



Engineering Virtual Learning

HS Mechanical Drafting Design Lesson #12

April 21, 2020



Objective/Learning Target:

Students will use what they have discovered about surfaces and edges to aid in drawing complex Isometric drawings.

Bell-work:

Some objects have many surfaces and edges. We need to think about how each face aligns perpendicular, parallel or adjacent with each other as we draw them.

Watch this video as you think about the surfaces and edges of the object.

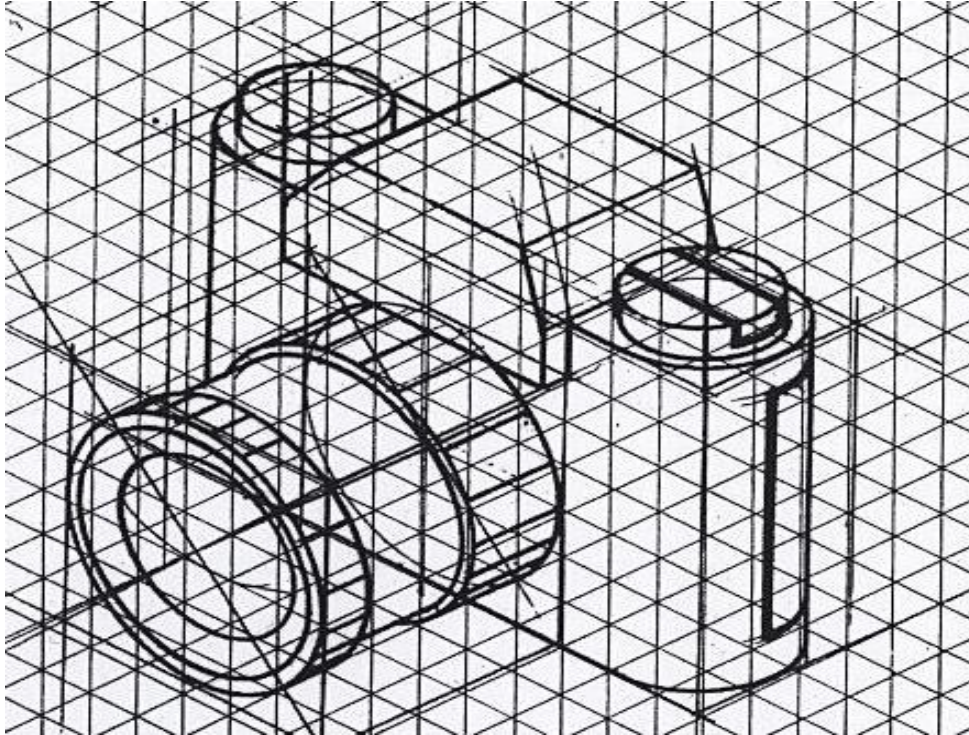
<https://www.youtube.com/watch?v=Lg06QqoFKxY>

<https://www.youtube.com/watch?v=p98An-oYdSc>

Notice how the first artist boxed the item in with **construction lines** that are perpendicular and adjacent to each other before he started to draw in the object.

Let's Get Started:

Try your hand at drawing the camera shown here. You may print and use the paper on page 6 or print other isometric paper. For a challenge use the graph paper on page 7 or even plain white paper like in the videos.



Don't worry about exact scale, but your proportions should be close.

Learning Resource Links:

Hand Sketching:

<https://www.youtube.com/watch?v=Lg06QqoFKxY>

<https://www.youtube.com/watch?v=p98An-oYdSc>

Faces and edges:

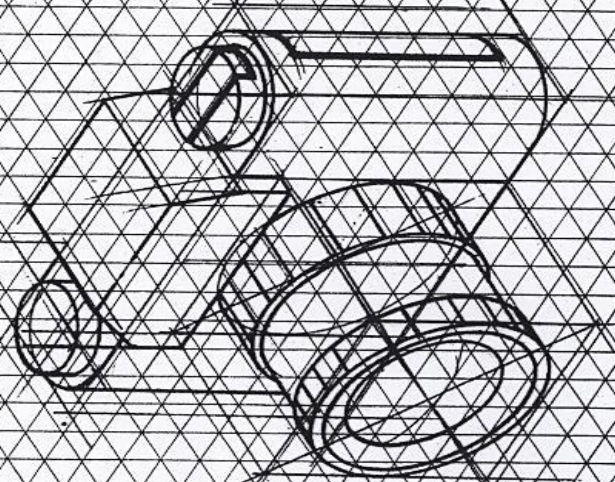
<https://www.khanacademy.org/math/basic-geo/basic-geometry-shapes/basic-geo-geometric-solids/v/counting-faces-and-edges-of-3d-shapes>

<https://www.khanacademy.org/math/basic-geo/basic-geometry-shapes/basic-geo-geometric-solids/e/identify-parts-of-3d-shapes>

Grid and Isometric Graph paper:

https://www.printablepaper.net/category/isometric_graph

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