TA201A - Design Project

Group - S5G7

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TA –Md Redad Mehdi,Gayatri Gollapudi

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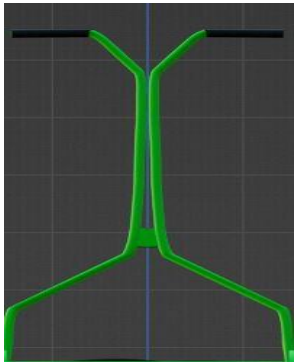
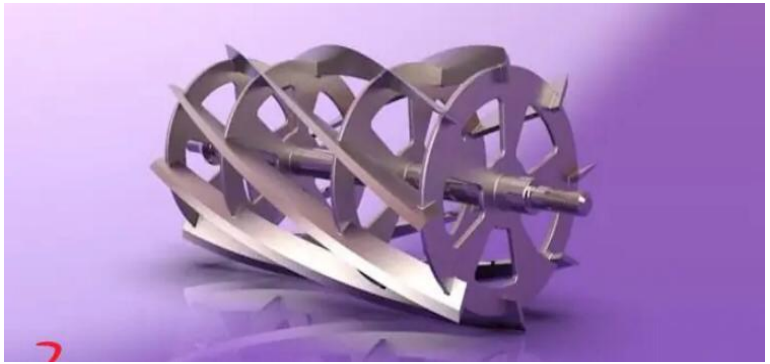
MODEL INTRODUCTION:

A grass cutter is a tool used to make a shallow score in one surface of a piece of grass that is to be broken in two pieces. The scoring makes a split in the surface of the grass which encourages the grass to break along the score.

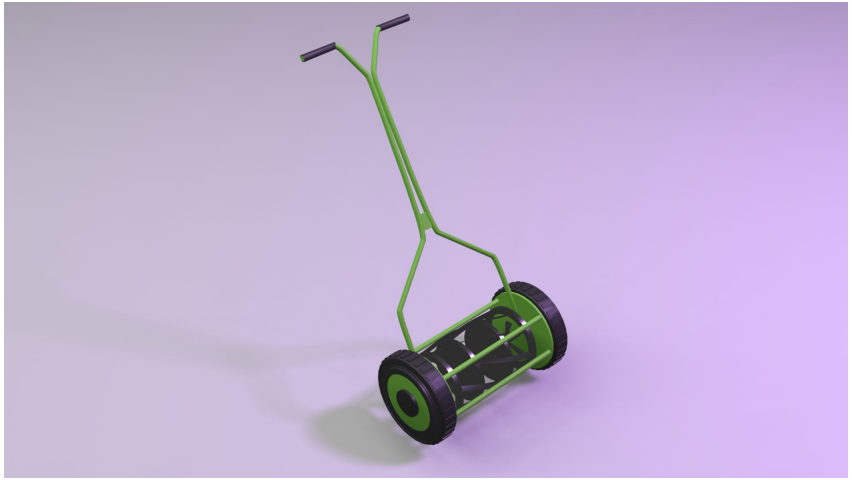




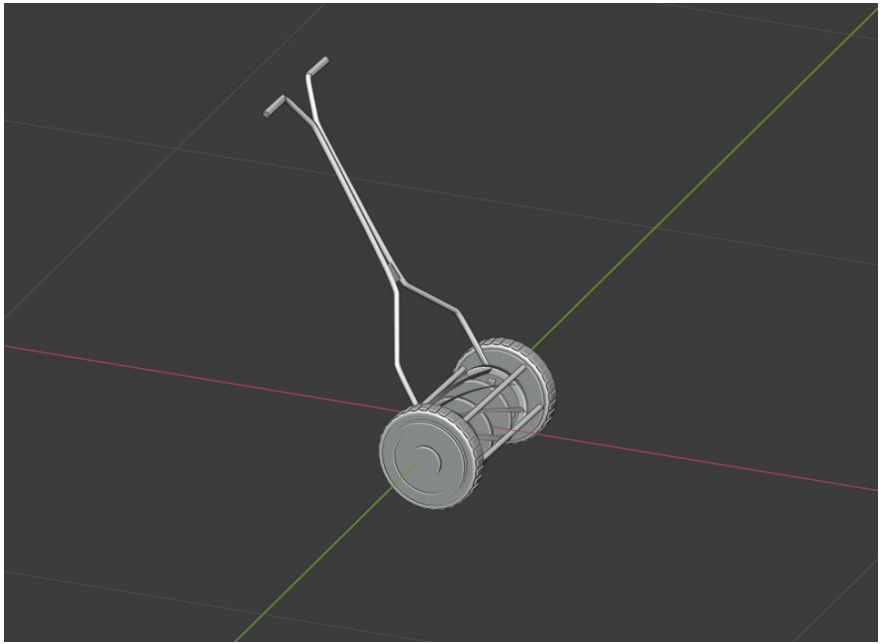
GRASS CUTTER

COMPONENTS:

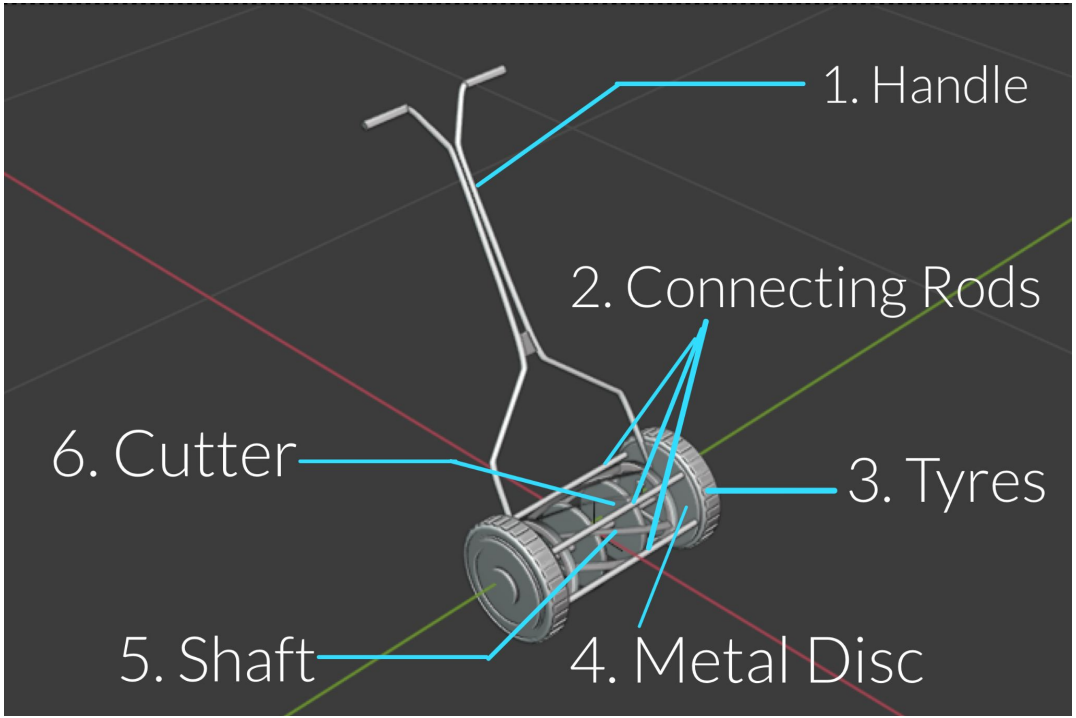
1) Shaft
2) Cutter
3) Tyres
4) Handle
5) Connecting rods
6) Metal discs



Isometric view

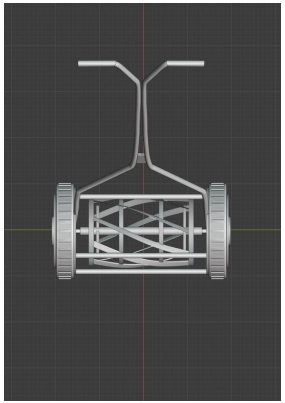


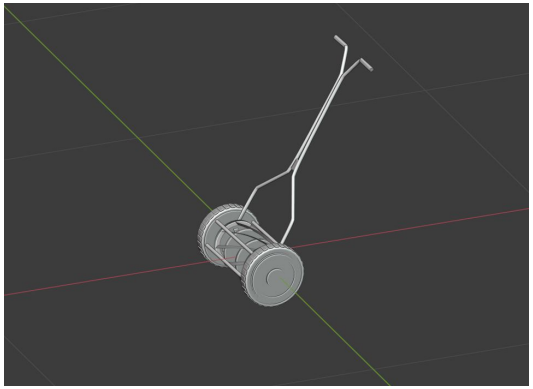
Labelling


1. Handle
2. Connecting Rods
6. Cutter
3. Tyres
5. Shaft
4. Metal Disc

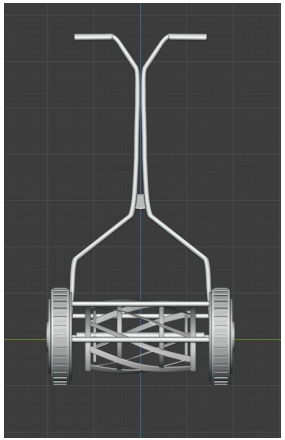
Orthographic projections

Top view

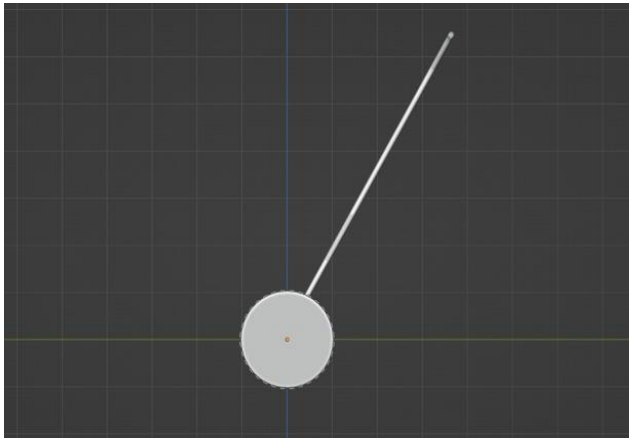




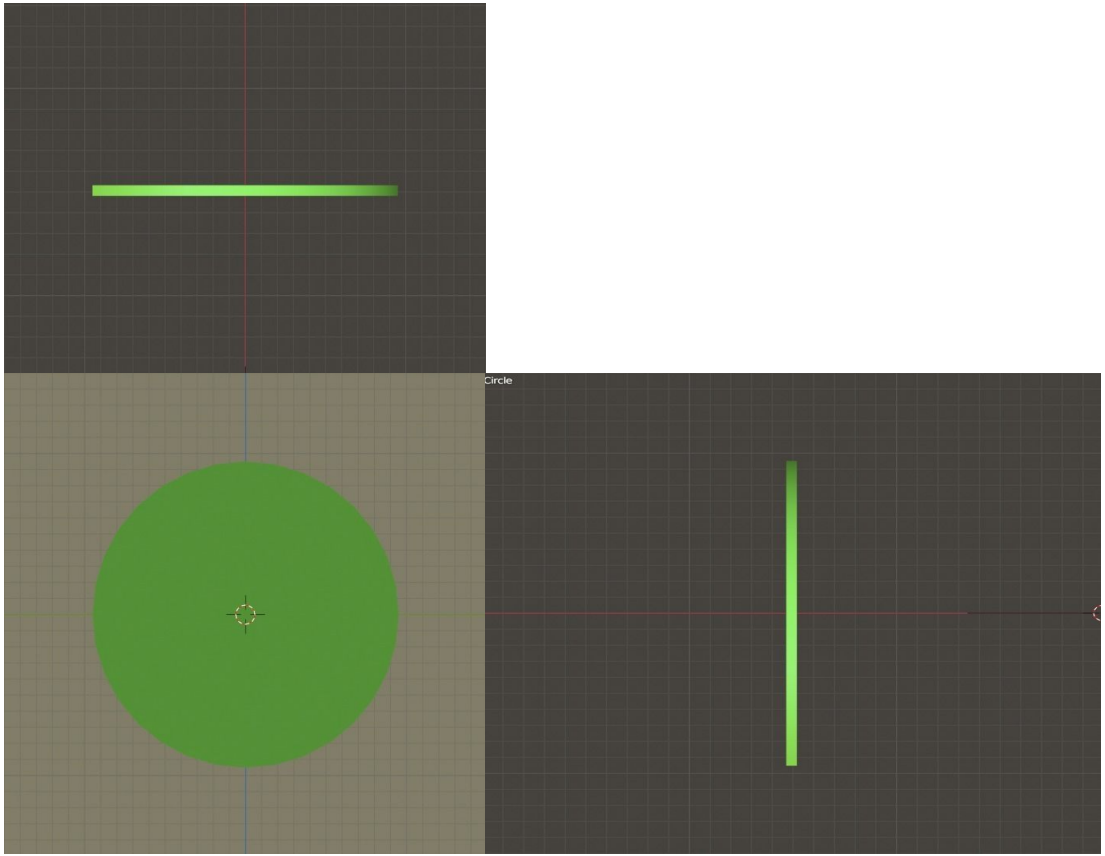
Front view



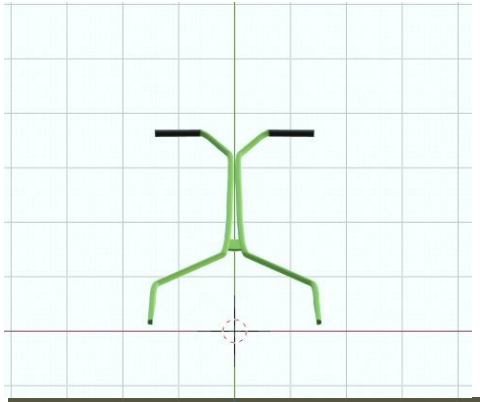
Side view

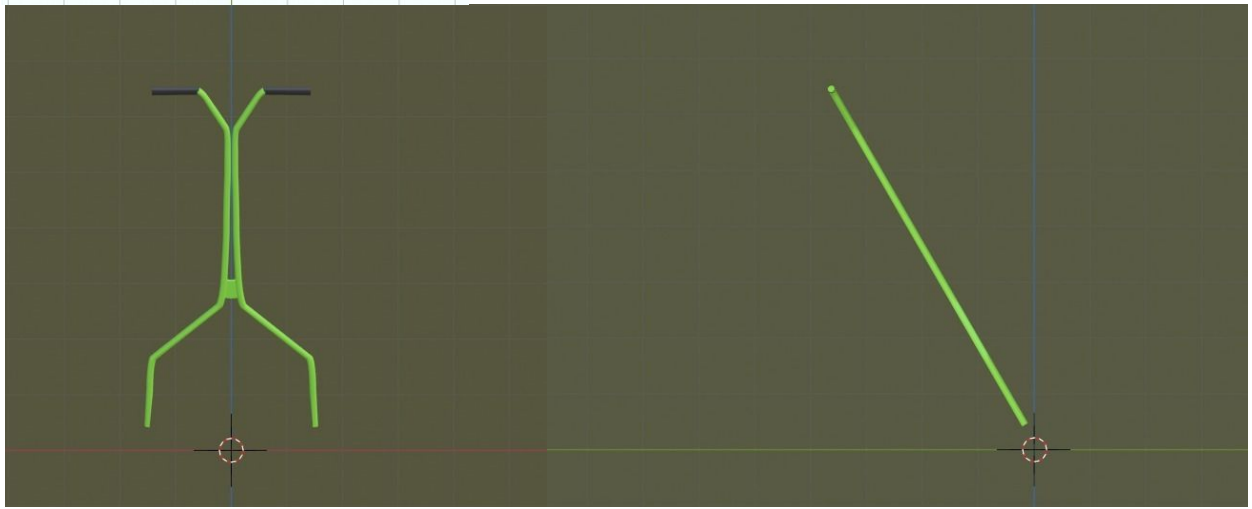


1. Metal discs

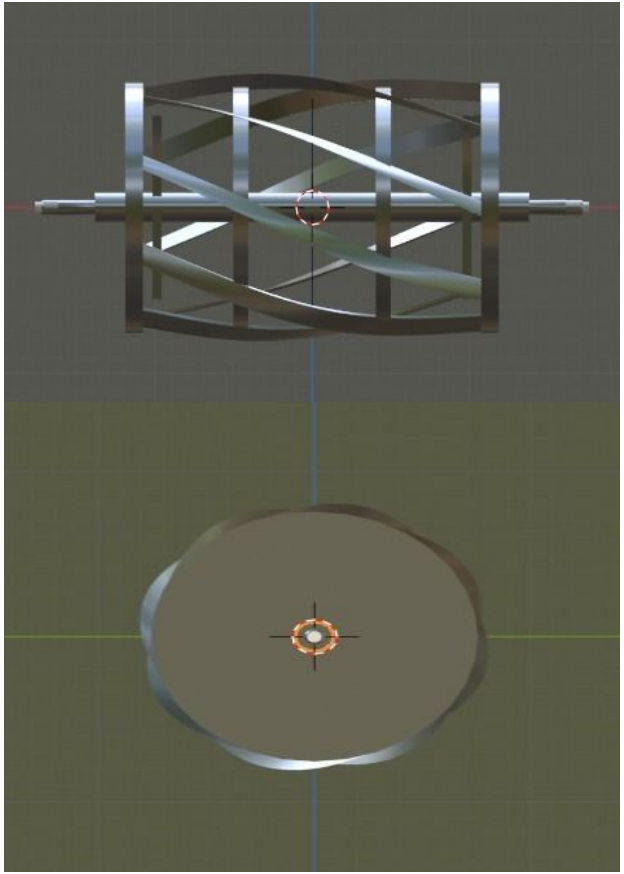


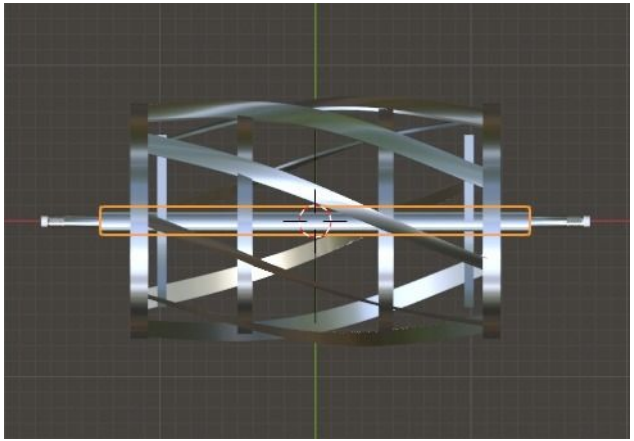
2. Handle

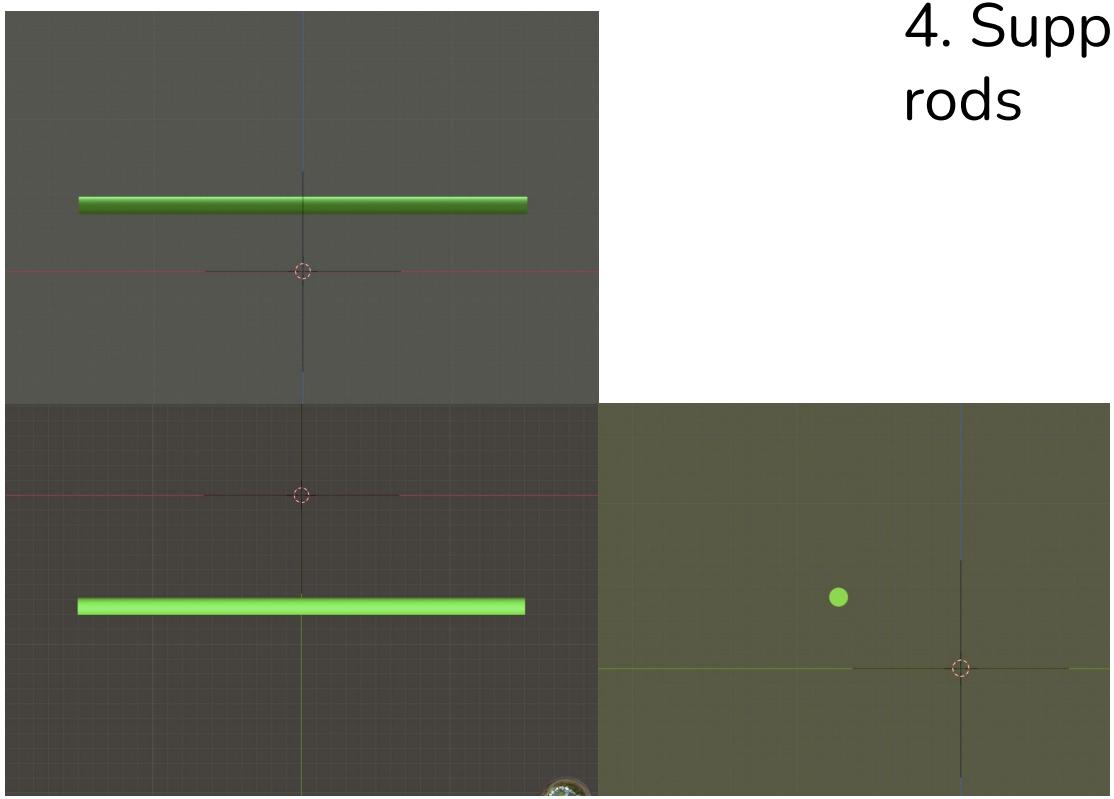




3. Cutter





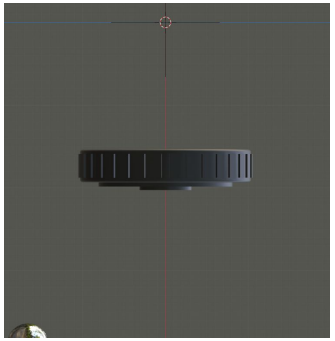


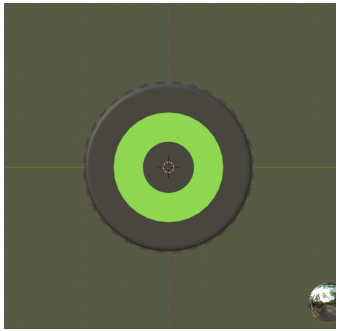
4. Supporting rods

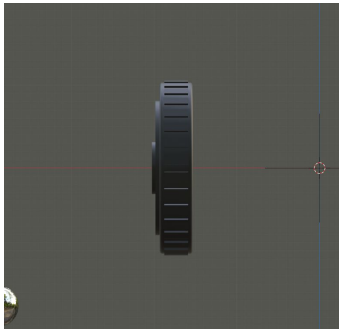
Materials Required:

1) Mild steel round rod for making cutter
2) Mild steel round pipe for making handle
3) Galvanized iron sheet for wheel frame(Metal discs)
4) Nuts mild steel washer for fixing the wheel
5) Mild steel discs for cutter
6) Mild steel sheet for cutter(By cutting)
7) Aluminium and rubber for tyres

5. Tyre







Processes Involved:

1) Cutting and bending processes would be required to process the steel and galvanized cast iron to make various parts like blades, discs,wheels etc.
2) Welding and mechanical joining processes will be employed to join the various parts like handle,wheels and supporting rods with metal discs.
3) Casting would be done for manufacturing of iron and steel rods,handle and tyres.

COMPONENTS	MATERIALS USED	PROCESSES INVOLVED
1) Shaft	Mild steel rod	Shaft is main component, wheel and cutter would be joined with the shaft by welding and mechanical joining (screws).
2) Cutter	Mild steel discs and sheets	Cutting would be done to manufacture the overall body and its blades will be sharpened using cutting and bending processes and finally welding would be used to join different parts.
3) Tyres	Aluminium, nuts mild steel washer	Casting would be done to make

COMPONENTS	MATERIALS USED	PROCESSES INVOLVED
4) Handle	Mild steel rods	Bending and welding for joining it to wheel frame and adjusting it in complete assembly.
5) Connecting Rods	Mild steel round rod	These rods would be connected to the metal discs by welding. We are using these rods to make frame.
6) Metal Discs	Mid steel disc	It would be used to make frame. It will be connected to metal rods by welding