
<p>Conjecture: <i>There is more than one way of making a train 20 units long using carriages of the same size.</i></p>	
<p>What to do:</p> <p><i>Children work individually or in pairs.</i></p> <p><i>They will need Cuisenaire rods. In advance draw round two Cuisenaire 10s rods end to end to produce a line 20 units long (or ask children to use the track up to 20). Draw a train engine on one end. If you do not have Cuisenaire, copy the resources sheet onto card (see child sheet for resource).</i></p> <ol style="list-style-type: none"> 1. Explain that Mr Choo's train has carriages which must be 20 units long altogether. Every carriage must be the same length. 2. Give each child/pair an outline of the length of the carriages. Ask children to explore which size carriages can be repeated to give the same total length of 20 units.  <p>Which size carriages can Mr Choo use? Can children write a matching multiplication for each carriage, e.g. $4 \times 5 = 20$?</p> <ol style="list-style-type: none"> 3. Children try making a train 24 units long. How many ways can they do this? Remember the carriages must all be the same length in any one train! <p>CHALLENGE: Children try different train lengths, e.g. one of 30... Now one of 36... Which train lengths have several different ways of having carriages?</p>	
<p>Aims:</p> <ul style="list-style-type: none"> – To find repeated additions with a given total – To consolidate understanding of multiplication as repeated addition 	<p>Minimum number of calculations expected</p> <p>10</p>

Trains

1. Mr Choo's train has carriages which must be 20 units long altogether. Every carriage must be the same length.



Which size carriages can Mr Choo use to make a train 20 units long?
Can you write a matching multiplication for each carriage?

3. Try to make a train 24 units long. How many ways can you do this? Remember the carriages must all be the same length in any one train!

$4 \times 5 = 20$

Challenge

Try different train lengths, for example one of 30... Now one of 36...
Which train lengths have several different ways of having carriages?

Trains

