

East Renfrewshire Council: Education Department Practitioner Moderation Template

Prior to the moderation exercise, please complete the following information and submit it to your facilitator with assessment evidence from one learner that you judge to have successfully attained the Es' and Os'.

Experiences and Outcomes:

I can extend my use of manual and digital graphic techniques to realise ideas, concepts and products and recognise the importance of real world standards.

TCH 4-11a

I enjoy creating texts of my choice and I am developing my own style. I can regularly select subject, purpose, format and resources to suit the needs of my audience.

LIT 4-20a

Learning Intentions:

- To be able to use manual and digital graphic techniques to realise products.
- To be able to use real world standards.
- To be able to select subject, purpose and format to suit the needs of my audience

Success Criteria:

1. Produces sketches which show proportion and scale.
2. Produces 2D and 3D sketches using perspective techniques
3. Plans and justifies the choice of colours, layout and presentation techniques in graphic displays
4. Recognises and can apply the design principles and DTP terms.
5. Produces orthographic and pictorial drawings by extracting information from given drawings, including detail such as hidden detail, centre axis.
6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
7. Creates assembled and exploded pictorial drawings from a 3D CAD assembly model.
8. Identifies CAD commands, techniques and practice employed in the production of 3D graphics and models.
9. Produces rendered 3D CAD models to show the light source, surface texture, materials applied to the model and a background
10. Writes for a range of purposes and audiences selecting appropriate genre, form, structure and style to enhance communication and meet the needs of audience.

Briefly outline the context and range of quality learning experiences that have been provided making reference to the chosen design principles.

Previous Learning

Pupils have previously undertaken tasks that allow them to practice their 2D and 3D Sketching skills. To help in this they have learned about drawing standards, symbols and conventions and have previously created their own standard sheet, including Title Block with required information. They have also learned about colour theory and have carried out homework tasks that require them to justify colour choices in given situations. They have learned about DTP Elements & Principles and have carried out tasks/homework that has required them to recognise and justify their use. They have practiced with Autodesk Inventor to provide them with the skills required to create 3D CAD models of individual parts and assemblies, having extracted the relevant information from given drawings. They have also practised creating assembled and exploded drawings from 3D CAD models. Moreover they have practised creating CAD modelling plans to describe the production of individual component parts of a product as well as describing their assembly, ensuring the correct terminology is used at all times. Pupils have practised Illustrating 3D CAD models within simple environments to show light source, surface texture and materials using Inventor Studio.

Childs Toy Task

Pupils are then given a task that challenges them to apply the breadth of previously learned skills in a new and unfamiliar context. Pupils are tasked with producing:-

- Orthographic sketches of the child's toy with at least two of the blocks inserted and a minimum of 4 relevant dimensions added according to BSI standards.
- An exploded pictorial sketched view (isometric or 2 point perspective) with annotations or arrows

showing how the parts are assembled. This should include a parts list and each component parts should be clearly labelled.

- A CAD modelling plan explaining the inventor commands that will be used to produce the individual components as well as those used to constrain them together to create the assembled 3D model.
- An orthographic drawing showing at least two of the blocks inserted and a minimum of 4 relevant dimensions added according to BSI standards.
- A 1:1 isometric drawing with at least two of the blocks inserted.
- An exploded isometric drawing to show how the child's toy is assembled. This drawing should include a parts list and each component parts should be clearly labelled.
- A render of the toy showing natural wood material and colour stain, with shadows or reflections on a surface, showing a minimum of two blocks inserted.
- A range of annotated Thumbnail designs showing alternative layouts for a single page instructional leaflet/poster explaining the assembly of the child's toy.
- A DTP version of the chosen layout for the leaflet/poster that provides instructional information relating to the assembly of the child's toy.

Record the range of assessment evidence that was gathered to meet the success criteria (Say, Write, Make, and Do) considering breadth, challenge and application.

Write:- Pupils had to annotate Thumbnail designs explaining their use of Colours, Elements & Principles as well as DTP features so that other Graphic Designers could understand their designs. In addition they had to write explanations of CAD modelling techniques that could be used by a CAD Technician to create the individual components parts before then assembling them together.

Make:- Pupils created Orthographic (2D) and Pictorial (3D) sketches **and** drawings of the Childs Toy with at least two of the blocks inserted. These were added to pages that included a Title Block with the relevant information included. They also created the individual components parts on Inventor (applying the relevant materials/stains) before assembling them together. Finally they created a simple environment for their assembled Child's Toy, added light sources and then rendered the final scene, saving the resultant image files.

Briefly outline the oral/written feedback given to the pupil on progress and next steps, referring to the learning intention and success criteria.

Normally after the completion of the various parts of this assessment task, pupils would be issued with verbal feedback on how well they had performed and whether or not they had met the success criteria. However for the purposes of the moderation exercise the learner evidence has instead been annotated. Therefore '**see learner evidence**'.

Pupil Voice:

What have you learned? How did you learn? What skills have you developed?

See '**Child's Toy – Pupil Self Evaluation**

Did the learner successfully attain the outcomes? **YES/NO**

Child's Toy Task - Pupils Self Evaluation

~~Amy Gillanders~~

Pupil Name:

Success Criteria	Stongly Disagree	Disagree	Agree	Strongly Agree
I have produced sketches which show proportion and scale			✓	
I have produced 2D and 3D Sketches using perspective techniques (i.e. Isometric, etc)			✓	
I have planned and justified the choice of colours, layout and graphic techniques in my Thumbnails			✓	
I can recognise and have applied the Design Principles/Elements and DTP terms			✓	
I have extrated information from given drawings to produce Orthographic and Pictorial Drawings			✓	
I have identified and used appropraite drawings standards, symbols and conventions (i.e. British Standards)			✓	
I have created Assembled and Exploded Pictorial (i.e. Isometric) drawings from a 3D CAD assembly Model			✓	
I have identified CAD commands, techniques and practice used to produce 3D Graphic Models (i.e. CAD Models)			✓	
I have produced 3D rendered CAD Models that show light source, surface texture and materials			✓	
I have selected appropriate forms, structures and styles of writing to meet the needs of different audiences			✓	

Masters Castle High School

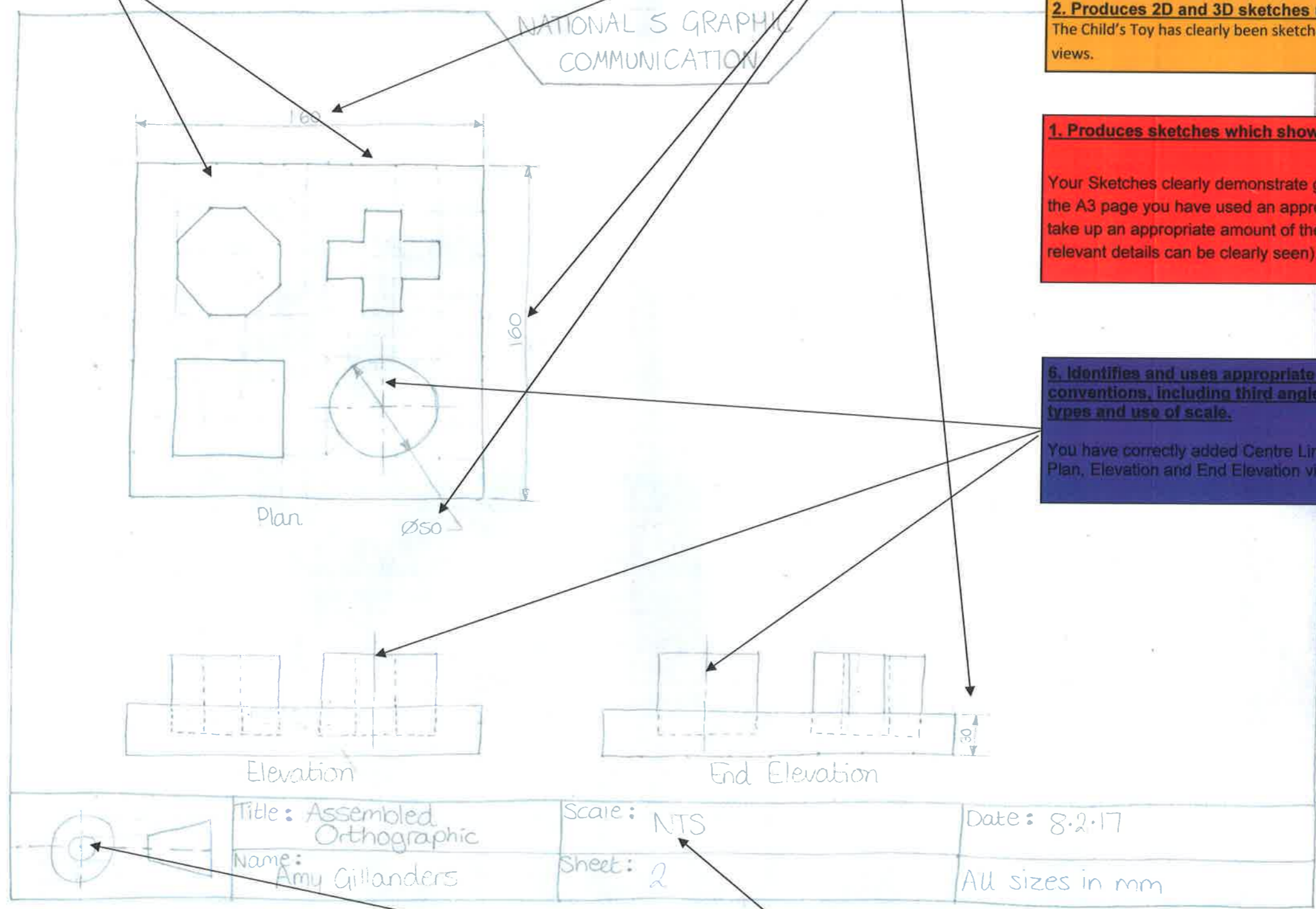
6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have also made good use of light Construction Lines and used darker lines to indicate Visible Edges.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have added 4 relevant dimensions to the views that conform to British Standards.

2. Produces 2D and 3D sketches using perspective techniques.
 The Child's Toy has clearly been sketched very well in 2D Orthographic type views.

1. Produces sketches which show proportion and scale.
 Your Sketches clearly demonstrate good proportion. Based on the size of the A3 page you have used an appropriate scale for your sketch (i.e. they take up an appropriate amount of the page and are big enough that the relevant details can be clearly seen).

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have correctly added Centre Lines for the Cylindrical Block in the Plan, Elevation and End Elevation views.



6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have correctly added the Third Angle Projection symbol to the Title Block at the bottom of the page. You have also recognised that Scale would normally be included in the Title Block and have informed us that the view is Not To Scale (i.e. NTS). All other expected Information has been included in the Title Block.

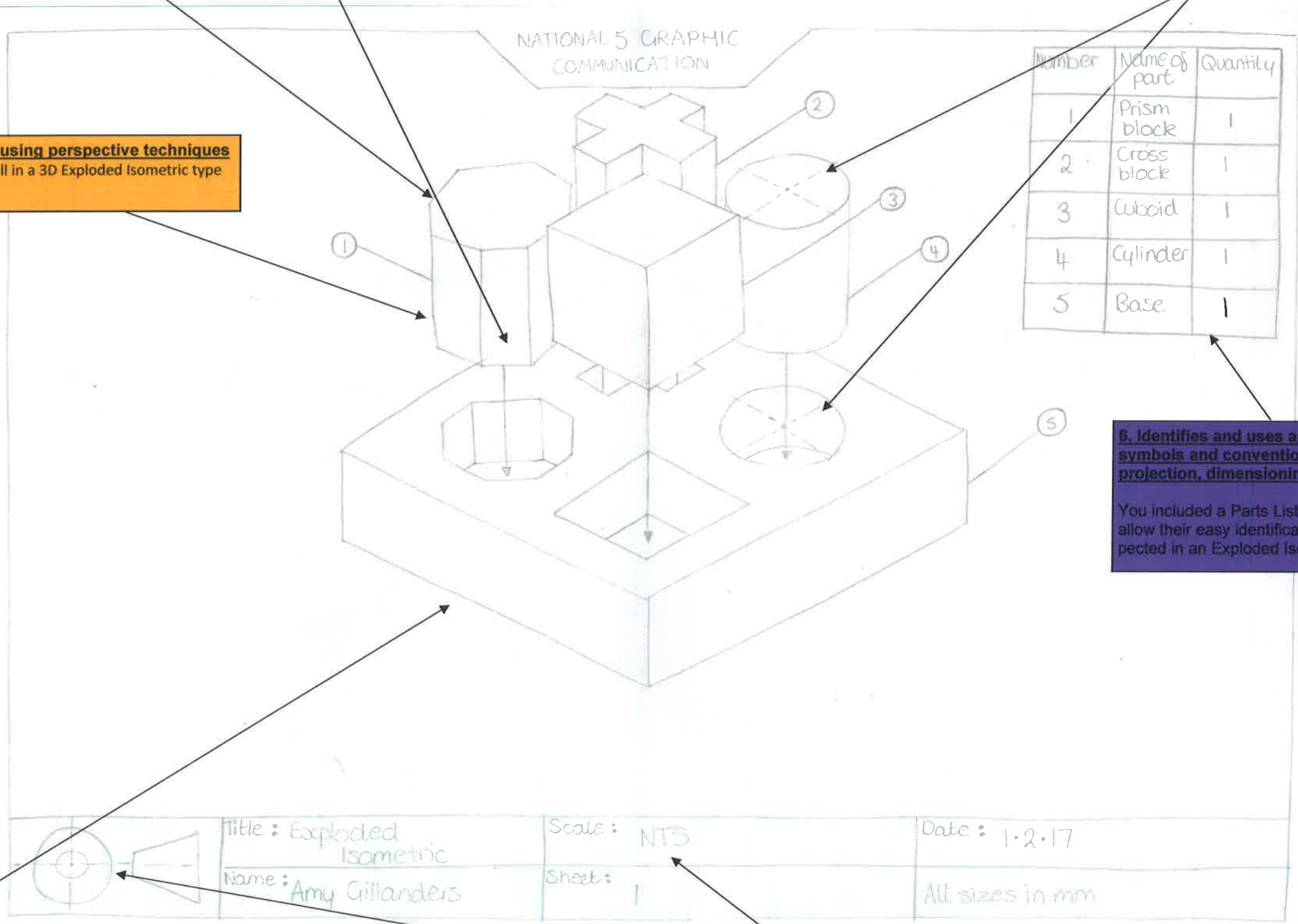
6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

You have also made good use of Linetype (i.e. light Construction Lines and darker lines to indicate Visible Edges).

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

You have correctly added Centre Lines to the Top Surface of the Cylindrical Block and the opening of its corresponding hole.

2. Produces 2D and 3D sketches using perspective techniques
 This has clearly been sketched very well in a 3D Exploded Isometric type view



6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

You included a Parts List and clearly labelled each part to allow their easy identification, as would normally be expected in an Exploded Isometric drawing.

1. Produces sketches which show proportion and scale.

Your Sketches clearly demonstrate good proportion. Based on the size of the A3 page you have used an appropriate scale for your sketch (i.e. it takes up an appropriate amount of the page and is big enough that the relevant details can be clearly seen).

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

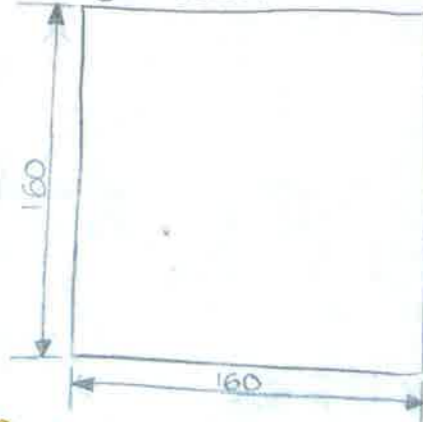
You have correctly added the Third Angle Projection symbol to the Title Block at the bottom of the page. You have also recognised that Scale would normally be included in the Title Block and have informed us that the view is Not To Scale (i.e. NTS). All other expected information has been included in the Title Block.

8. Identifies CAD commands, techniques and practice employed in the production of 3D graphics and models.

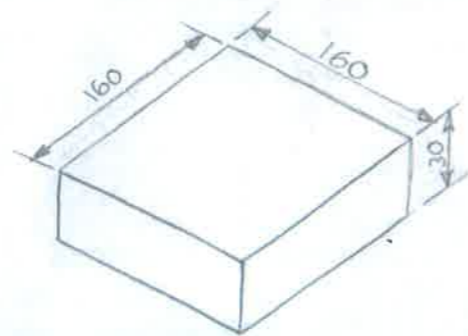
You have clearly identified the CAD Commands and correctly explained the Techniques used to produce 3D models of each of the component parts of the Child's Toy.

Modelling Plan Components

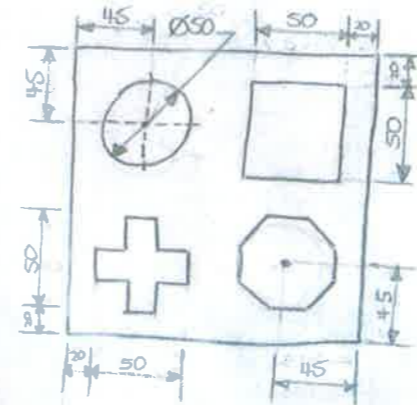
On the vertical work plane will make a sketch of the following square using the rectangle tool.



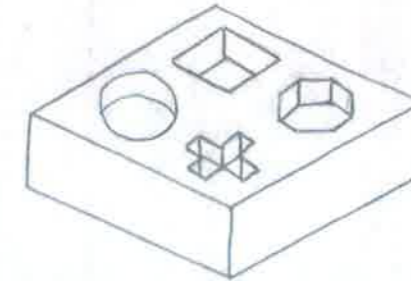
I will then extrude the square by a depth of 30mm.



Then I will draw the following sketch on the top surface of the base, with the following dimensions.

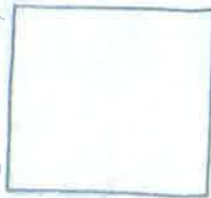


I will then subtract extrude the shapes by 20mm.

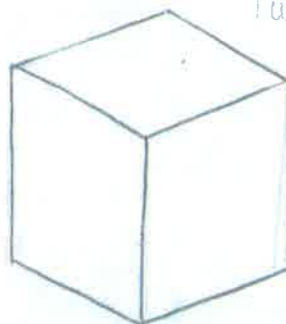


1 Cube Block

I will then sketch a square on the horizontal work plane, with dimensions 50mm x 50mm.



I will then extrude the shape by 50mm.

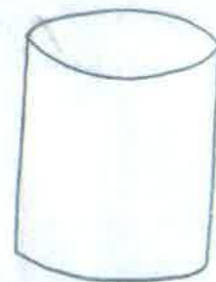


2 Cylinder Block

I will sketch a circle on the horizontal work plane, with a diameter of 50mm.



I will then extrude the shape by 50mm.



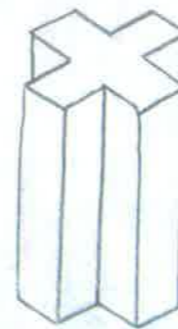
3 Cross Block

I will sketch a cross on the horizontal work plane using the line tool.



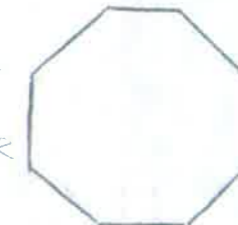
It will then add dimensions 50mm by 50mm.

I will then extrude the shape by 50mm.



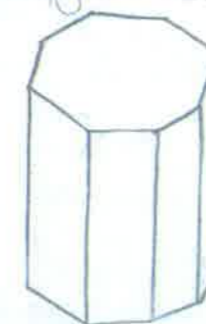
4 Prism Block

I will then sketch a octagon on the horizontal work plane using the polygon tool.



It will then add dimensions 50mm by 50mm.

I will then extrude the shape by 50mm.



10. Writes for a range of purposes and audiences selecting appropriate genre, form, structure and style to enhance communication and meet the needs of audience.

You have selected an appropriate form, structure and style for this written piece of work. The modelling plan meets its purpose by providing clear instructions that would allow the intended audience (CAD technician) to accurately produce each of the component parts of the Child's Toy.

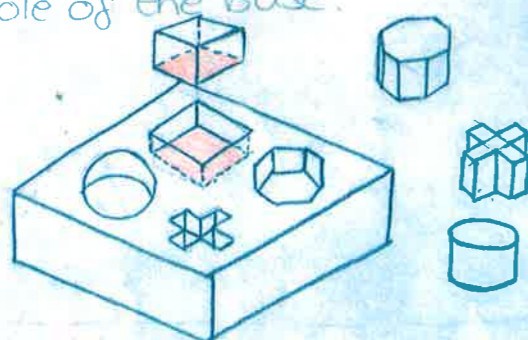
8. Identifies CAD commands, techniques and practice employed in the production of 3D graphics and models.

You have clearly identified the CAD Commands and correctly explained the Techniques used to produce the 3D model of the assembled Child's Toy.

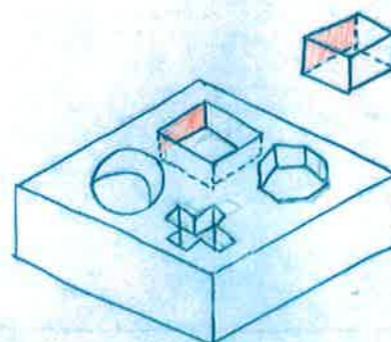
Modelling Plan Assembly

1 Open an assembly file and place the five component parts into it.

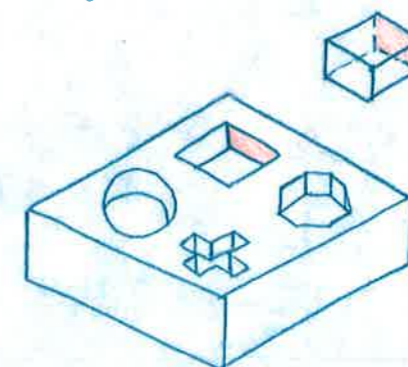
2 Using the mate tool constrain the bottom surface of the cube to the corresponding surface in the hole of the base.



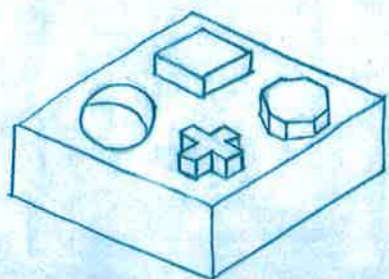
3 Then using the mate tool constrain the left side surface of the cube to the corresponding surface in the hole of the base.



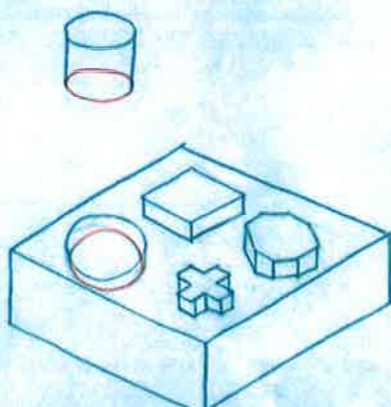
4 Using the mate tool again, constrain the right side surface of the cube to the corresponding surface in the hole of the base.



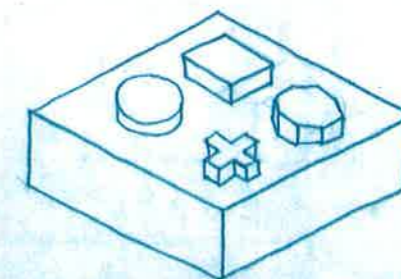
5 Using the same technique, insert the cross block and the prism block.



6 Then insert the cylinder block using the insert tool to constrain the bottom edge of the block to the bottom edge in the hole of the base.



7

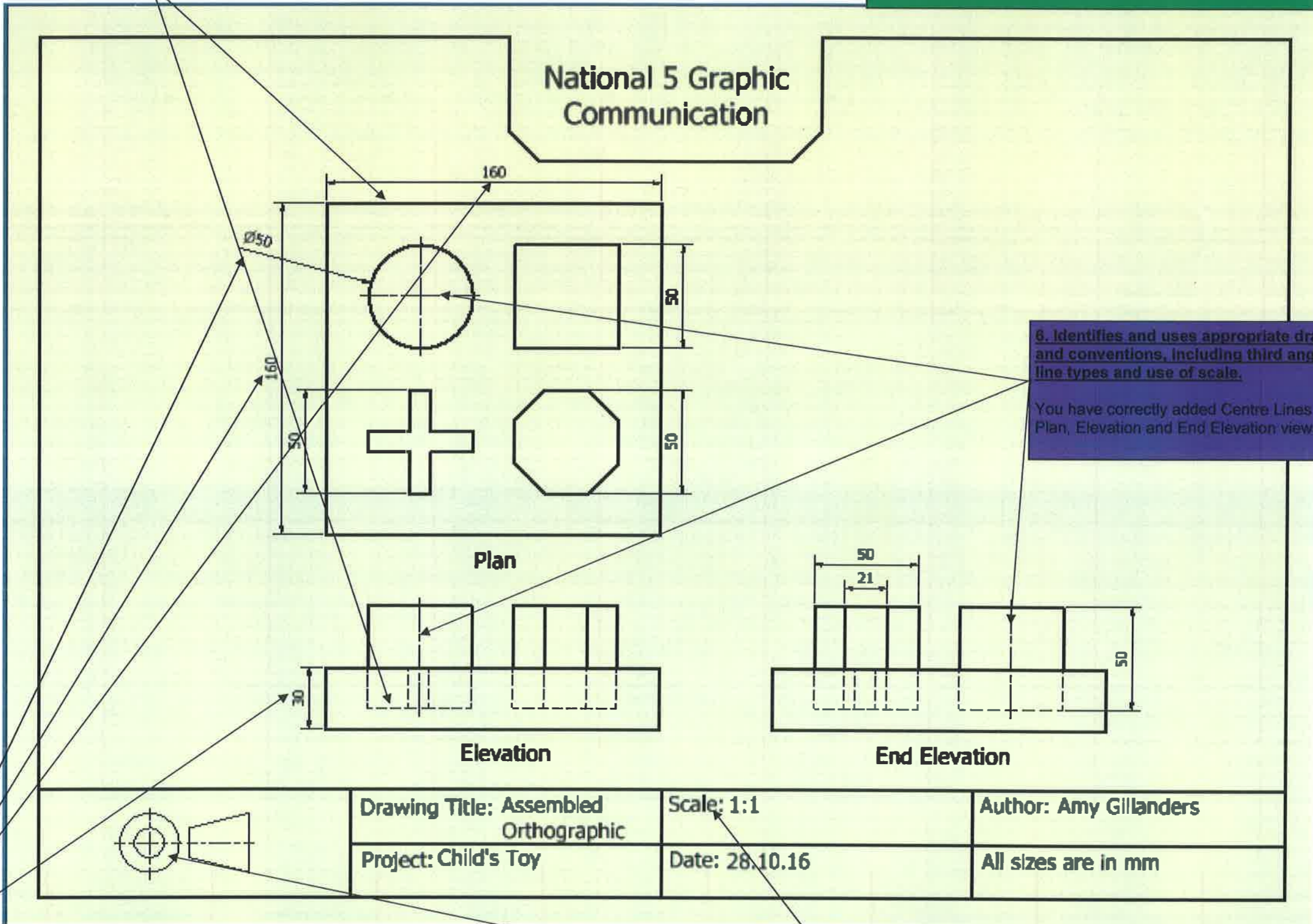


10. Writes for a range of purposes and audiences selecting appropriate genre, form, structure and style to enhance communication and meet the needs of audience.

You have selected an appropriate form, structure and style for this written piece of work. The modelling plan meets its purpose by providing clear instructions that would allow the intended audience (CAD technician) to accurately assemble the component parts of the Child's Toy.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have also made appropriate use of Linetype (i.e. Hidden Detail and have used dark Outlines to indicate Visible Edges).

5. Produces orthographic and pictorial drawings by extracting information from given drawings, including detail such as hidden detail, centre axis.
 You have clearly extracted the correct information from the given drawings as your sizes match those in the given drawing. As I have mentioned in some of the other annotations, it is clear that you have also picked up on the relevant details such as Hidden Detail and Centre Lines.



6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have correctly added Centre Lines for the Cylindrical Block in the Plan, Elevation and End Elevation views.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have added more than the minimum required dimensions (i.e. 4) to the views that are relevant and conform to British Standards.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have correctly added the Third Angle Projection symbol to the Title Block at the bottom of the page. You have also included a Scale in the Title Block. All other expected information has been included in the Title Block.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have made appropriate use of Linetype (i.e. dark Outlines to indicate Visible Edges and have correctly omitted all Hidden Detail).

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have forgotten to add Centre Lines to the Top Surface of the Cylindrical Block.

National 5 Graphic Communication

7. Creates assembled and exploded pictorial drawings from a 3D CAD assembly model.
 You have clearly created an Assembled Pictorial (Isometric) Drawing of the Child's Toy from the assembled version of the CAD model as two of the blocks are shown inserted into their respective holes in the Base.

	Drawing Title: Assembled Isometric	Scale: 1:1	Author: Amy Gillanders
	Project: Child's Toy	Date: 26.10.16	All sizes are in mm

5. Produces orthographic and pictorial drawings by extracting information from given drawings, including detail such as hidden detail, centre axis.
 You have clearly extracted the correct information from the given drawings as your sizes seem to match those in the given drawing. As I have mentioned in one of the other annotations, you have forgotten to add the relevant Centre Lines to the Top Surface of the Cylindrical Block.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.
 You have correctly added the Third Angle Projection symbol to the Title Block at the bottom of the page. You have also included a Scale in the Title Block. All other expected information has been included in the Title Block.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

You included a Parts List and clearly labelled each part to allow their easy identification, as would normally be expected in an Exploded Isometric drawing.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

You have forgotten to add Centre Lines to the Top Surface of the Cylindrical Block and the opening of its corresponding hole.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

You have made appropriate use of Linetype (i.e. dark Outlines to indicate Visible Edges and have correctly omitted all Hidden Detail).

7. Creates assembled and exploded pictorial drawings from a 3D CAD assembly model.

You have clearly created an Exploded Pictorial (Isometric) Drawing of the Child's Toy from the assembled version of the CAD model as two of the blocks are hovering above their respective holes in the Base.

National 5 Graphic Communication

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	Base
2	1	Prism
3	1	Cylinder

	Drawing Title: Exploded Isometric	Scale: 1:1	Author: Amy Gillanders
	Project: Child's Toy	Date: 31.10.16	All sizes are in mm

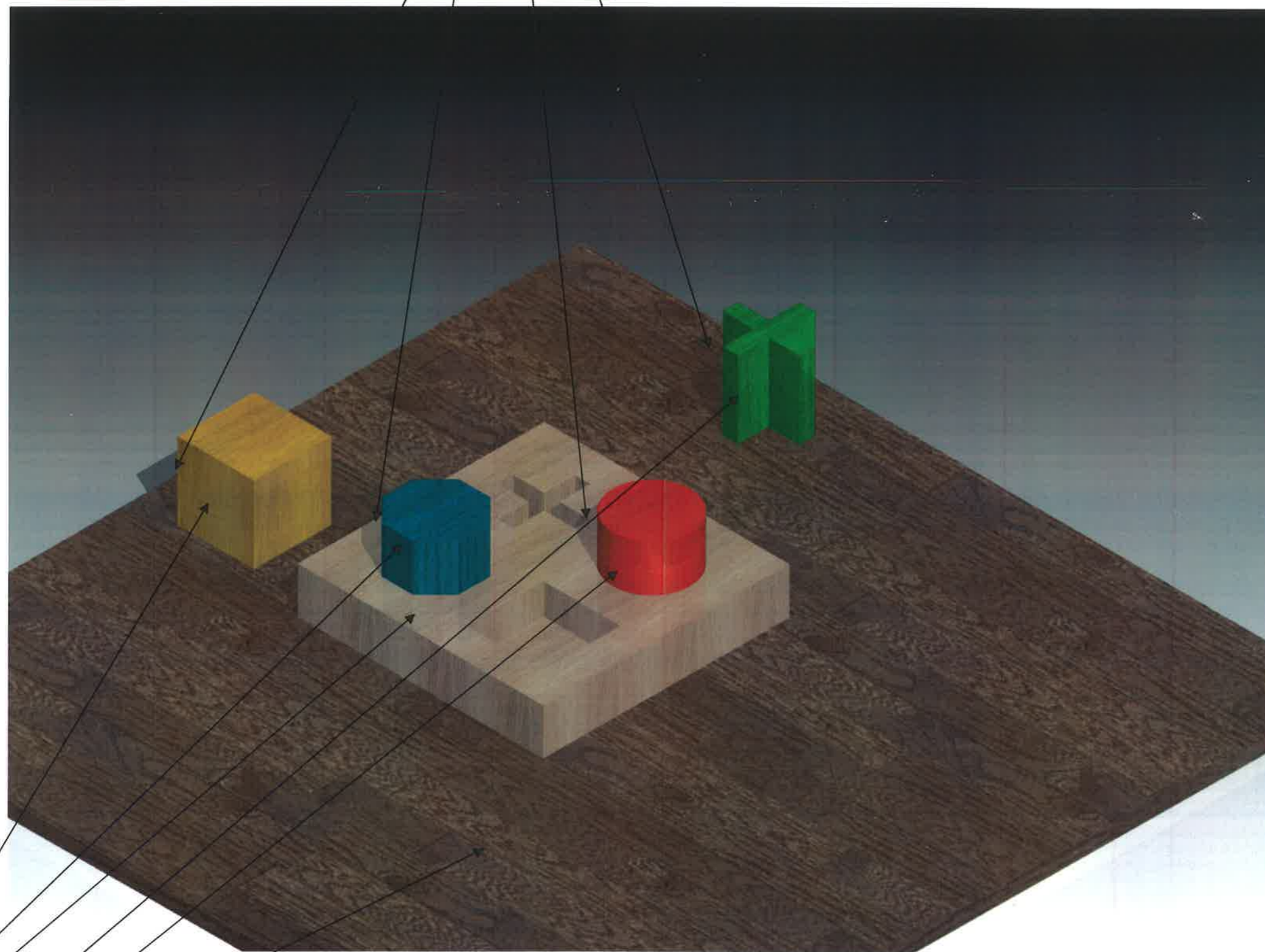
5. Produces orthographic and pictorial drawings by extracting information from given drawings, including detail such as hidden detail, centre axis.

You have clearly extracted the correct information from the given drawings as your sizes seem to match those in the given drawing. As I have mentioned in one of the other annotations, you have forgotten to add the relevant Centre Lines to the Top Surface of the Cylindrical Block and the opening of its corresponding hole.

6. Identifies and uses appropriate drawing standards, symbols and conventions, including third angle projection, dimensioning, line types and use of scale.

You have correctly added the Third Angle Projection symbol to the Title Block at the bottom of the page. You have also included a Scale in the Title Block. All other expected information has been included in the Title Block.

9. Produces rendered 3D CAD models to show the light source, surface texture, materials applied to the model and a background
It is clear from the shadows being cast on the surfaces of the various parts of the scene that a light source has been applied to the environment.



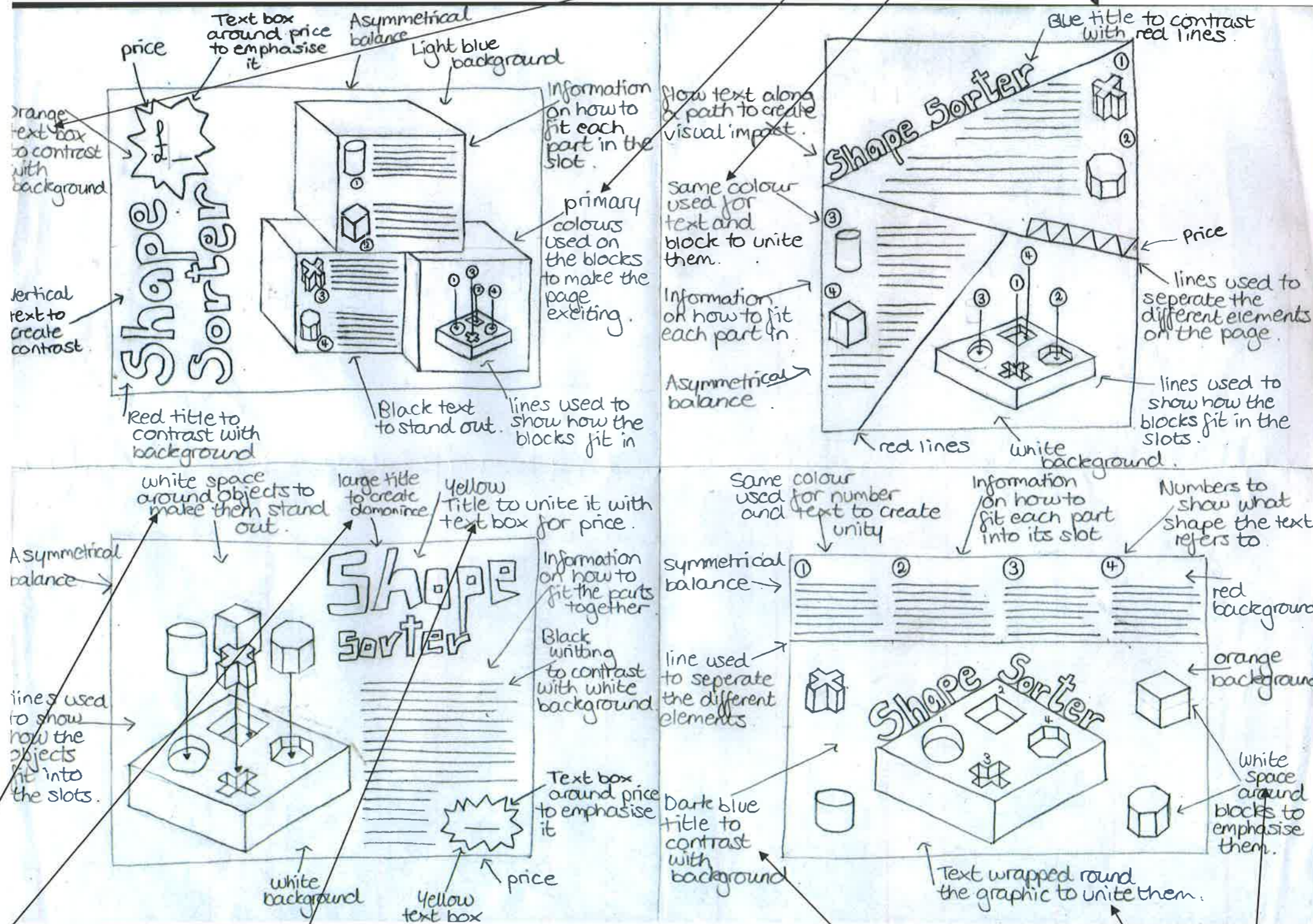
9. Produces rendered 3D CAD models to show the light source, surface texture, materials applied to the model and a background
It is clear from the render that all parts shown in the scene have a wooden texture. The woodgrain pattern has been scaled appropriately for the various parts to give a realistic appearance. The four shapes have also had an appropriate colour stain applied to the material (Primary Colours).

10. Writes for a range of purposes and audiences selecting appropriate genre, form, structure and style to enhance communication and meet the needs of audience.

You have selected an appropriate form, structure and style for this written piece of work. The annotations on the Thumbnail designs meet their purpose by providing clear explanations of the Elements & Principles/DTP Features that have been utilised and described the effect that that you are attempting to create through their use. These would allow the intended audience (other Graphic Designers) to understand the thinking behind each Thumbnail Design.

3. Plans and justifies the choice of colours, layout and presentation techniques in graphic displays

You have clearly Planned and Justified your use of Colour in a number of instances on this page



3. Plans and justifies the choice of colours, layout and presentation techniques in graphic displays
It is clear that you have Planned and Justified your Layout and Presentation Techniques in a number of instances on this page (namely your use of Elements & Principles as well as DTP Features).

4. Recognises and can apply the design principles and DTP terms
You have clearly Recognised where you have Applied Elements & Principles as well as DTP Features.