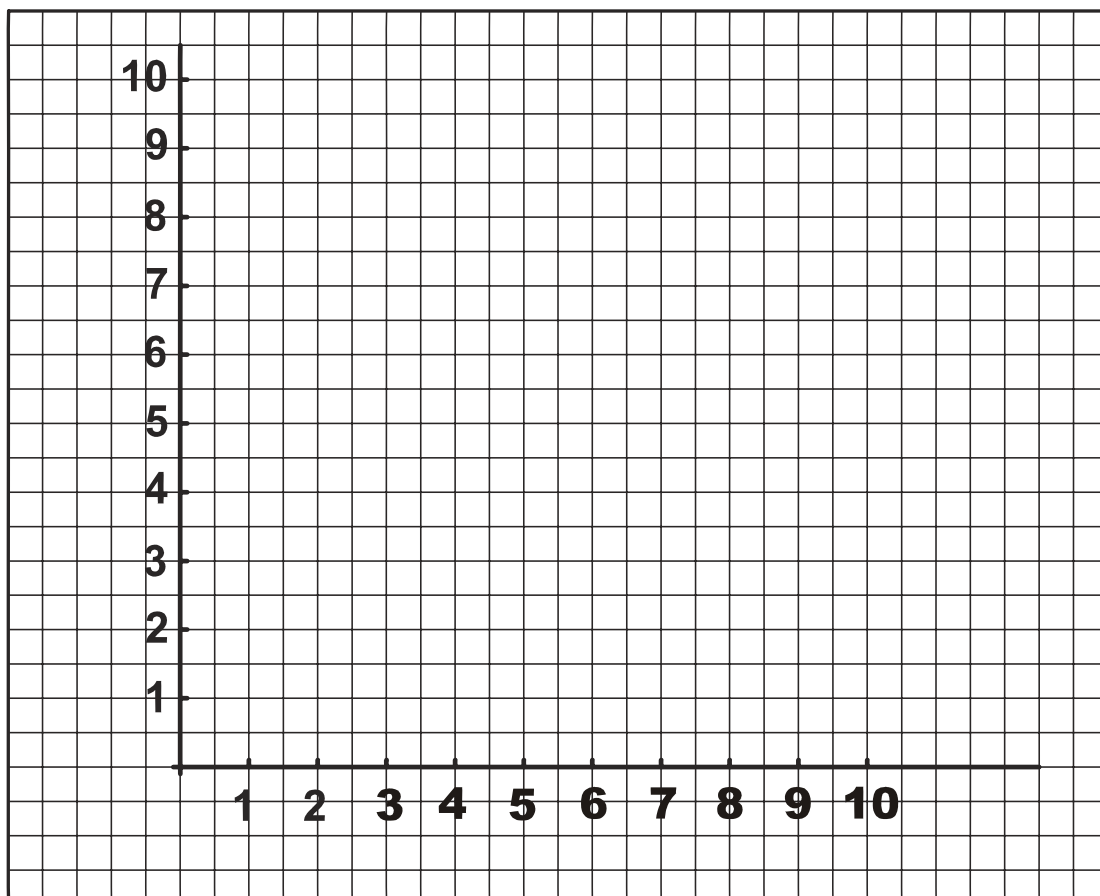
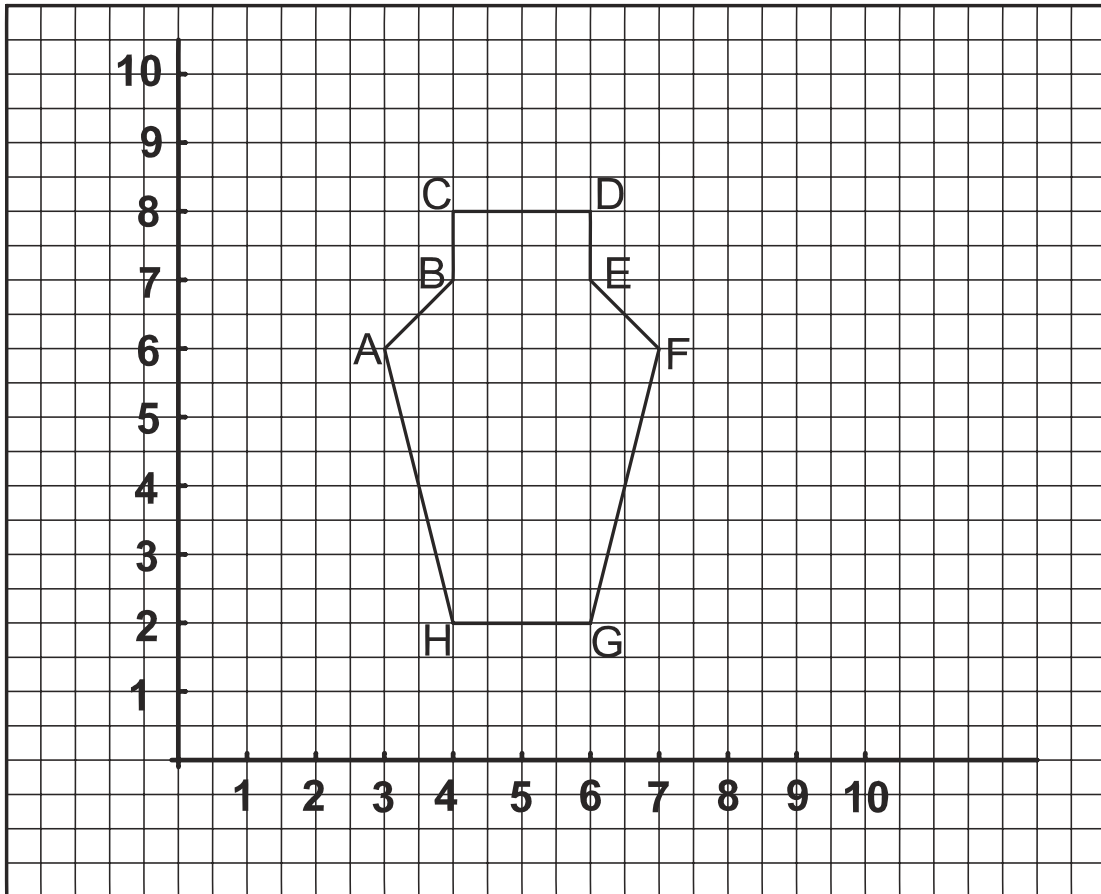


**WORK IT
OUT****Reproduce - Represent****3-31****“The object...”****Level 3
Exercise 1**

Aims	<ul style="list-style-type: none">- Find reference points in a grid.- Understand a double entry table.- Mark information on a grid or graph.- Given precise information, draw an object that will end up being identifiable.
Applications (examples)	<p><u>In class</u>: any exercise consisting in using reference points and observing the information in order to draw a line, for example in geometry or technology...</p> <p><u>At work</u>: any task requiring the use of reference points and attention to information or constraints; any task requiring the use of a double entry table to mark information or results. Better understanding of graphs, such as those seen in workshops describing increase in production or rates of defective parts...</p> <p><u>In everyday life and for leisure</u>: know how to use reference points, particularly those given in a double entry table. Understand a graph such as those one might see in the newspapers.</p>
Materials	<p>A page with a graph that has horizontal and vertical marks: each centimetre is defined by a number, from 1 to 10.</p> <p>Below this graph there is a table giving information that will enable pupils to do the required drawing on the graph. This information is composed partly of letters from A to H, which indicate the different points to be defined on the graph. Under each letter there are 2 numbers separated by a semi-colon. The number on the left refers to the horizontal marks on the grid and the number on the right, after the semi-colon, refers to the vertical marks.</p>
Instructions	<p>Using the information given, the pupils will mark the letters on the grid, remembering that the first number is in the horizontal line, and the second number, after the semi-colon, in the vertical line. The place where the two numbers cross will define where the letter is to be marked. The pupils will then join all the letters that they have placed on the grid to obtain the drawing of an object that can be easily identified.</p>
Comments	<ul style="list-style-type: none">- The teacher will have to make sure that the pupils understand the terms "vertical" and "horizontal" which will be used to do the exercise. The difficulty here is to take the reference points without inverting the information on the graph.
Variations (examples)	<ol style="list-style-type: none">1. The teacher can do the drawing by following the information in reverse order (for point A, he takes 3 on the vertical axis and 6 on the horizontal axis, and so on). The letters will not be marked; only the drawing will appear: the vase will then be shown on its side. The prepared page will be given out to the pupils, who will try to work out how the drawing was done from the elements given in the exercise.2. One could imagine that the vase in variation 1 (which seems to have fallen compared to the original drawing) was cracked when it fell. The pupils would imagine a broken line representing the crack, and would just mark the reference points, as is done in the exercise, for example, or in any other way that they would have to explain. Each pupil then gives his reference points to another pupil, who tries to draw the corresponding lines on the vase.
Individualisation	Yes.
Answers	Yes.

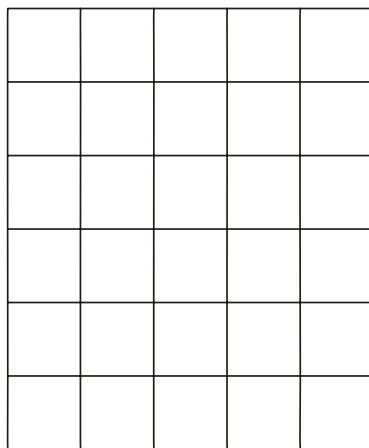
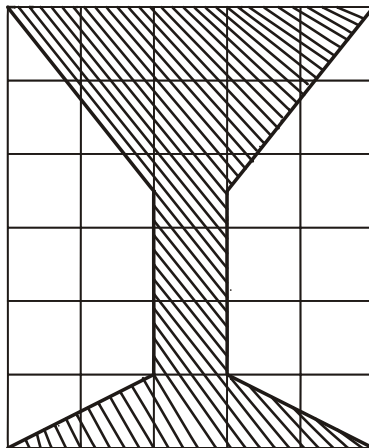
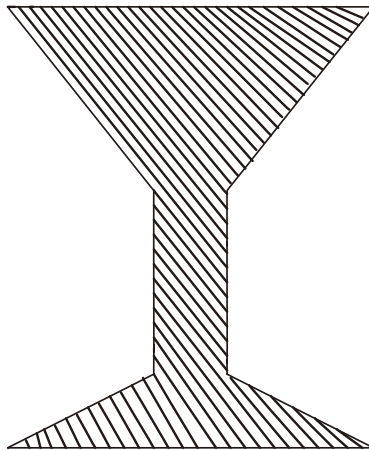


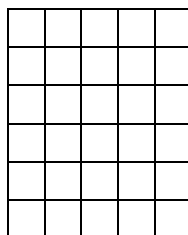
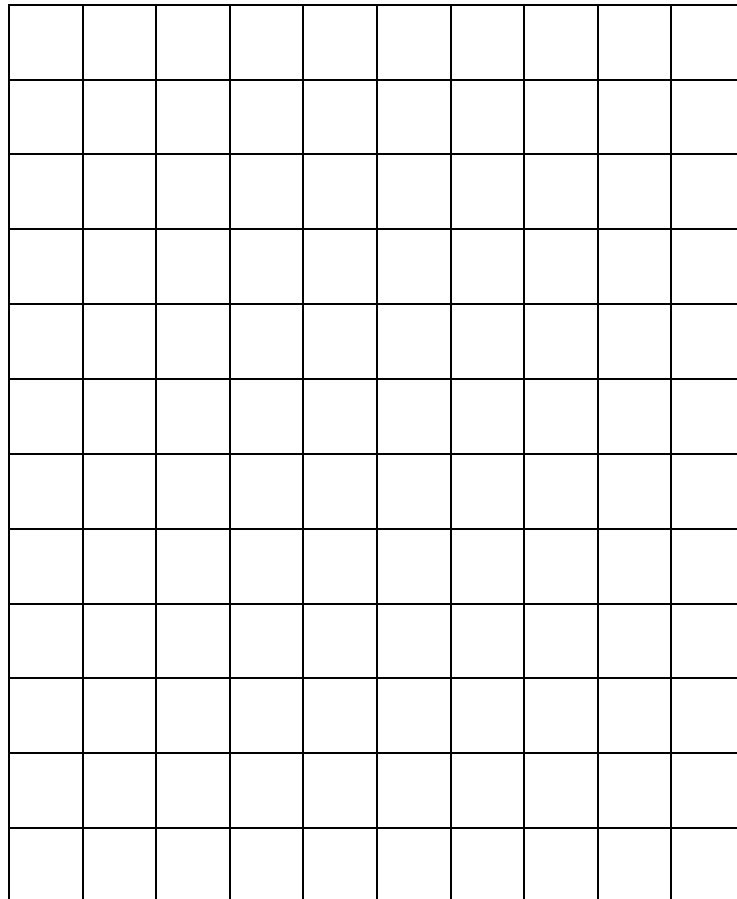
A	B	C	D	E	F	G	H
(3;6)	(4;7)	(4;8)	(6;8)	(6;7)	(7;6)	(6;2)	(4;2)

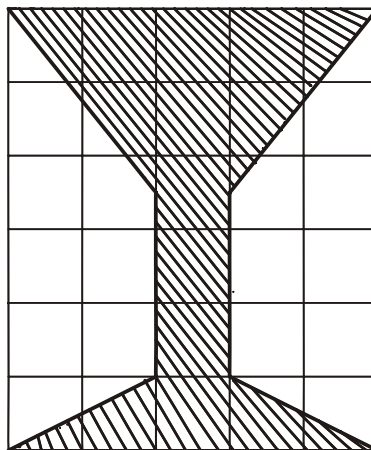
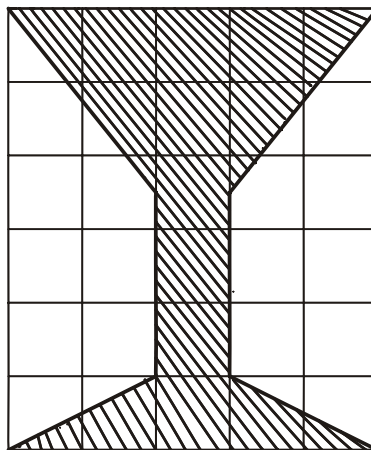
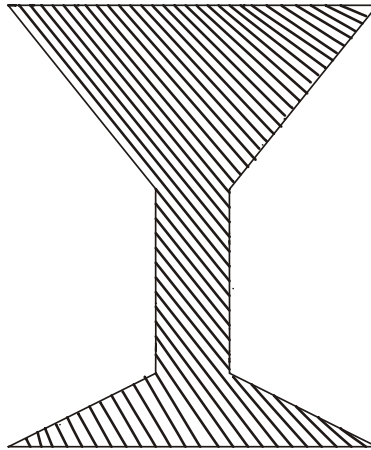


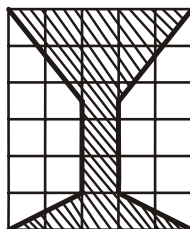
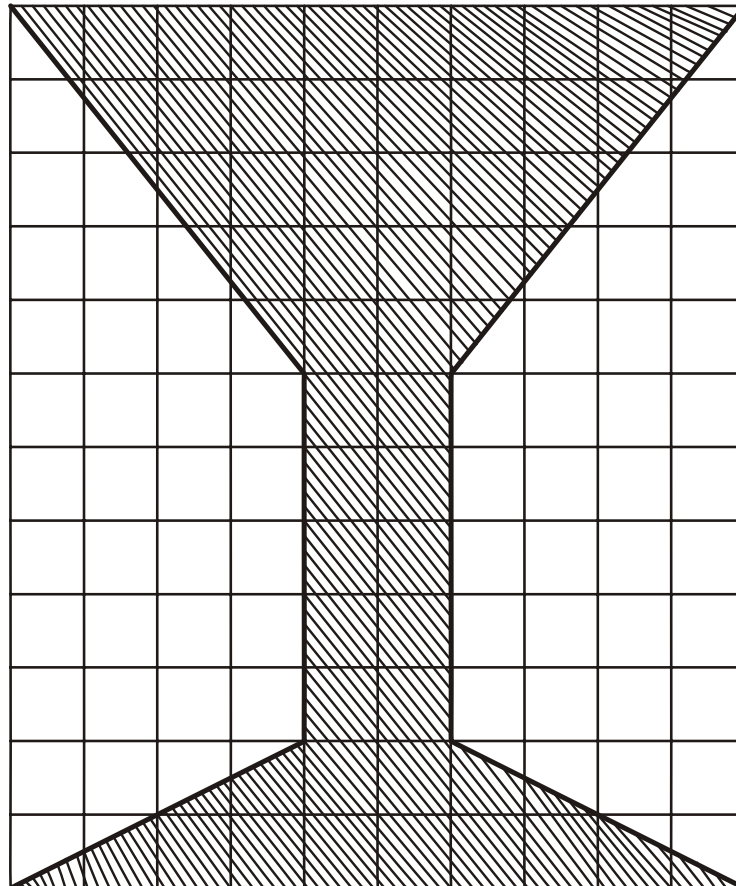
A	B	C	D	E	F	G	H
(3;6)	(4;7)	(4;8)	(6;8)	(6;7)	(7;6)	(6;2)	(4;2)

Aims	<ul style="list-style-type: none">- Find references in a grid.- Reproduce a simple drawing by using reference points in a grid.- Stick closely to the lines and the proportions when reproducing a simple drawing.- Change the proportions of a simple drawing by reproducing it in a space of a different size.
Applications (examples)	<p><u>In class</u>: any exercise consisting in reproducing a simple shape keeping the proportions of the model, then changing the proportions, for example, in geometry exercises, in technology, in industrial drawing, etc.</p> <p><u>At work</u>: any task consisting in using reference points to observe information or constraints; any task consisting in using a grid to mark information or results. Understand graphs, such as those seen in workshops to describe increases in production or the rate of defective parts, etc.</p> <p><u>In everyday life and for leisure</u>: know how to use reference points, particularly those in a grid or graph. Understand a graph, such as those seen in newspapers. Be able to change the proportions of a pattern when making decorations, doing craftwork, knitting or crochet work, making made-to-measure furniture, etc.</p>
Materials	This exercise is in two parts: one page showing the drawing of a stemmed glass, then the same glass placed in a grid; a blank grid of the same size is given below. The second page shows a grid twice as big than the one on the first page, then a grid twice as small.
Task	On the first page, the pupils reproduce the drawing of the glass in the grid so that it looks exactly like the model. The second part of the exercise consists in reproducing the same glass on the second page, so that it looks like the model, but in different proportions, to fit into the two grids shown.
Comments	If the reproduction of the glass in the larger grid seems difficult, the teacher can have the pupils highlight every other line so as to find the reference points in the model. He can also get the pupils to work out this facilitation procedure for themselves.
Variations (examples)	The teacher can draw three grids of different dimensions (or use those given in the exercise) and put them on the same page. The pupils will draw an object of their choice in the three dimensions, knowing that the object drawn must keep the same proportions. To do this, the pupils must anticipate the difficulty when they decide on their first drawing, knowing that they have to reproduce it in different dimensions. They also have to make sure that they give themselves reference points that are easy to use when they come to the proportions of the other two grids.
Individualisation	Yes.
Answers	Yes.









Aims	<ul style="list-style-type: none">- Practise taking reference points and precise measurements.- Reproduce a geometric drawing.- Reproduce a drawing by creating the necessary space by oneself.
Applications (examples)	<p><u>In class</u>: any exercise consisting in reproducing a simple shape keeping the proportions of the model, for example, in geometry exercises, in technology, in industrial drawing, etc.</p> <p><u>At work</u>: any task consisting in reproducing all or part of a model using reference points and keeping to the information or restrictions.</p> <p><u>In everyday life and for leisure</u>: know how to use reference points, reproduce a model in the same proportions when making decorations, doing craftwork, making clothes, knitting or crochet work, making furniture, etc.</p>
Materials	A page with a flag on it, which, if it were in colour, would be that of Great Britain. A ruler for each pupil.
Task	On the bottom half of the page (or on another page), the pupils reproduce the drawing of the flag as it is shown.
Comments	The pupils can try to find the colours of the flag and put them into their version from memory.
Variations (examples)	<ol style="list-style-type: none">1. If there are foreign pupils in the group, the teacher can photocopy the flags of their countries and suggest that the pupils choose one of these flags to reproduce it.2. The teacher can ask each pupil to create a flag, that could be the new European flag or the flag of peace, or that of another country that could be thought up, or a country that could be the ideal country, etc. The pupils would then have to explain to the other members of the group what the different sizes are (or use those in the exercise) and draw them on the same page. The pupils will have to draw an object of their choice in the three sizes, with the obligation to keep the same proportions. To do this, the pupils must anticipate the difficulty when they decide on their first drawing, knowing that they have to reproduce it in different dimensions. They also have to make sure that they give themselves reference points that are easy to use when they come to the proportions of the other two grids.
Individualisation	Yes.
Answers	No, the answer is in the model.

