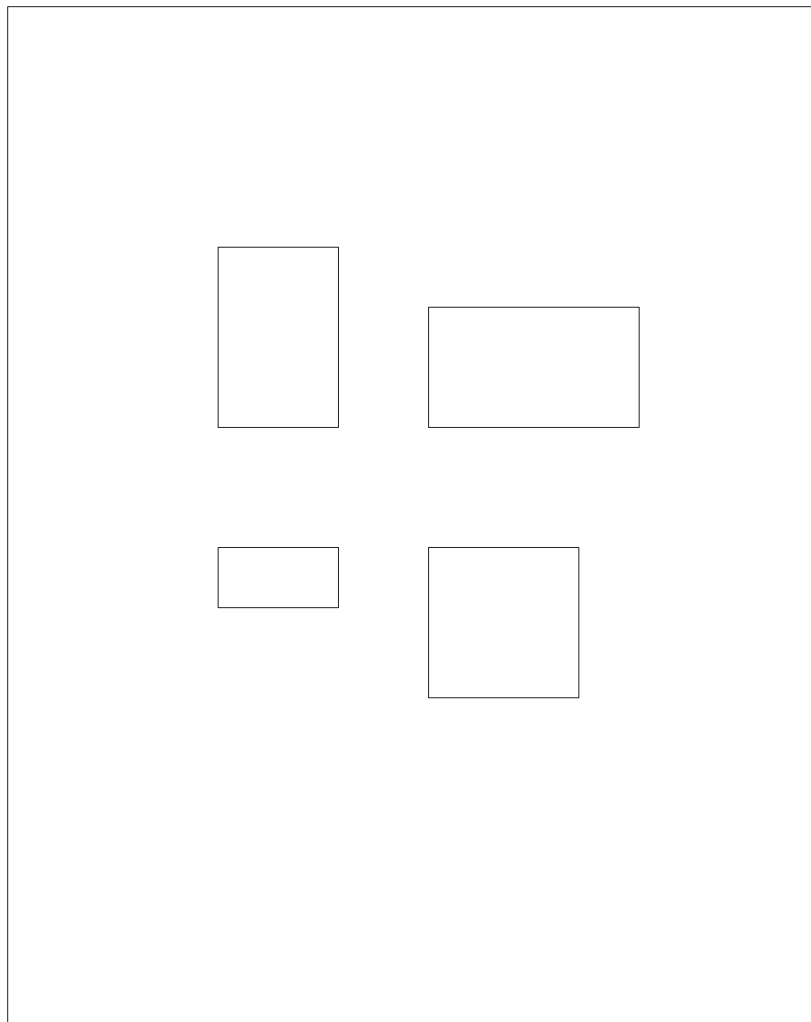


**WORK IT
OUT****Understand a map****6-11****“The plan”****Level 1
Exercise 1**

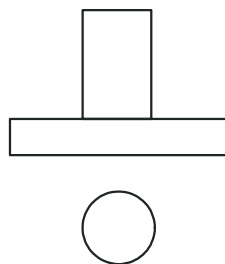
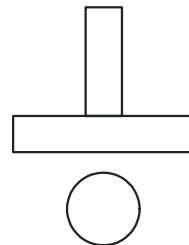
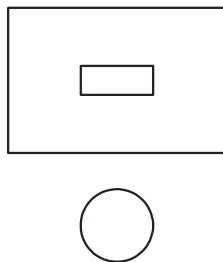
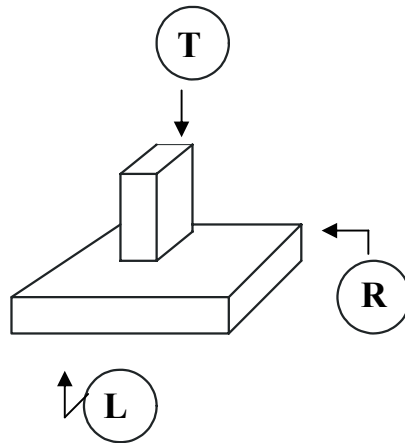
Aims	<ul style="list-style-type: none">- Practise going from volume to plan and from plan to volume.- Begin projection on to paper.- Practise standing back to get a different viewpoint.
Applications (examples)	<p><u>In class</u>: move on from calculating area to calculating volume. Understand that others almost always have a different opinion or point of view from our own. Learning perspective (without the help of the paper between two boxes). Begin technical drawing, drawing and understanding plans.</p> <p><u>At work</u>: storage, stowage, arranging, creating and using models. Also: understand that others almost always have a different opinion or point of view from our own. Learning perspective (without the help of the paper between two boxes). Begin technical drawing, drawing and understanding plans.</p> <p><u>In everyday life and for leisure</u>: awareness of perspective, where or how to place furniture (preparing to move house, for example).</p>
Materials	<ul style="list-style-type: none">- One large blank page (for example, paper board size, approx. 1m x 0.70) and 4 boxes of different sizes (for example: one large matchbox, one chalk box, one cigarette packet and a tissue box), all of them rectangular.- One large felt tip pen for the teacher.- One piece of squared paper, a pencil, a rubber and if necessary a ruler for each pupil.
Task	<p>The teacher spreads the big sheet of paper on the floor and places the 4 boxes as if they were apartment blocks in a town (see diagram on the teacher’s page).</p> <p>The pupils place their chairs around the paper on the floor so that they have a “bird’s eye view” of the boxes. The pupils watch while the teacher traces the contours of the boxes with the felt tip pen, without moving them.</p> <p>The pupils must then draw on their squared paper the contours of the boxes as they would appear on the large page on the floor if the boxes had been removed. They will thus obtain the representation of a map of buildings in a town.</p> <p>When this is done, the teacher removes the boxes and the pupils compare their representations with those on the big page. They can then make any necessary adjustments (approximate sizes and especially proportions).</p> <p>The teacher then asks the pupils to compare their work.</p>
Comments	<p>The pupils’ work will all seem different when the pages are held in the same way as the diagram, even though they have all drawn from the same model. They will therefore have to think why this is, and work out for themselves that the apparent differences are due to their different viewpoints on the boxes. The diagrams will be identical if they turn the pages a little.</p>
Individualisation	Yes.
Answers	No.

For the teacher

Example of a possible layout of the boxes on the large sheet of paper so that it is not too difficult for the pupils to draw:



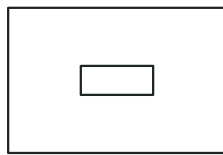
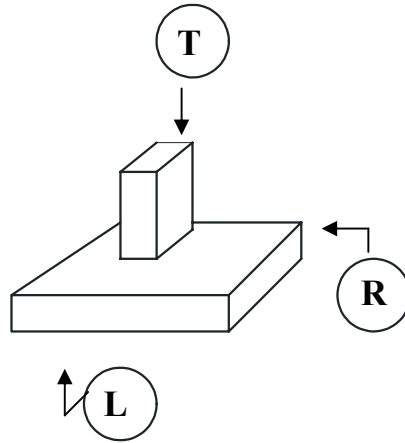
<i>Aims</i>	<ul style="list-style-type: none">- Practise going from volume to plan and from plan to volume.- Start projection on to paper.- Practise identifying views: from the right, above, left.- Acquire a sense of perspective.- Mental manipulation of objects.
<i>Applications (examples)</i>	<p><u>In class</u>: introduction to solid geometry, initiation to technical drawing, drawing and understanding a plan.</p> <p><u>At work</u>: any manipulation requiring you to step away from an object or a part being worked on, to see them from a different angle (assembling parts that fit into one another, working on the different surfaces of a piece, etc.).</p> <p><u>In everyday life and for leisure</u>: understand the instructions for assembling a piece of furniture or an object sold as a kit, or a kitchen appliance like a food processor.</p>
<i>Materials</i>	A page with a picture of a pillar on a base, seen as a whole, and then from three different angles: left, above and right.
<i>Task</i>	Under each view, the pupils place the letter corresponding to the overall view (T: seen from the top, L: from the left and R: from the right).
<i>Comments</i>	If the exercise seems difficult for some pupils, the teacher can show the pillar seen from the same angle using two boxes, for example (or two objects) with approximately the same proportions. It will be easier for them to see the different angles.
<i>Extension (s) (examples)</i>	The pupils can make a shape out of 2 or 3 objects or boxes of different sizes and try to draw each viewpoint. The pupils can also bring in the instructions for assembling a piece of furniture and, on the different parts shown, work on finding the surfaces and the different possibilities of fitting them together.
<i>Individualisation</i>	Yes.
<i>Answers</i>	Yes.



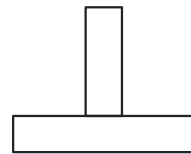
**WORK IT
OUT**

**Understand a map
“The pillar”**

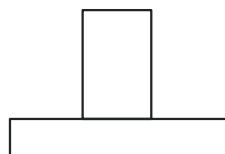
**6-12
Answers**



T

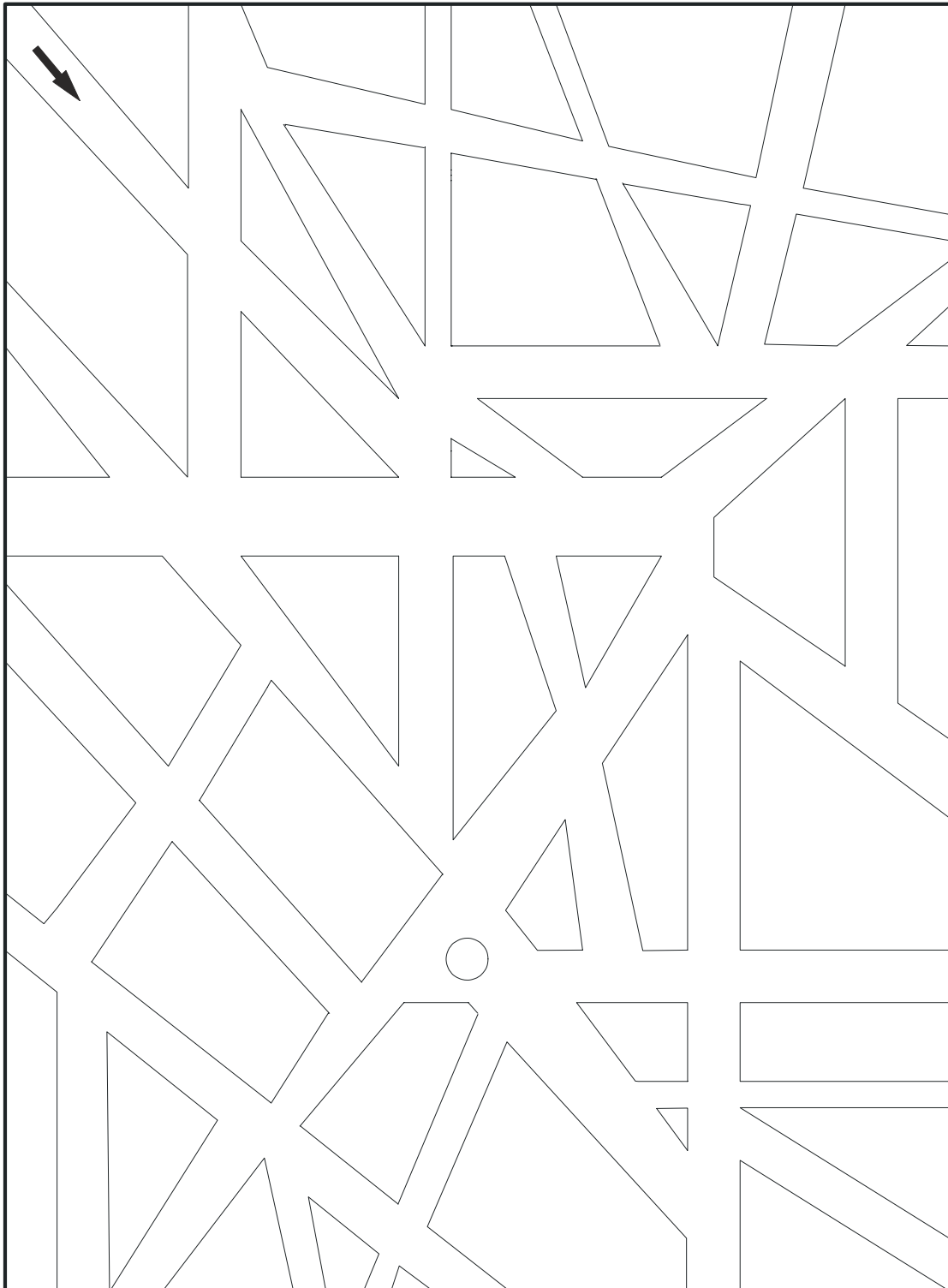


L

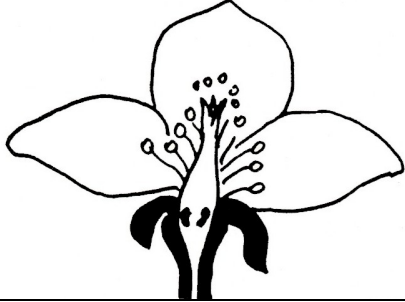
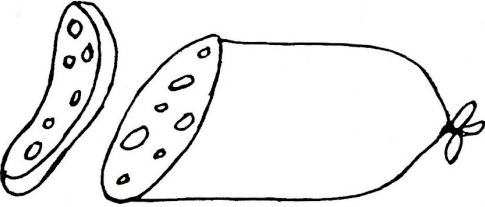
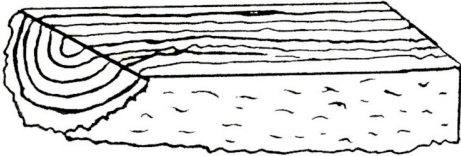
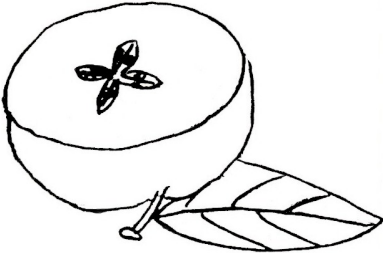



R

Aims	<ul style="list-style-type: none">- Practise following an itinerary on a map.- Decentring.- Practise analysing a result.- Practise concentrating on a lengthy instruction given orally.
Applications (examples)	<p><u>In class</u>: any task requiring deep concentration and careful listening to what is said (because what is said has to be applied immediately, distracted listening is not enough). Any schoolwork requiring you to get used to making an effort to understand all the words spoken. Training in quality and communication (diction, controlled rapid speech and choice of words, for example)</p> <p><u>At work</u>: any task requiring deep concentration and careful listening to what is said (because what is said has to be applied immediately, distracted listening is not enough). Any work requiring you to get used to making an effort to understand all the words spoken.</p> <p>Preparing to work in organisations using complex technologies (learning concentration and comprehension). Preparation and practice in self-evaluation.</p> <p><u>In everyday life and for leisure</u>: any task requiring deep concentration and careful listening to what is said (because what is said has to be applied immediately, distracted listening is not enough). Any work requiring you to get used to making an effort to understand all the words spoken. Practise understanding immediately what is said in front of you. ‘Navigating’ for a driver. Give explanations on the phone.</p>
Materials	A page showing the street map of a district.
Task	<p>Starting from the arrow, the teacher will dictate an itinerary to the pupils, using vocabulary like: "<i>turn right, turn left, straight on, intersection, crossroads, etc.</i>".</p> <p>The pupils follow the instructions given by the teacher as they go along (the teacher chooses about ten) and mark reference points in pencil for each instruction (with a cross or a dot, etc.) indicating changes of direction.</p> <p>They then compare and analyse their results, noting down any mistakes or stages in the itinerary that were not correctly marked.</p>
Comments	The teacher can also use a transparency to make it easier to find any mistakes. The pupils can also work in pairs, or directly on the board in groups.
Extension(s) (examples)	The pupils can each in turn give an instruction for a surprise itinerary. The teacher will note down all the stages given for the comparison of the results.
Individualisation	Yes.
Answers	No.



<i>Aims</i>	<ul style="list-style-type: none">- Differentiate between a crosscut and a lengthways cut.- Practise representing a cut with a line.
<i>Applications (examples)</i>	<p><u>In class</u>: Introduction to abstraction, symbolisation, signalling, beginning industrial drawing.</p> <p><u>At work</u>: Begin industrial drawing, maintenance work, technology (understand how a part or an instrument works).</p> <p><u>In everyday life and for leisure</u>: Learning the highway code (signalling), develop the imagination in children and adults, understand a specification sheet or instruction leaflet.</p>
<i>Materials</i>	A page showing different cuts, each followed by a blank square.
<i>Task</i>	In the square on the right, the pupils draw a horizontal, vertical or diagonal arrow indicating the direction of the cut shown in the square on the left.
<i>Comments</i>	<p>Few pupils will have noticed that the log has been cut twice, as shown in the answer. If no one remarks on this when the answers are pooled, the teacher can ask which object has been cut twice.</p> <p>The teacher can also cut something real and tangible, like an apple or carrot, for example.</p>
<i>Extension(s) (examples)</i>	<ol style="list-style-type: none">1. The teacher could also start with the type of cut, and have the pupils find other objects with the same cuts, objects chosen from their field of activity: plant, vegetable (picked or peeled), etc.2. It is also possible to work from other symbolisations, (for example road signs showing a zigzag) to work out the situation described (in this case a series of bends).
<i>Individualisation</i>	Yes.
<i>Answers</i>	Yes.

**WORK IT
OUT**

**Understand a map
“Where is the cut?”**

**6-14
Answers**

