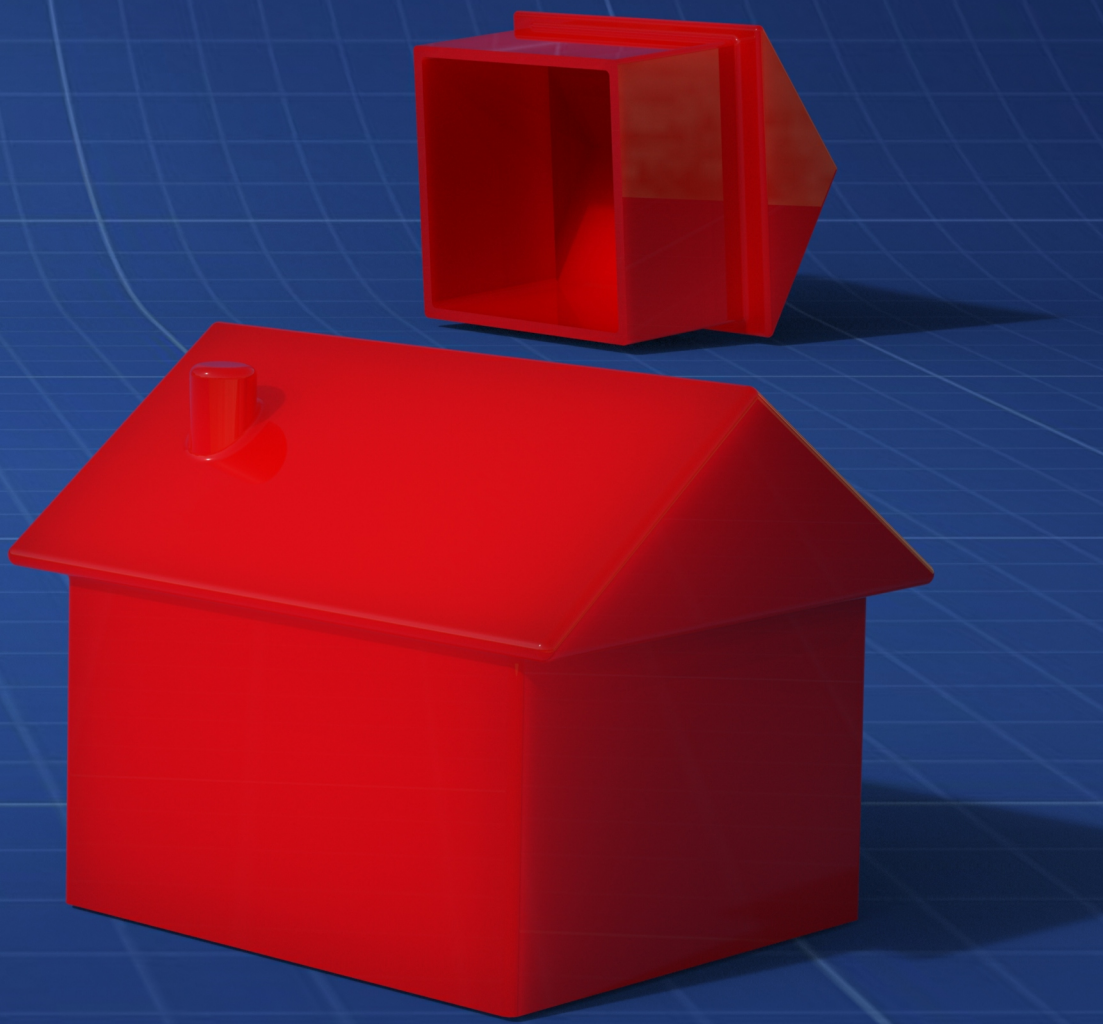
GRAPHIC COMMUNICATION

ARCHITECTURE + BUILDING DRAWING



NAME: _____ CLASS/TEACHER: _____

INTRODUCTION

We are surrounded by buildings of all shapes and sizes. Some buildings are purely functional, built to a low-cost without any aesthetic consideration, and some are beautiful sculptures capable of inspiring those that live and work in them.

Buildings are more than just wood, bricks, glass and concrete, they are an expression of human aspiration.

In this unit, you will learn about the basic graphic processes surrounding architecture and construction drawings.

You will need to remember various symbols, technical information and drawing standards, along with developing skills in creating graphics. You will create several folio items during this unit.

Describe the role of an architect.

Describe the qualifications and certifications required to become an architect in the UK.

LEARNING CHECKLIST

- I can recognise all the symbols used in building drawing and architecture .
- I can recognise one and two-point perspective views.
- I can create one and two-point perspective views.
- I can recognise planometric views.
- I can describe the features of a location plan.
- I can describe the features of a site plan.
- I can describe the features of a floor plan.
- I can state suitable scales for various views.
- I can position sockets, light-switches, lights and plumbing features appropriately.
- I can describe the impact building and construction has on society.
- I can describe how architects can present concepts.

ARCHITECTURAL SYMBOLS

Architects work with lots of different people; customers, planning officers, technicians, ground engineers, construction workers, carpenters, plumbers, electricians, glaziers and roofers.

Each group will require specific drawings and technical information. These drawings can be incredibly complex and time consuming to produce.

Architects use specific symbols for different features.

These symbols are industry standard (BS.8541) and used by everyone:

- They are easily understood by everyone involved in the industry.
- They can imported from a CAD Library, reducing time to create drawings.



ONE-POINT PERSPECTIVE | PRIMITIVES

Architects use a range of pictorial graphics to illustrate size, scale and proportion. Each pictorial graphic format has unique advantages and disadvantages. The most popular pictorial formats are one and two-point perspectives.

In this section, you will practice your skills creating one-point perspective graphics. You should practice using manual techniques and illustration software.

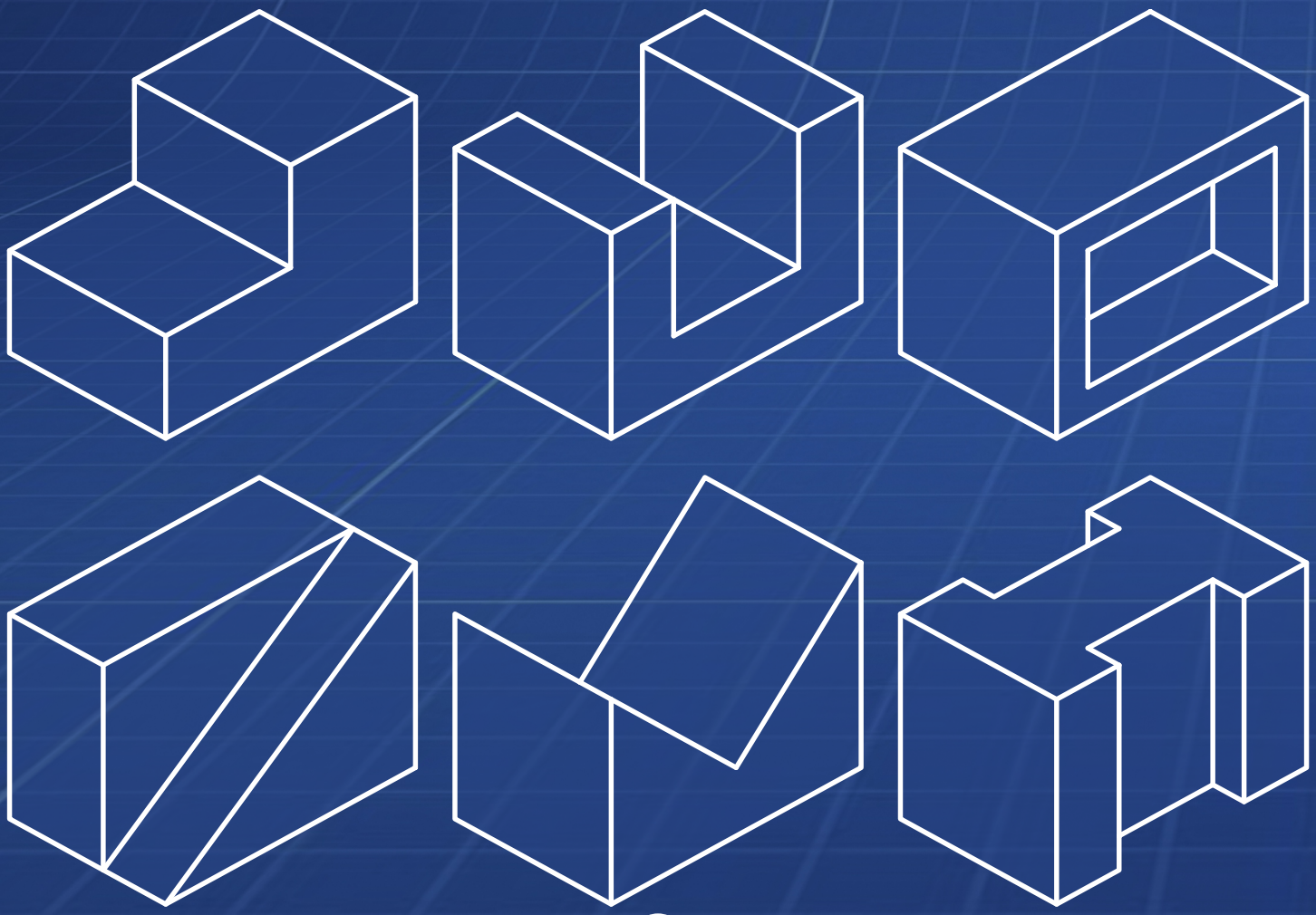
You can find demonstrations at DesignClass.co.uk

Explain the terms 'horizon' and 'vanishing point'.

Explain the term 'perspective' in relation to graphics.

TASK | BUILD YOUR FOLIO!

The following six primitives have been shown in an isometric view. Sketch or draw each of these primitives in one-point perspective. Try showing each block in a different position and try to keep proportions correct.



ONE-POINT PERSPECTIVE | INTERIORS

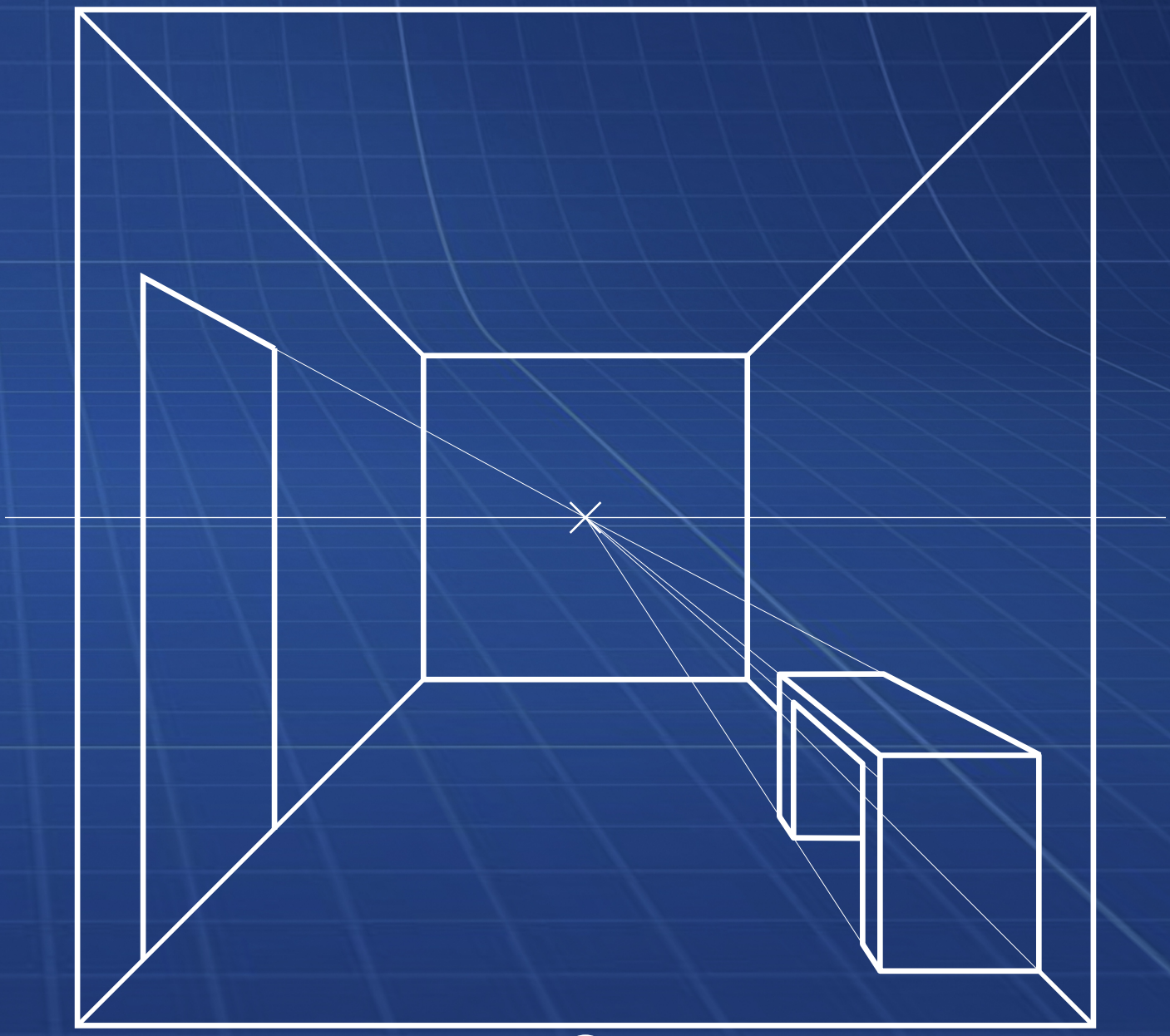
Architects will often use one-point perspective for presenting the interior spaces of buildings. It is a quick technique that can generate pleasing results.

One-point perspective can help explain the space available; how will people be able to move? Will furniture be too big? Are the proportions good? Many architects (and interior designers), will use this drawing to show potential colour schemes, lights, shadows, textures and materials. Whilst this can be more time consuming, it can look dramatic and help to 'sell' a concept or idea to an unsure client.

Practice your skills in creating one-point perspective room layouts. You can find demonstrations at DesignClass.co.uk

TASK | BUILD YOUR FOLIO!

Create a one-point perspective drawing of a room, either manually or using software. Consider the proportions of different objects and where you place furniture. Consider adding colour, shade or textures to make the scene more attractive and explain features better.

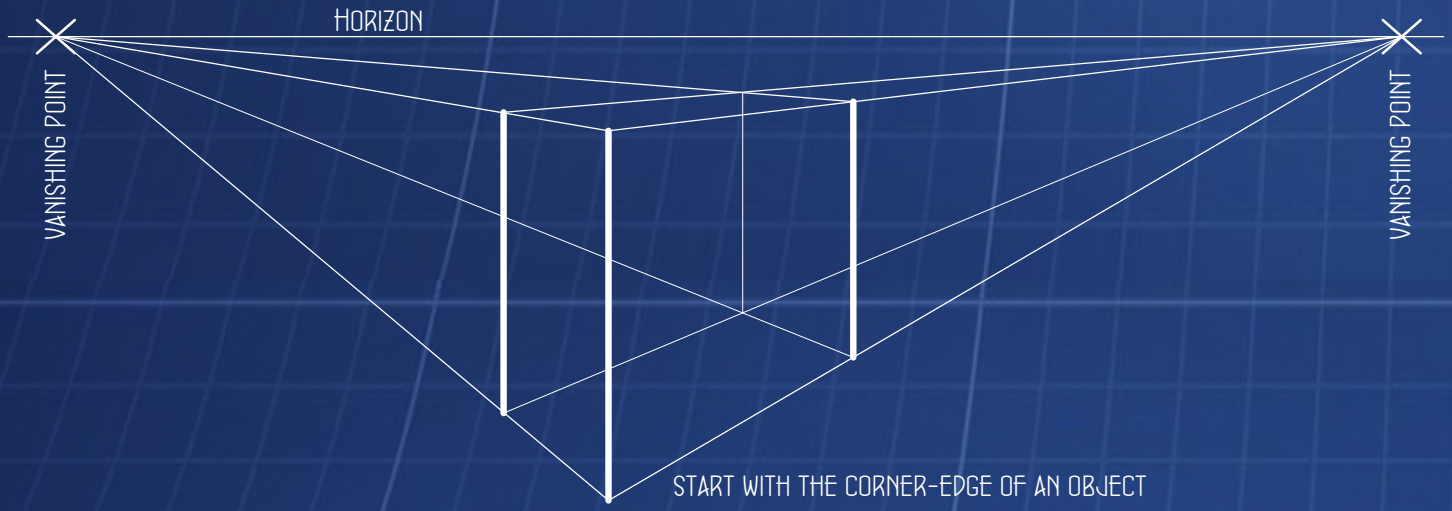


TWO-POINT PERSPECTIVE | PRIMITIVES

As the name suggests, two-point perspective graphics use two vanishing points. Two vanishing-points help create more realistic representations, but these are more complex and time consuming to produce.

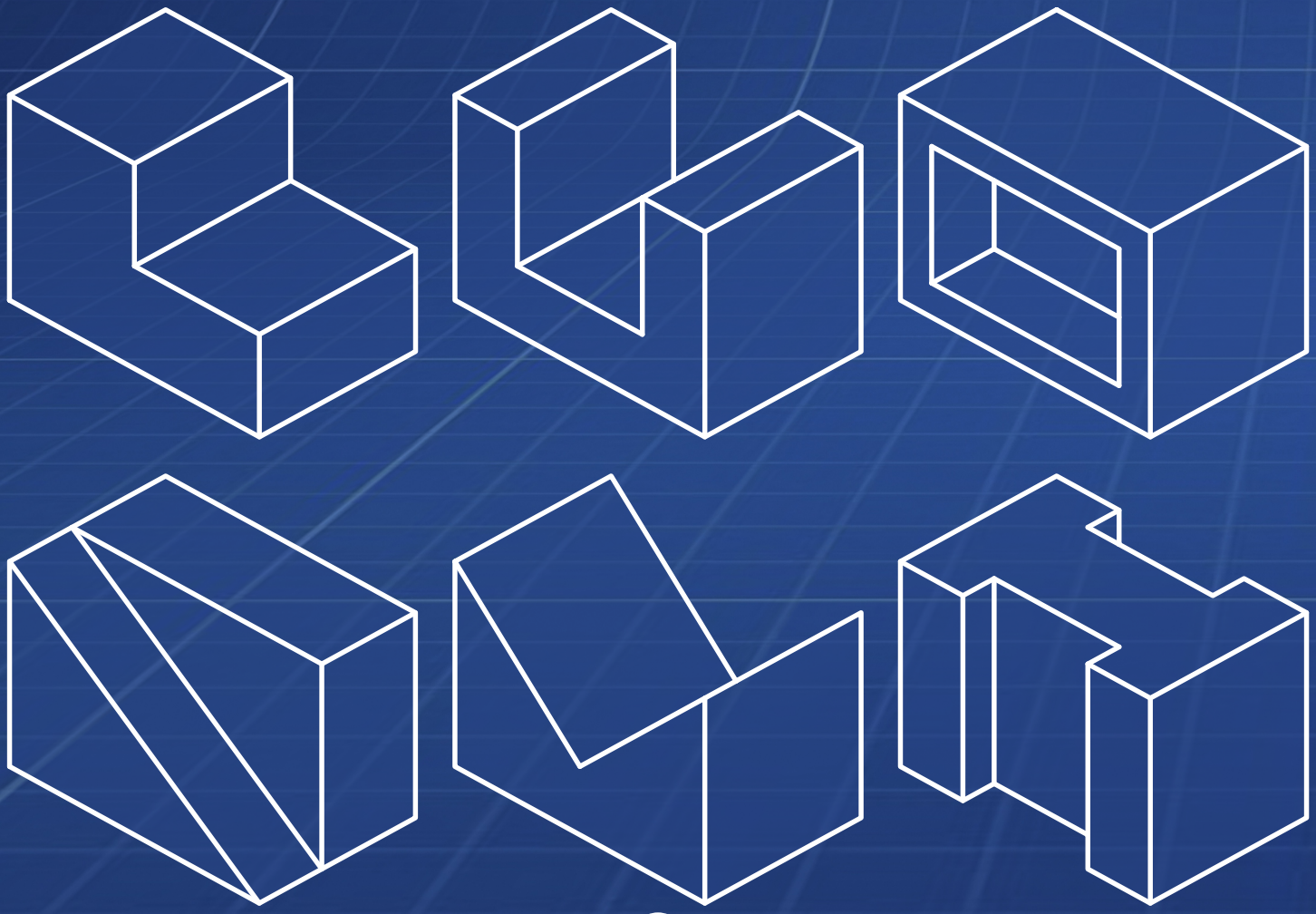
Two-point perspective is a favourite amongst architects and designers. Practice is the key to success.

You can find demonstrations at DesignClass.co.uk



TASK | BUILD YOUR FOLIO!

The following six primitives have been shown in an isometric view. Sketch or draw each of these primitives in two-point perspective. Try showing each block in a different position and try to keep proportions correct.



TWO-POINT PERSPECTIVE | INTERIORS

Architects, environmental and interior designers frequently use two-point perspective to present concept ideas.

This can be more complex than it sounds, as the positioning of the vanishing points can dramatically alter the realism of the graphic. You will begin practicing with vanishing points upon a horizon line, but with time and practice, you will use 'remote' vanishing points that may be off the page by a significant distance.

Two-point perspective graphics can be either be dramatic or very realistic, depending on the position of the vanishing points.

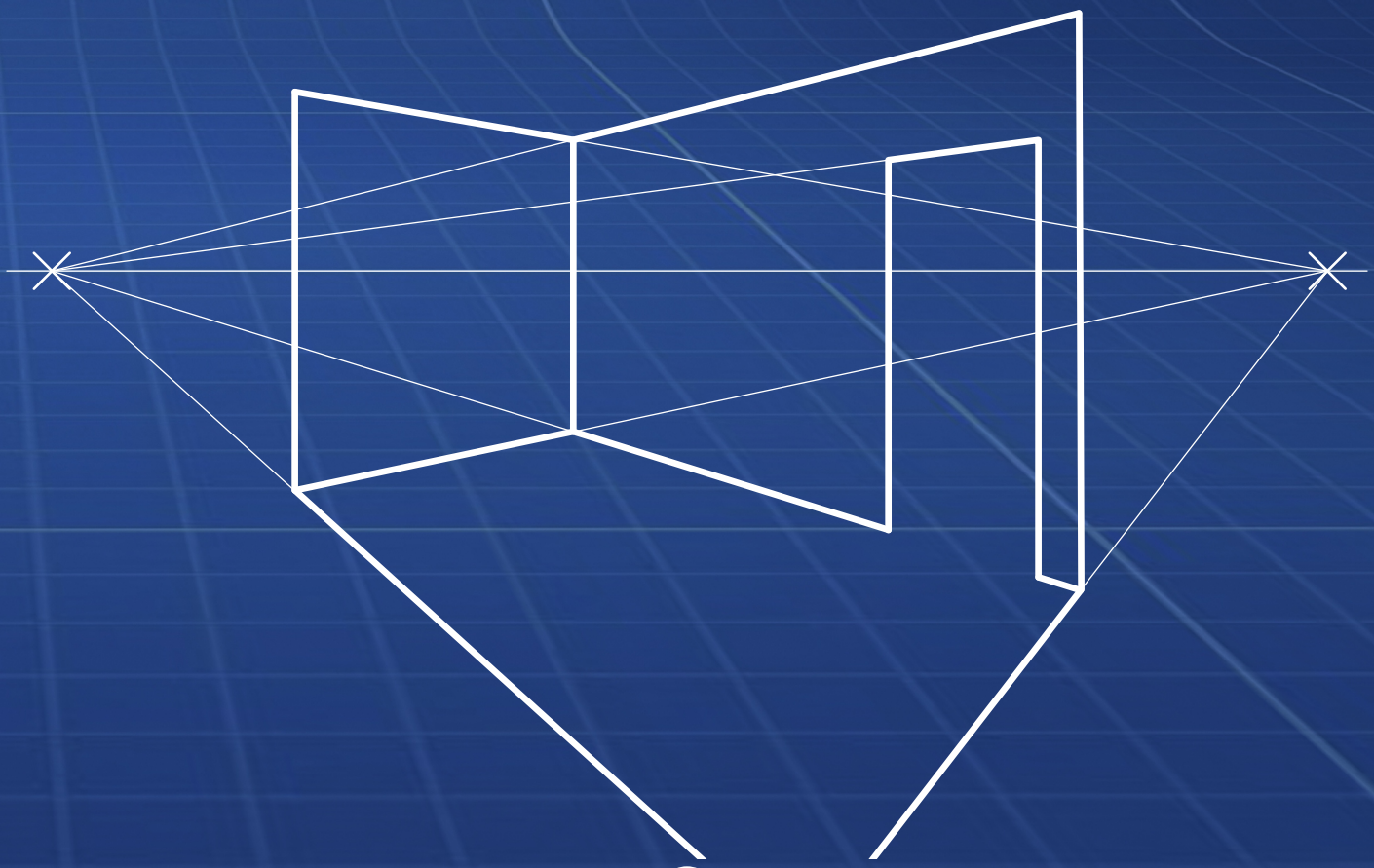
You can find demonstrations at DesignClass.co.uk

TASK | BUILD YOUR FOLIO!

Create a two-point perspective sketch of a building you know, for instance, your home or your school.
If you are feeling confident, try to present a street or a collection of buildings together.

TASK | BUILD YOUR FOLIO!

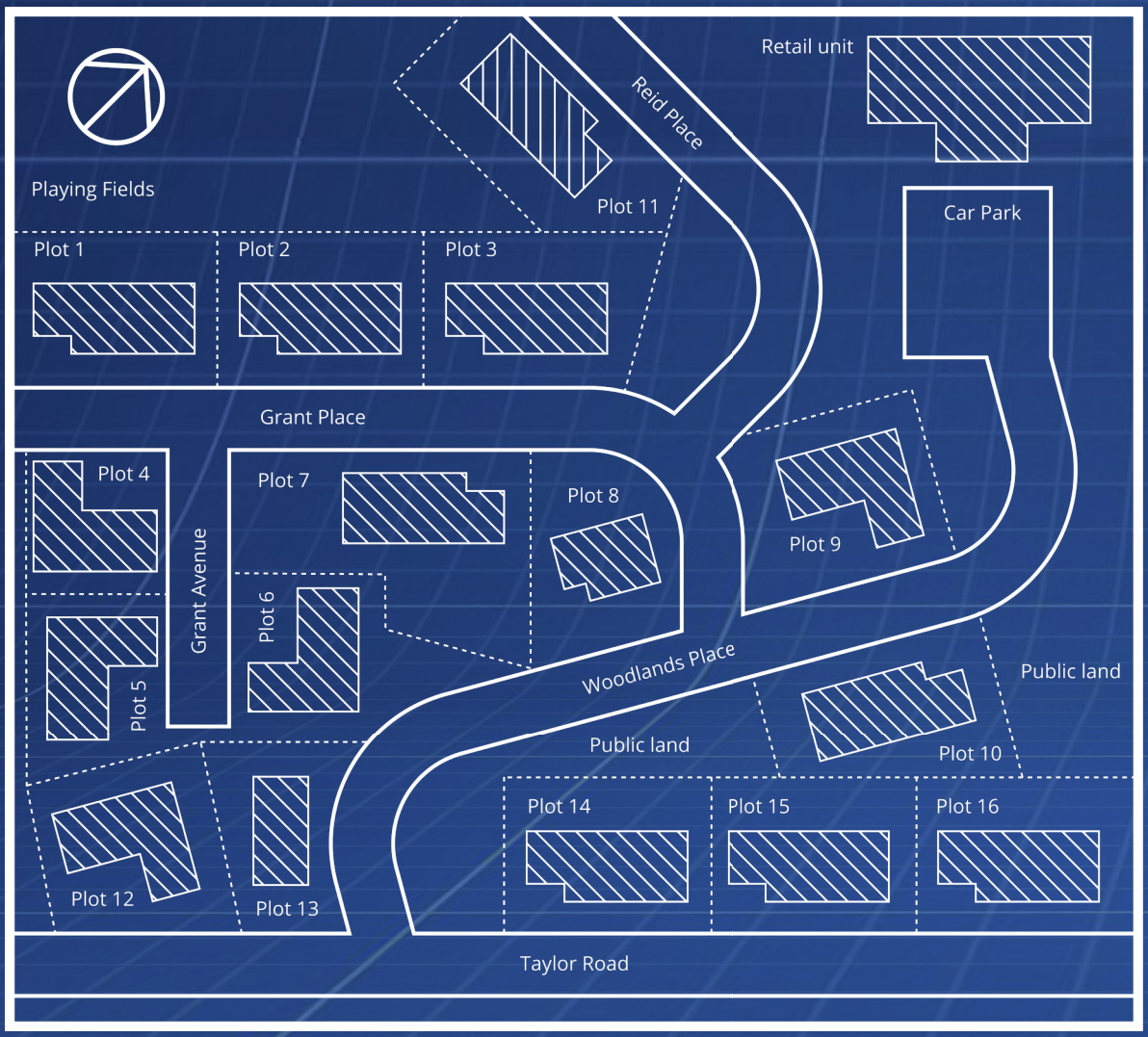
Create a two-point perspective drawing of a room, either manually or using software.
Consider the proportions of different objects and where you place furniture.
Consider adding colour, shade or textures to make the scene more attractive.



LOCATION PLANS

Location plans are the most basic of planning drawings. Similar to small maps, they detail the position of buildings, roads, plot boundaries, the direction of north and any public land or amenities. Don't expect much detail and don't take any precise measurements from the drawing, even if the drawing has a scale!

You should be able to read a location plan and interpret basic information, such as the direction buildings are facing - remember the north indication arrow - The names of roads, and types of house. Understanding basic environmental factors - such as south-facing gardens getting the most sun - can also be beneficial knowledge.



State a suitable scale for a 'Location Plan'

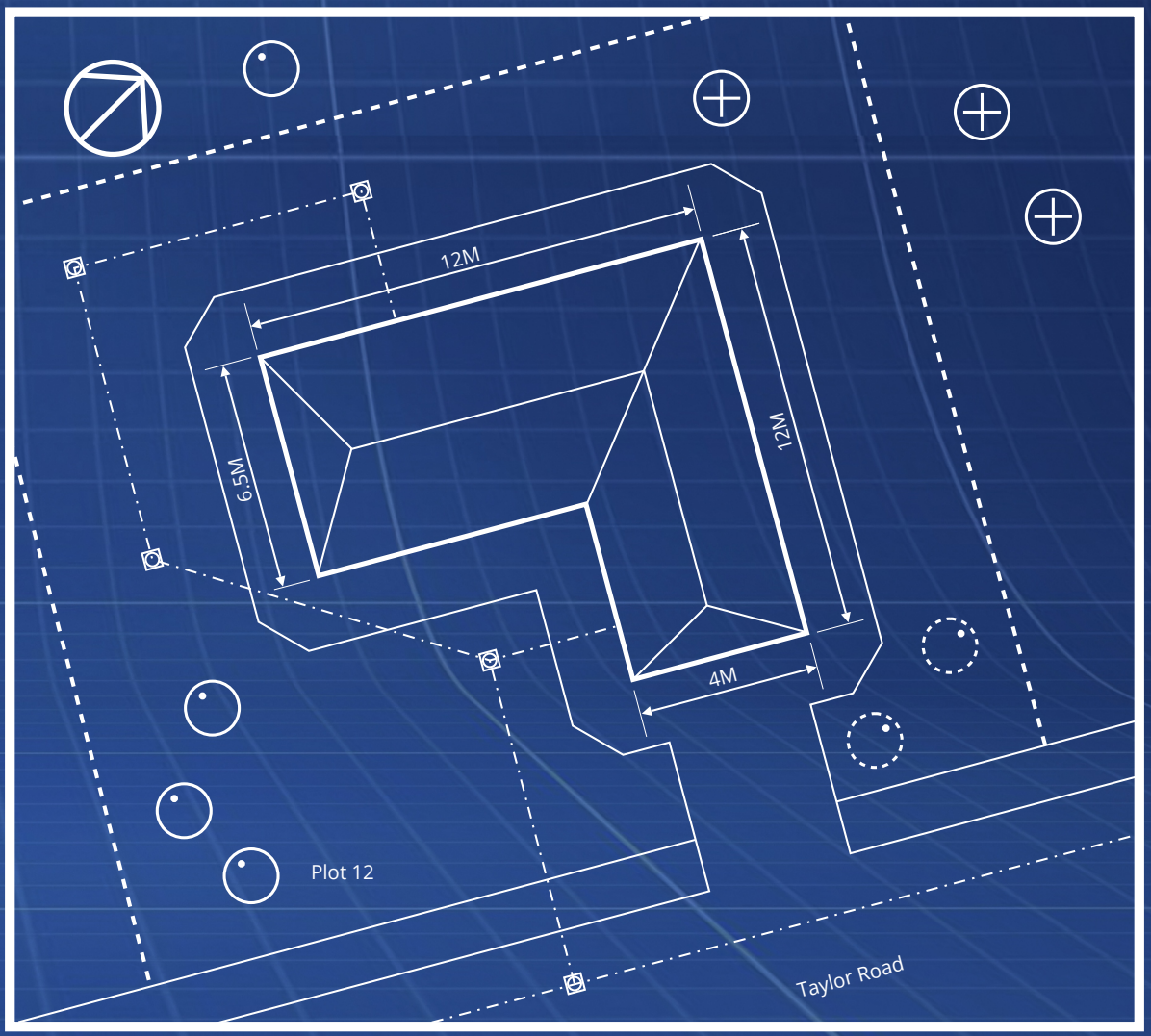
Describe two different audiences or clients that may use a location plan. Include why they make use of it.

SITE PLANS

Site plans contain vastly more detail about an individual property and will be used by a large number of professionals.

Using a site-plan, you should be able to determine the floor area of a properly in square-meters (M^2), the perimeter, in meters, drainage points and trees to be left, added or removed.

Reading a site plan requires considerable attenton to detail. Look for the boundary plot lines and any dimensions that are shown. You should also consider which direction is north. Also, look for where drains enter a house - you can usually determine where bathrooms and kitchens are by looking at where these pipes enter a building...



State a suitable scale for a 'Site Plan'

Calculate the perimeter of the house.

Calculate the floor area of the house.

The number of tree in the plot.

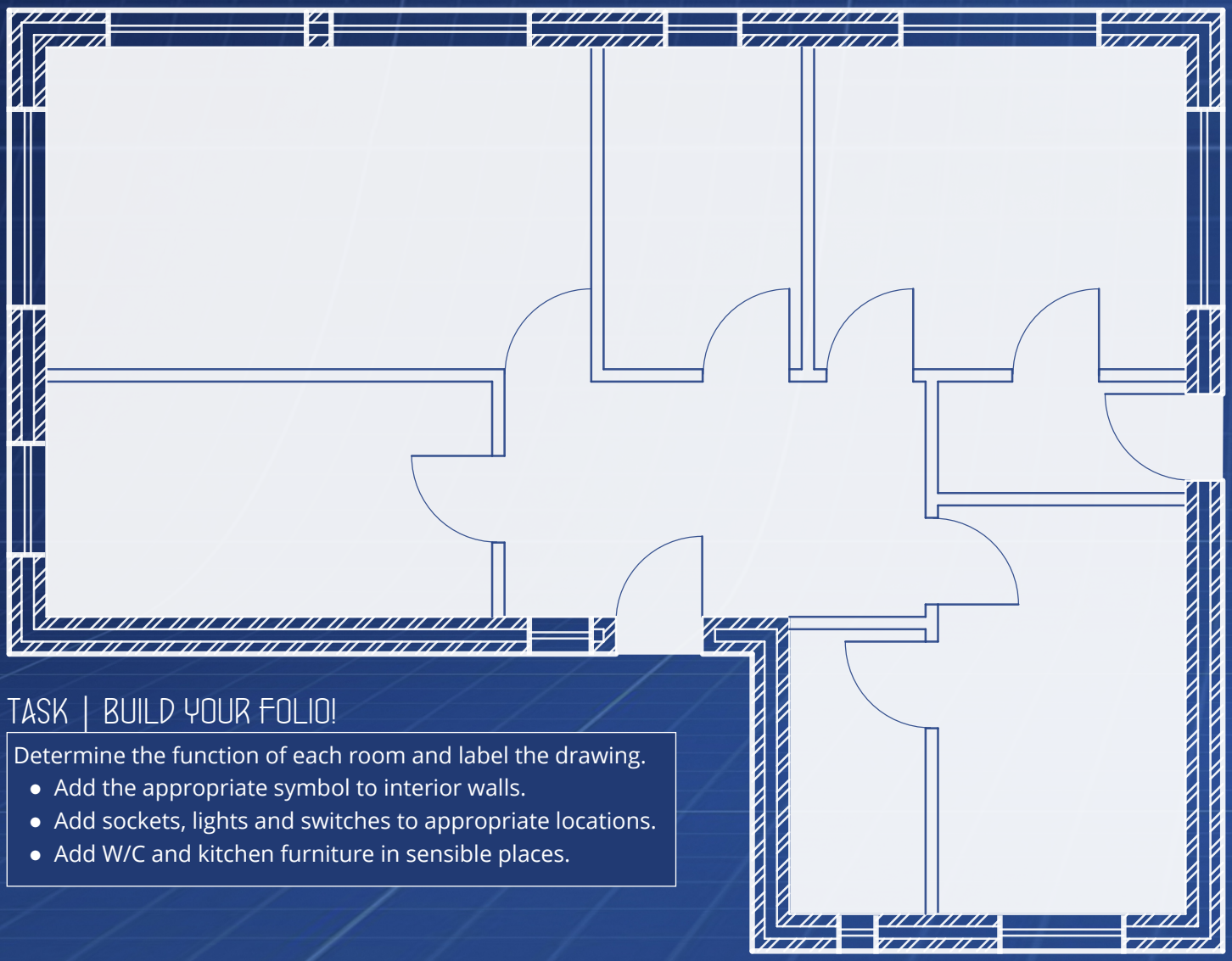
FLOOR PLANS

Floor plans are detailed views about specific properties, showing each room and the location of electrical sockets, lights, switches, plumbing fixtures and wall types.

Some floor plans may be scaled drawings, meaning you can 'lift' the sizes straight from the drawing. This means measuring the drawing and multiplying by the scale.

Learning to read and create floor plans is a powerful skill, even if you do not become an architect or work in construction - you will better understand your own home and how to make improvements.

Floor plans make use of BS.8541 symbols, so make sure you understand them.



TASK | BUILD YOUR FOLIO!

Determine the function of each room and label the drawing.

- Add the appropriate symbol to interior walls.
- Add sockets, lights and switches to appropriate locations.
- Add W/C and kitchen furniture in sensible places.

State a suitable scale for a 'Floor Plan'

Research the standard widths for (i) doorways, (ii) kitchen units, (iii) sinks and (iv) standard positions for light switches.

ELEVATIONS AND SECTIONAL VIEWS

Details matter, especially in architecture and construction. To provide detail to builders, carpenters, electricians and plumbers, sectional drawings are used.

Creating elevation and sectional views requires a detailed knowledge of not-only technical drawings but building construction. Here, we look at the basics.

TASK | BUILD YOUR FOLIO!

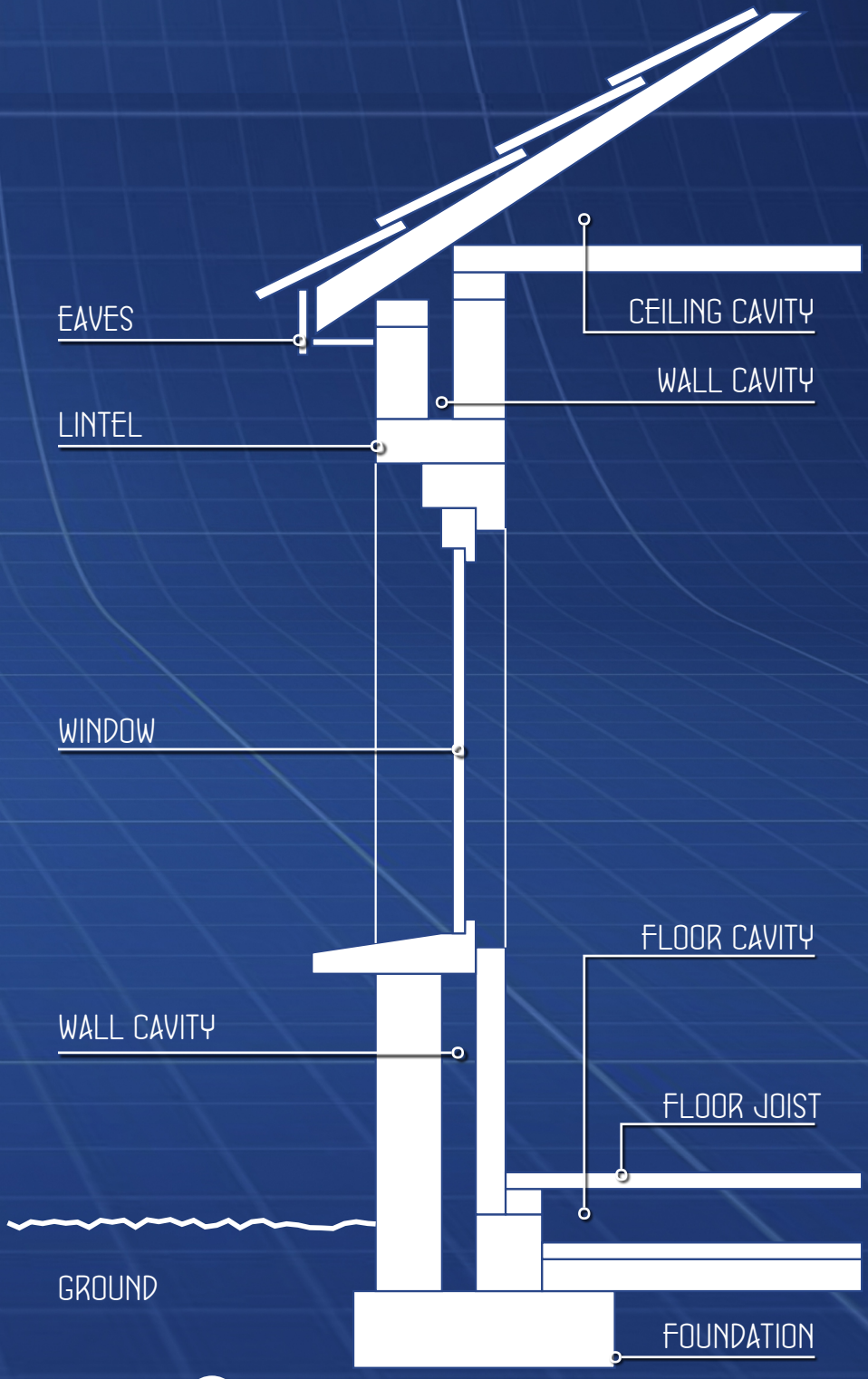
Analyse the sectional elevation shown below. Consider what each component may do and annotate each material with the appropriate BS.8541 symbol. You may wish to conduct some research such as the Course Notes book.

State a suitable scale for a 'Sectional Elevation'

Explain what the purpose of the 'eaves' of any building.

Explain the purpose of the lintel. State a suitable material for the lintel.

Describe a functional purpose for the wall, floor and ceiling cavities.



PLANOMETRIC VIEWS

Planometric views are not used nearly as frequently as they once were, before the adoption of computer graphics.

Planometrics are a quick-to-make pictorial graphic, based upon projecting heights from a plan view, rotated to either 45°, 30° or 60°. Planometrics are usually scaled drawings, so sizes can be taken from the drawing.

Recognising planometric views, and understanding how they are made is still a valuable skill. You can create planometric drawings using either drawing equipment or software. Planometric views are not very realistic, but are useful for presenting room layouts.

You can find demonstrations at DesignClass.co.uk

State a suitable scale for a 'planometric view' of a room.

_____

TASK | BUILD YOUR FOLIO!

Create a planometric sketch or drawing of a room. You may need drawing board and equipment to create this manually, or you may wish to sketch it, or use CAD software. How detailed can you make the drawing?



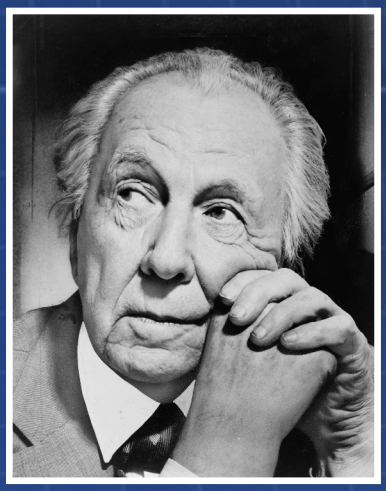
NOTEWORTHY ARCHITECTS

Whilst every building requires at least one architect (and usually many more, working in teams), not all architecture is groundbreaking. Thankfully, some is.

Learning from other architects is a great way of developing your skills and understanding of the built environment.

TASK | BUILD YOUR FOLIO!

Learning from successful architects can help you appreciate different aspects of design; shape, form, use of materials, proportions, function and sustainability. Choose one of the following architects and research one of their projects. **Create** several sketches and drawings of one of their buildings. Why did you make your choice?



FRANK LLOYD WRIGHT

Frank Lloyd Wright was an architect whose distinct style helped him became one of the biggest forces in American architecture.

Wright founded his own firm and developed a style known as the Prairie School, which strove for an "organic architecture" in designs for homes and commercial buildings.



KAZUYO SEJIMA

Kazuyo Sejima is the architect known for being the founder of SANAA, the Tokyo architecture studio that has designed innovative buildings in Japan and around the world.

She is known for designing with clean modernist elements such as slick, clean, and shiny surfaces made of glass, marble, and metals.



ODILE DECQ

French architect and town planner, Odile Decq is the founder of ODBC, which is internationally acclaimed for numerous ambitious projects.

Known for her unique style and her attention to detail, Odile Decq is also an outspoken advocate on social issues impacting design, architecture and culture

Explain the term 'Sustainability'.

BUILDING & SOCIETY

Architecture is much more than just buildings, it is a defining aspect of society. What sort of buildings do we create for hospitals, schools, care-homes, fire-stations, offices and social-housing? How do these buildings impact the environment and how much do they cost?

Understanding the social impact of building is an important consideration for architects.

You should try learn about the costs of a house - in a few short years you will be looking to rent or buy one yourself.

Research the price to **purchase** a three bedroom house, no larger than 105M^2 in (i) London, (ii) your home town. Find comparible houses, in terms of quality and finish. What differences exist in cost?

Research the price to **rent** a three bedroom house, no larger than 105M^2 in (i) London, (ii) your home town. Find comparible houses, in terms of quality and finish. What differences exist in cost?

TASK | BUILD YOUR FOLIO!

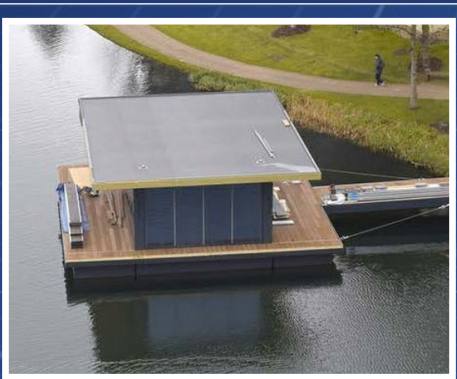
Choose one of the three 'design specifications' below and design your own building to meet the criteria. Create a series of sketches and drawings of your design - (i) external and internal persepecive sketches, (ii) a floor-plan to scale, and (iii) either a presentation drawing, computer render or physical model of your concept.



TINY HOUSE MOVEMENT

The 'Tiny House Movement', is exactly that - tiny houses measuring no more than 40M^2.

Your design must be single-story, capable of sleeping one person (or couple sharing a bed) and made from sustainable materials. Everything should be compact.



FLOATING HOUSE

Sea-levels are rising due to climate change, and we are experience more severe weather and floods.

Design a single-story house that either floats, or is on concrete pillars rising from the water. Your design must be no bigger than 200M^2 with four bedrooms, but remember, your design must be safe to get into!



AFFORDABLE HOUSING

House prices are considerable and many people are unable to buy a home outright.

Design a single-story house that looks good, but uses low-cost, sustainable materials. The house should be no bigger than 100M^2 and have three bedrooms. The housing should promote 'wellbeing'.

PRESENTING CONCEPTS

How an architect presents ideas is critically important and there are different stages of the process. Like other aspects of Graphic Communication, these are best described as the **'Three P's'** preliminary, production and promotional graphics.

Each 'P' can be presented to a different audience, depending on their specific requirements.

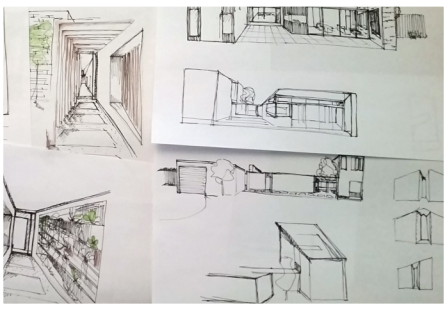
In architecture, this can include clients, planning officers, construction workers, solicitors and lawyers and marketing and sales teams.

It is important you understand the 'Three P's' approach to graphics and consider how you use each section to present your work.

PRELIMINARY GRAPHICS

Preliminary graphics always come first. They are used to explore ideas, shapes, forms and materials. They can also be used to 'record' design decisions or consider different options. Preliminary graphics are a critical stage.

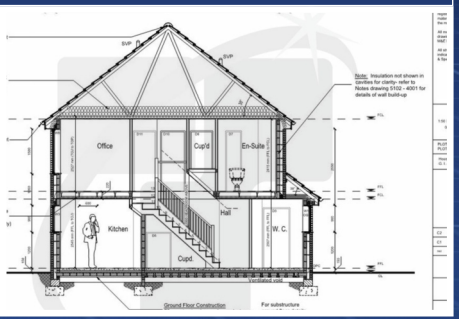
Describe the features of a preliminary graphic? Who would use it?



PRODUCTION GRAPHICS

Production drawings explain how something is made - or produced - by different people. Buildings can require hundreds, sometimes thousands of drawings. Every room, each 'junction' between materials explained in detail.

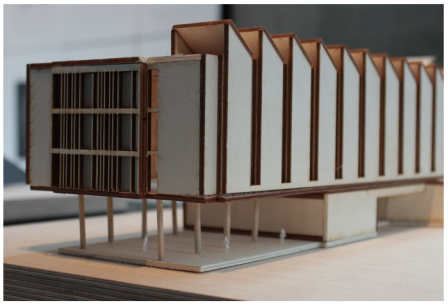
Describe the features of a production graphic graphic? Who would use it?



PROMOTIONAL GRAPHICS

Promotional graphics always come last; when an idea is ready to be 'sold' to an audience, or to make a positive impression. Different techniques can be used; paintings, pencils, pens, computer renders, VR and physical models.

Describe the features of a promotion graphic? Who would use it?





COURSE NOTES V1.1

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