

<b>WORK IT OUT</b>	<b>Categorising -sets and sub-sets</b>  <b>"Numbers"</b>	<b>12-11</b>  <b>Level 1</b> <b>Exercise 1</b>
<b>Aims</b>	<ul style="list-style-type: none"> <li>- Practising working with sets.</li> <li>- Practising sorting sets into groups and sub-groups.</li> </ul>	
<b>Applications (examples)</b>	<p><u>In class</u>: any mental operation involving finding a sorting criterion to make sets and sub-sets, for example grammatical rules in English or other languages, mathematical problems etc..</p> <p><u>At work</u>: any job involving cataloguing, sorting, tidying, arranging components, items or objects according to given criteria (labelling, packing, stocking, stamping, separating etc.) Jobs requiring this mental ability are numerous in manufacturing, retailing and office work, as well as in other sectors like market-gardening, catering, ICT, fashion design, maintenance and repair of machines and vehicles.</p> <p><u>In everyday life and leisure</u>: any activity involving cataloguing according to criteria that are given or need to be worked out: organising a stamp or a postcard collection or other activities involving albums/storage systems and display criteria; games (card games, jigsaws); stowing objects in boxes or predetermined areas (tools, sewing implements, buttons). Interior decoration also uses this skill, as does the organisation of activities for clubs, sporting events etc...</p>	
<b>Materials</b>	A sheet of paper with 17 numbers on it.	
<b>Instructions</b>	The students have to separate the numbers into 3 sets according to self-determined criteria and rules.	
<b>Comments</b>	The instructions do not include ordering the elements inside the set, but if a student suggest doing so, this could be welcome.	
<b>Variations (examples)</b>	<ol style="list-style-type: none"> <li>1. The teacher could ask the students to order the numbers inside the sets according to some new criteria or rule (increasing or decreasing numbers, similarities in terms of shape etc...)</li> <li>2. The students can do the same exercise with a list of lower case letters which they made themselves</li> </ol>	
<b>Individualisation</b>	Yes.	
<b>Answers</b>	Yes, but only as an example, as there are so many possibilities for sets: odd numbers, even numbers, number ending with 0, numbers with a curved or angular shape etc....	

***WORK IT  
OUT***

## **Categorising -sets and sub-sets**

**12-11**

**"Numbers"**

**6**

**34**

**9**

**21**

**132**

**4**

**19**

**45**

**12**

**800**

**2**

**468**

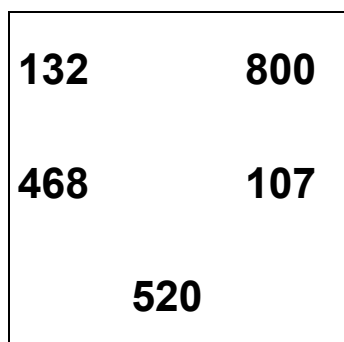
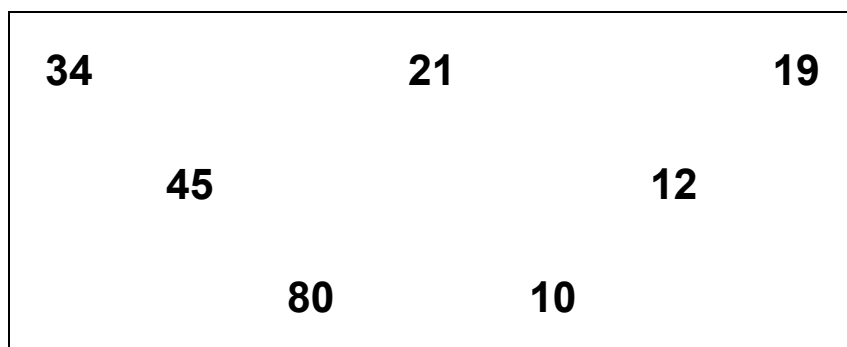
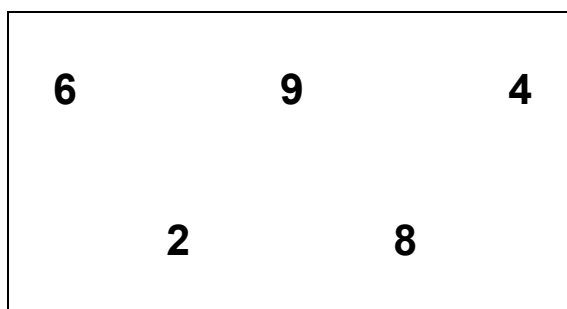
**80**

**10**

**520**

**8**

**107**



<b>WORK IT OUT</b>	<b>Categorising -sets and sub-sets</b>  <b>"Pictographs"</b>	<b>12-12</b>  <b>Level 1</b> <b>Exercise 2</b>
<b>Aims</b>	-Practising working with sets. - Practising sorting sets into groups and sub-groups. - Practising understanding pictographs	
<b>Applications (examples)</b>	<p><u>In class</u>: any mental operation involving finding a sorting criterion to make sets and sub-sets, for example grammatical rules in English or other languages, mathematical problems etc..</p> <p><u>At work</u>: any job involving cataloguing, sorting, tidying, arranging components, items or objects according to given criteria (labelling, packing, stocking, stamping, separating etc.) Jobs requiring this mental ability are numerous in manufacturing, retailing and office work, as well as in other sectors like market-gardening, catering, ICT, fashion design, maintenance and repair of machines and vehicles.</p> <p><u>In everyday life and leisure</u>: any activity involving cataloguing according to criteria that are given or need to be worked out: organising a stamp or a postcard collection or other activities involving albums/storage systems and display criteria; games (card games, jigsaws); stowing objects in boxes or predetermined areas (tools, sewing implements, buttons). Interior decoration also uses this skill, as does the organisation of activities for clubs, sporting events etc...</p>	
<b>Materials</b>	A sheet of paper with 15 pictographs on it.	
<b>Instructions</b>	The students have to separate the pictographs into 3 sets according to self-determined criteria and rules.	
<b>Comments</b>	The meaning of each pictograph is not necessarily obvious. It would therefore be better if, in the first instance, the group discussed and agreed what the pictographs represent and what they mean.	
<b>Variations (examples)</b>	1. The teacher could ask the students to find or draw other pictographs and to sort them into sets and sub-sets. 2. The students can find criteria to establish sub-sets within their own group. 3. The teacher can, with the student, make a list of behavioural characteristics, for example "hard-working", "funny", "stubborn", "kind", "shy", "noisy", "generous", "pessimistic", "lazy" etc... Each student then chooses 5 characteristics to describe him/herself, then 5 characteristics to describe each member of the group. The results are then shared.	
<b>Individualisation</b>	Yes.	
<b>Answers</b>	No, multiple solutions are possible.	

**"Pictographs"**

<b>WORK IT OUT</b>	<b>Categorising -sets and sub-sets</b>  <b>"Wallpapers"</b>	<b>12-13</b>  <b>Level 1</b> <b>Exercise 3</b>
<b>Aims</b>	<ul style="list-style-type: none"> <li>- Practising working with sets.</li> <li>- Practising sorting sets into groups and sub-groups.</li> </ul>	
<b>Applications (examples)</b>	<p><u>In class</u>: any mental operation involving finding a sorting criterion to make sets and sub-sets, for example grammatical rules in English or other languages, mathematical problems etc..</p> <p><u>At work</u>: any job involving cataloguing, sorting, tidying, arranging components, items or objects according to given criteria (labelling, packing, stocking, stamping, separating etc.) Jobs requiring this mental ability are numerous in manufacturing, retailing and office work, as well as in other sectors like market-gardening, catering, ICT, fashion design, maintenance and repair of machines and vehicles.</p> <p><u>In everyday life and leisure</u>: any activity involving cataloguing according to criteria that are given or need to be worked out: organising a stamp or a postcard collection or other activities involving albums/storage systems and display criteria; games (card games, jigsaws); stowing objects in boxes or predetermined areas (tools, sewing implements, buttons). Interior decoration also uses this skill, as does the organisation of activities for clubs, sporting events etc...</p>	
<b>Materials</b>	A sheet of paper with 30 different wallpaper patterns.	
<b>Instructions</b>	<p>The students have to separate the wallpapers into the two sets below, according to self-determined rules:</p> <ol style="list-style-type: none"> <li>1. lighter wallpapers</li> <li>2. darker wallpapers</li> </ol> <p>Inside each set, they have to create sub-sets, according to criteria that they need to decide, for example patterns made of one repeated element and patterns made of several repeated elements, size, shape, placement or colours of the elements etc</p>	
<b>Comments</b>	<p>The instructions are likely to lead to a discussion as the difference between "darker" and "lighter" is subjective. The teacher can widen the discussion to include statements like "it's very cold", "he's old", "that's nice", "it's quite near", "it won't take long" etc...</p>	
<b>Variations (examples)</b>	<ol style="list-style-type: none"> <li>1. The students could look at the answer sheet and try to work out the rationale behind each sub-set.</li> <li>2. The teacher could make a list of adjectives with the students (for example: big, small, enormous, gigantic, tiny, weird, strange, lovely, nice, surprising, astonishing etc..) These could be sorted into set as soon as they are selected.</li> </ol>	
<b>Individualisation</b>	Yes.	
<b>Answers</b>	Yes, but only as an example.	

**"Wallpapers"**

