

7 Assessment TEST


Name: _____ Date: _____

Year and group: _____ Draw

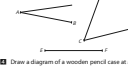
1 Fill the gaps with the correct words.

- To draw parallel lines, we use a _____ and a _____ to measure lengths under 30 cm.
- To measure angles, we use a _____.
- The standardised measurements for sheets of paper (length of _____ (width) is a metre square).
- Drawing pencils are classified as _____ and _____ according to how hard they are for technical drawing (see use pencils that are harder than _____).

2 Draw two lines parallel to the segment below that go through points A and B. Then draw the bisector of the line below.



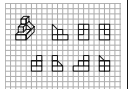
3 Measure the segments AB and CD and the angles between them. Draw another segment which forms a 120° angle with EF.



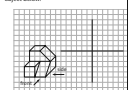
4 Draw a diagram of a wooden pencil case at a scale of 1:4 or similar. Add the dimensions to your diagram.

5 What scale would you use for a technical drawing of a 100 m long bridge to make it fit on A4 sheet of paper?

6 Look at the object shown in perspective. From the seven pictures below, choose and name three principal views used in technical drawing.



7 Draw the front, side and overhead views of the object below.



8 Draw your pen to a scale of 1:5.

9 What scale would you use for a technical drawing of a 100 m long bridge to make it fit on A4 sheet of paper?

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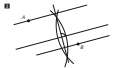
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Answers

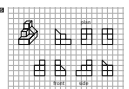
1 a) To draw parallel lines, we use a set square and a compass to measure lengths under 30 cm.
 b) To measure angles, we use a protractor.
 c) The standardised measurements for sheets of paper (length of width (width) is a metre square).
 d) Drawing pencils are classified as hard and soft according to how hard they are for technical drawing (see use pencils that are harder than 2B).

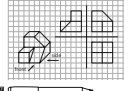
2 


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9 100 m : 100 cm/m = 10 000 $\frac{10000}{100}$ = 100. So, the most appropriate scale is 1:100.

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Topic and language assessment sheets for each unit and term, with answers.

7 INFORMATION FOR STUDENTS PROJECTS

Construct a tangram egg and its box

Draw and construct a wooden egg-shaped tangram which meets the following criteria:

Compulsory

- Use plywood if possible a recycled piece.
- The measurements of the plywood board should be: 30 cm wide x 40 cm long x 5 mm thick.
- To draw the tangram shape, follow the instructions for technical drawing set out in the Application section of Unit 7 of the Student's book, using drawing tools and an appropriate computer program.
- Make a box which holds the tangram egg perfectly and keeps the tangram pieces together.
- The box and the tangram should be as big as the size of the piece of board allows, so use the plywood efficiently.
- The box should have a device to secure the pieces of the tangram so that they don't get lost.
- The finished product should have a nice finish: accurate lines, cuts and careful sanding.

Optional

- The pieces of the tangram could be coloured or varnished.

Supporting documentation

- A group report. This should mention: any problems encountered during the project and solutions found to them; the hours it took to complete; and an evaluation of the end result.
- Diagrams. The following plans should be submitted:
 - Your own design for the tangram produced using drawing tools.
 - A group design for the tangram produced using a computer program and printed out.
 - A diagram with dimensions showing the distribution of the tangram and box pieces on the plywood board, drawn to scale.
- A list of the materials needed and a description of how they were obtained.
- Instructions for how to make the pieces and construct the box.
- Instructions for the tangram puzzle, based on information found on the Internet. All the documentation can be prepared on a computer.

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7 TEACHER'S NOTES (B) PROJECTS

Construct a tangram egg and its box

Description of the project

- This is a collective project that helps students to develop group work skills and confidence in their own abilities. It also contributes to developing aesthetic sensibility, promoting a desire to participate and a sense of responsibility in students.
- It practices basic woodworking techniques in the context of a project.
- The aim of this project is to put into practice the concepts covered in Unit 5 (Wood and its structures) and Unit 7 (Graphic expression and communication).

Methodology

This is a guided activity. The work will be done in pairs, which will help with the use of IT tools for the final design. The design of the box is the part of the project which has the most scope for creativity, although because of the conditions stated at the outset, each group will ultimately be quite similar. The most appropriate procedure is as follows:

- Divide the board into four equal parts of 20 cm x 15 cm.
- Draw the tangram and its pieces on one of the parts.
- Cut out and sand the pieces of the tangram without breaking the edge of the rectangular piece of board from which you have cut them.
- On another piece of board, cut out the same-size oval shape as the one left from cutting out the tangram. Use the first piece as a stencil.
- Stick both of the rectangular pieces with the oval cut out onto other pieces of board.
- Stick the oval shape made in step 4 onto the fourth whole piece of board to make the lid, which will fit the base perfectly.

Timing

1st lesson

- Hand out the project instructions and clear up any student queries.
- Students sketch the tangram using drawing tools.

2nd lesson

- Introduce the computer program chosen for designing the tangram. Explore the different options the program has to offer.
- In pairs, students draw the tangram using the computer program.

3rd lesson

- Students put the printed tangram pieces on the board and cut out the different parts of the box.

4th lesson

- Students sand the cut-out pieces.
- Students stick the pieces of the box together with wood glue.

5th lesson

- Students put the finishing touches to the box and the tangram.
- Students write up the report on the project and present it to the rest of the class.
- Students evaluate the project.

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Project worksheets which have been specifically developed to accompany this course. All worksheets are accompanied by a complete answer key.