# Lesson 23 – Orthographic Projection

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| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * Understanding the common methods of design and how these standard methods are used by both designers and manufacturers | * Identify the three views needed for first angle orthographic projection * Represent a simple/single object using first angle orthographic projection * Represent a complex part using first angle orthographic projection |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| * Try to have physical objects for Learners to use and look at from different angles | **Expected Progress:**   * Learners draw simple objects using first angle projection   **Good Progress:**   * Learners understand the difference between first and third angle and why it is important to label which is being used   **Exceptional Progress:**   * Learners represent complex shapes using orthographic projection |
| Key Concepts | Key Words |
| * Orthographic projection | * Orthographic * First Angle * Third Angle |
| Differentiation | Resources |
| Some Learners will struggle to visualise objects from different angles and will need solid shapes to look at. | * Lesson 23 ppt * Lesson 23 Activity Sheet * PC * Internet access for research * Paper and pencils * Example 3D objects |
| Lesson Flow | |
| * Introduce the learning objectives * Explain orthographic projections and refer to both 1st and 3rd angle * Use Slides 4 – 7 to demonstrate the different views – preferably with a simple object for the Learners to help visualise * Use Slide 8 to demonstrate the order that is used for 1st Angle * Slide 9 give an example of how this might be set out in a plan * Use Slide 10 to give the Learners some exercises * Share the lesson Activity Sheet * Encourage Learners to attempt the Stretch Tasks | |
| Making | |
| * First angle projection plans of different 3D objects | |