

Scratchy

Drawing robot

Discover the Joy of a
mechanical Friend

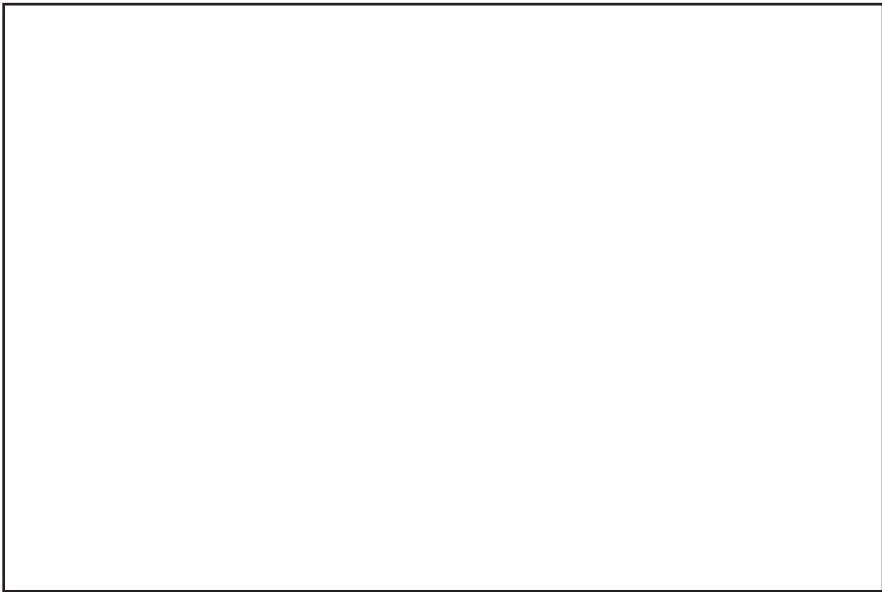
Includes:
paint and
art stuff
to create
your own
unique friend

NOT
included



level





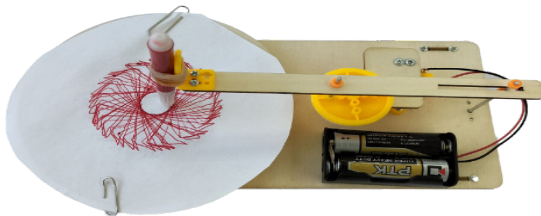
Scratchy

the Drawing robot



Hey there, little buddy!

I'm Scratchy, the drawing robot. I'm a drawing robot and I'm here to tell you about me, so get ready for some magical fun!



Hello there, little artist! I'm Scratchy, the DIY Electric Plotter Drawing Robot. I'm here to be your artistic companion on an incredible journey of creativity and learning! I'm not just any ordinary robot. I'm special because I can create amazing drawings using math and physics. Isn't that exciting?

But don't worry if it sounds a bit complicated because I'm here to make it fun and easy for you to understand. We'll use special tools and learn about shapes, lines, and how they come together to create fantastic artwork. So get ready, my little Picasso, to unleash your creativity with Scratchy, your DIY Electric Plotter Drawing Robot. Let's have a blast as we learn, create, and make some amazing art together!



How to get prepare:

- Before you start, you need to find a safe and clean place to work.
- If you have any questions or need help, you can ask your parents, a grownup or teacher and they will assist you.

Have fun!



Some things to keep in mind:

- *Be careful:* When you open the package with the parts, be careful not to drop or lose any small parts. They are very important for your model. If you lose a piece, your model might not work!
- *Read and follow:* If you want to make your model easily, you need to read the instructions well and follow the steps.

Let's see what we need and how to prepare:

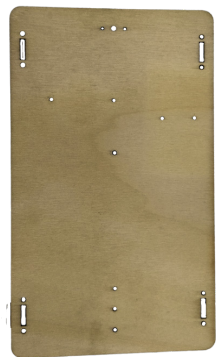


Remember to get 2 x AA batteries for Scratchy!



What is in the BOX





x 1 — **1**



4 — x 1

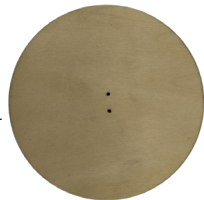


x 4 — **2**

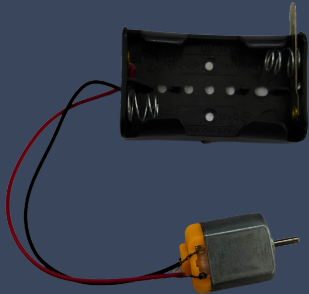
5 — x 1



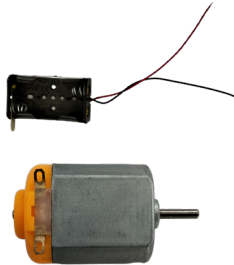
6 — x 1



x 2 — **3**

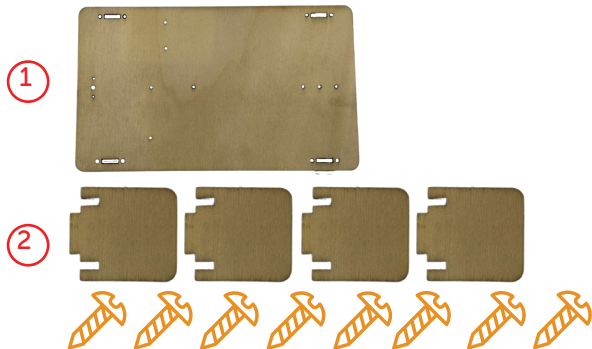


Step 1

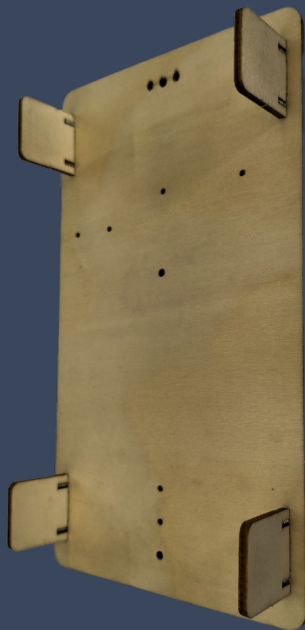


Attach the wires from the battery box to the copper holes of the motor. Make sure the red wire is connected to the left side of the motor and the black wire is connected to the right side of the motor.

Step 2



Use 7mm screws to attach the four board 2s to board 1.





Step 3

③

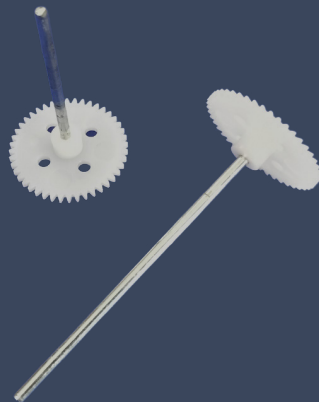


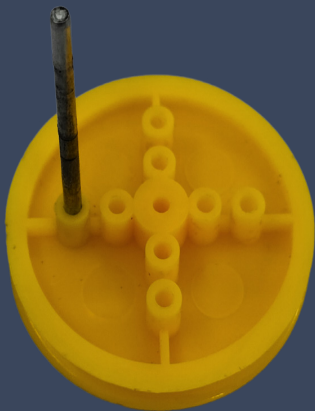
Attach two board 3s to board 1 by using two 10mm screws.

Step 4



Place the two white gears onto the 3cm and 6cm shafts, ensuring they align correctly.





Step 5

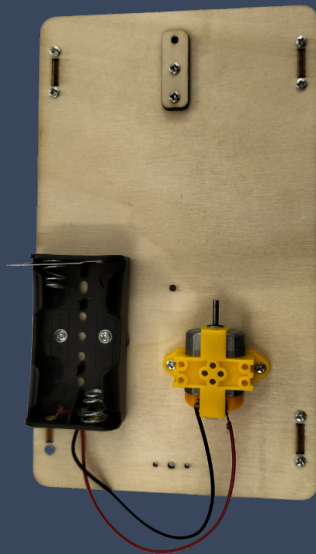


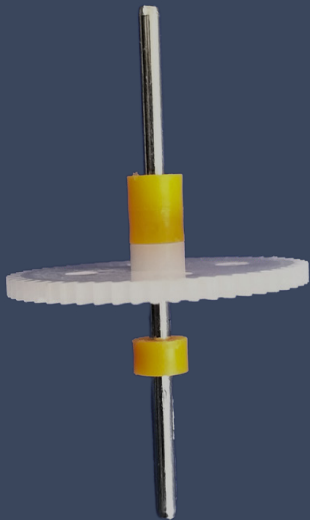
Attach the 3cm iron shaft onto the yellow pulley.

Step 6



Secure the battery box to board 1 using 4mm screws. Then, install the motor onto board 1 using 7mm screws and the motor frame.





Step 7

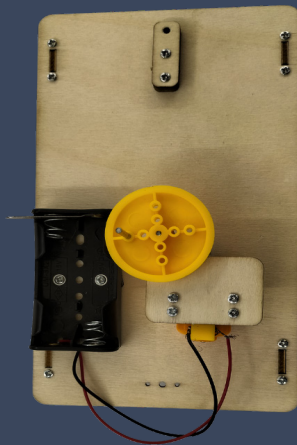


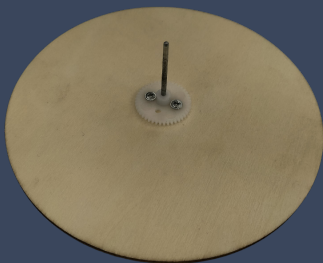
Install the white gear without holes onto the 4cm shaft. Ensure the gear is centered on the shaft. Use two spacers on the protruding part of the gear and one on the non-protruding part.

Step 8



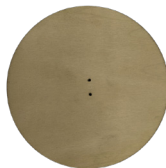
Insert the gear shaft into the round hole on board 1 with the double spacers facing down. Then, use 7mm screws to install board 4 onto the motor clamp. Install the yellow pulley, including the sub-shaft, onto the gear lever.





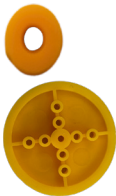
Step 9

⑥

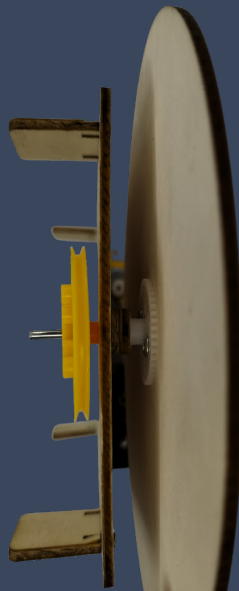


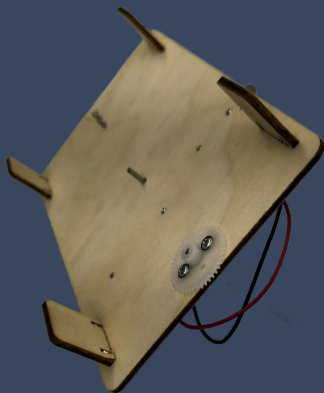
Secure the 3cm gear to board 6 using 4mm screws.

Step 10



First, place board 6 on board 1. Next, install an spacer on the bottom rotating shaft, and then attach the yellow pulley to the shaft.





Step 11



Use 4mm screws to install the 6cm gear rod onto board 1.

Step 12



Install the white pulley on the middle rotating shaft of board 1, ensuring the protruding part faces inward. Then, attach a 6cm diameter rubber band to the pulley.



Step 13



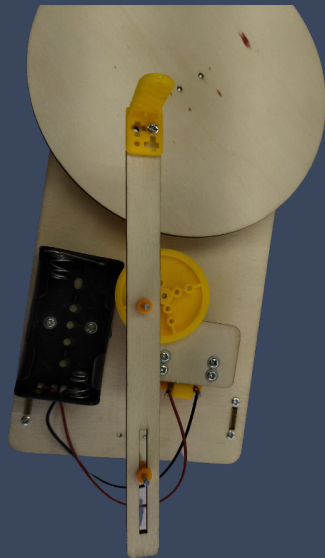
Cut a circular piece of white paper with scissors. Fix the round white paper to board 6 using a paper clip.

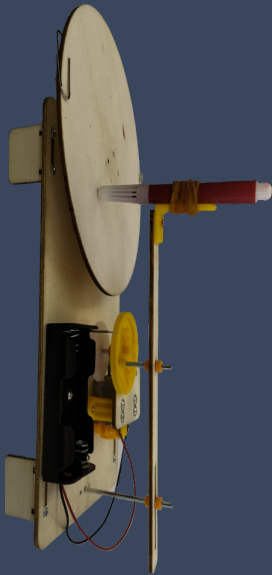
Step 14

5



Install the spacer onto the iron shaft, then add the painting rod. Place another spacer on top of the painting rod and use the upper and lower the spacer to secure it.





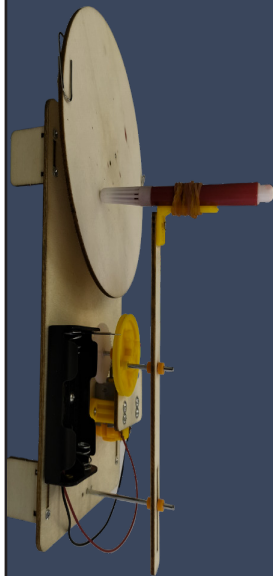
Step 15



Secure the marker with a rubber band on the yellow bracket

Step 16

Enjoy Your Drawing Robot Your automatic drawing instrument, Scratchy, is now complete! Insert the batteries, remove the makers cap, close the knife switch, and watch as your robot creates beautiful drawings.



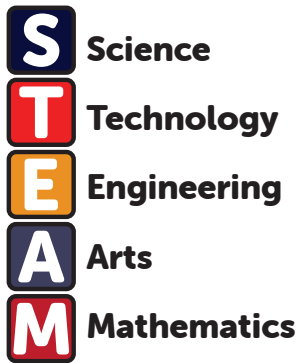
Now you have

your very own drawing robot!

Congratulations, adventurer! There you go. Have fun with your drawing robot, Scratchy! Let's watch me draw patterns!

If Scratchy does not want to work:

- If the motor does not rotate: check whether the wiring has been connected, and whether the switch of the battery box is closed.
- Why is there no color in some areas: the contact force between the marker and the paper is not enough, you can increase the pressure of the marker by pressing the spacer on the yellow pulley. The marker is out of ink, please replace it with a new marker.



Here's how they help:

1. *Hands-On Learning:*
Kids do experiments and projects, making learning fun.
2. *Problem-solving:*
They learn to solve problems by thinking and trying things out.
3. *Creative Thinking:*
Arts and design are part of *STEAM*, so kids get to be creative.
4. *Confidence:*
Completing projects makes kids feel like they accomplished something
5. *Preparation:*
STEAM skills are important for the future, so kids are ready for jobs.



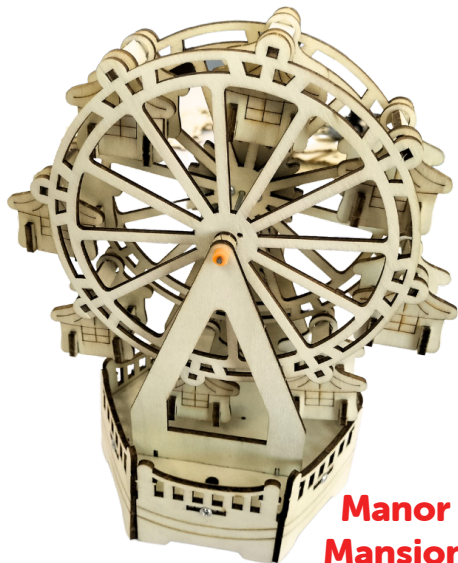
STEAM kits -
help kids learn
many skills they'll
need in a fun and
practical way.

Collect them all



*With a bit of
Imagination you
can create your own
unique friends. Please
share your creations
with our community*

Please ask your mom / dad / teacher, or a grown up to help you to upload your creations to our community page on the website. We would love to see your creations and also share and inspire the little creator in you.



**Manor
Mansion**
Ferris wheel

Hipno
Hypnotic window



Charlie
Horse carousel

