

Scientific Models with Applications to Gear Machines

Before a new car designer makes an operating vehicle, or an architect builds a new home they will usually make a model first to see how everything looks.

Sometimes an idea or process is difficult to see in action. It might be too small like an atom, too big like a galaxy, too fast like a ray of light or too slow like the erosion of a mountain.

A symbolic representation of these systems, ideas or structures is called a Scientific Model !

Use the following gear ratio models to help in planning your gear machines.

Carefully cut out each of the long rectangles that represent two intermeshing gears. Do not cut the long rectangles apart.

The jagged lines represent the centers of each separate gear and this is also where the axles are located.

Line up axle positions of one gear ratio with the axle on an adjoining gear ratio.

When putting more than one of these gear ratio cutouts together on a stand, alternate their positions between inner and outer position.

Each gear ratio can be flipped upside down to show the reverse gear ratio.

If the gear ratio model overlaps with another gear ratio model, it means they will jam and not turn. Try it again in another position, perhaps further down.

