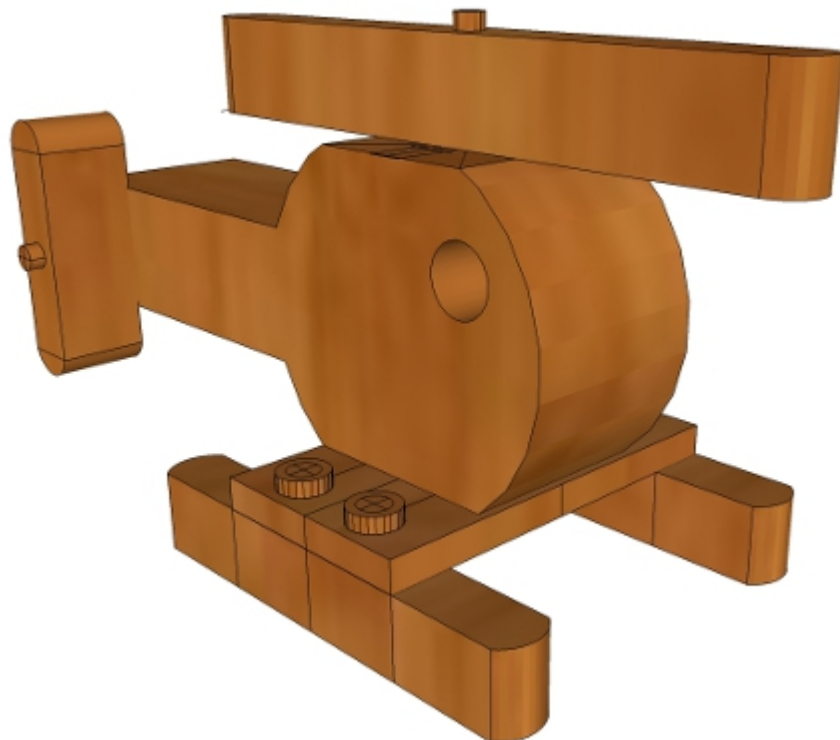


WWCH January 2021 Toy of the Month



Basic Helicopter



Instructions

Please remember to work safely.

This is one way to make the Basic Helicopter. You may have to adapt to the tooling you have available to you. Always use the tools and procedures that make the most sense to you.

Body

1. Make a template from the attached full size pattern. 1/8" scrap or old file folders are a couple of materials you could use.
2. Need a stock of 7" long, by 3" wide, by 1 1/2" thick. It's designed to be made from a 2X4, but any sizable piece of stock will do.
3. See the WWCH Basic Helicopter Fuselage Profile View to see how to cut the pattern for the fuselage template. You'll need a 1/2" Forstner bit for the window.
4. I'm using a scroll saw. Use this or a band saw to cut just outside the template pattern lines for the Basic Helicopter.
5. Cut the actual Basic Helicopter Fuselage out of 2X4 or equivalent stock using the template as a guide.
6. Drill the 1/2" DIA holes using a Forstner bit.
7. Sand to the lines.
8. Round the edges with a sander or round over bit. Up to a 1/4 radius round over bit can be used for this step.

Top Propeller

1. Make a template from the attached full size pattern. 1/8" scrap or old file folders are a couple of materials you could use.
2. Need a stock of 6" long, by 3/4" wide, by 3/4" thick.
3. See the WWCH Basic Helicopter Top Profile View to see how to cut the pattern for the Top Propeller template.
4. I'm using a scroll saw. Use this or a band saw to cut just outside the template pattern lines for the Basic Helicopter Wing.
5. Cut the actual Basic Helicopter Top Propeller out of 3/4" stock.
6. Sand to the lines.
7. Round the edges with a sander or round over bit. Up to a 1/4 radius round over bit can be used for this step.

Instructions (continued)

Base Frame

1. Make a template from the attached full size pattern. 1/8" scrap or old file folders are a couple of materials you could use.
2. Need a stock of 4" long, by 2" wide, by 3/4" thick.
3. See the WWCH Basic Helicopter Bottom Base View to where the Base sits at the bottom of the body.
4. I'm using a scroll saw. Use this or a band saw to cut just outside the template pattern lines for the Basic Helicopter Feet.
5. Cut the actual Basic Helicopter Base out of 3/4" stock.
6. Drill a 1/4" DIA hole to take the 7/32" DIA axle that will be attached to the Body (see Assembly section).
7. Sand to the lines.
8. Round the edges with a sander or round over bit. Up to a 1/4 radius round over bit can be used for this step.

Feet

1. Make a template from the attached full size pattern. 1/8" scrap or old file folders are a couple of materials you could use.
2. Need a stock of 6" long, by 3/4" wide, by 3/4" thick.
3. See the WWCH Basic Helicopter Bottom Profile View to where the Feet sit at the bottom of the body.
4. I'm using a scroll saw. Use this or a band saw to cut just outside the template pattern lines for the Basic Helicopter Feet.
5. Cut the actual Basic Helicopter Feet out of 3/4" stock.
6. Drill a 1/4" DIA hole to take the 7/32" DIA axle that will be attached to the Body (see Assembly section).
7. Sand to the lines.
8. Round the edges with a sander or round over bit. Up to a 1/4 radius round over bit can be used for this step.

Rear Propeller

1. Make a template from the attached full size pattern. 1/8" scrap or old file folders are a couple of materials you could use. Need a stock of 1.5" long, by 1/2" wide, by 3/4" thick.
2. See the WWCH Basic Helicopter Body Profile View to see how to cut the Rear Propeller exactly.
3. I'm using a scroll saw. Use this or a band saw to cut just outside the template pattern lines for the Basic Helicopter Rear Propeller.
4. Cut the actual Basic Helicopter Feet out of 3/4" stock.
5. Drill a 1/4" DIA hole to take the 7/32" DIA axle that will be attached to the Body (see Assembly section)
6. Sand to the lines.
7. Round the edges with a sander or round over bit. Up to a 1/4 radius round over bit can be used for this step.

Instructions (continued)

Assembly

1. Drill the holes through the Body and into the Rear Propeller at the designated point.
2. Drill the holes through the Body and into the Base at the designated points.
3. Drill the holes through the Base and into the Feet at the designated points
4. Drill the holes through the Body and into the Top Propeller at the designated point.
5. Attach the Rear Propeller with an axle.
6. Attach the Feet to the Base with axles.
7. Attach the Base to the Body with axles.
8. Attach the Top Propeller with axles.

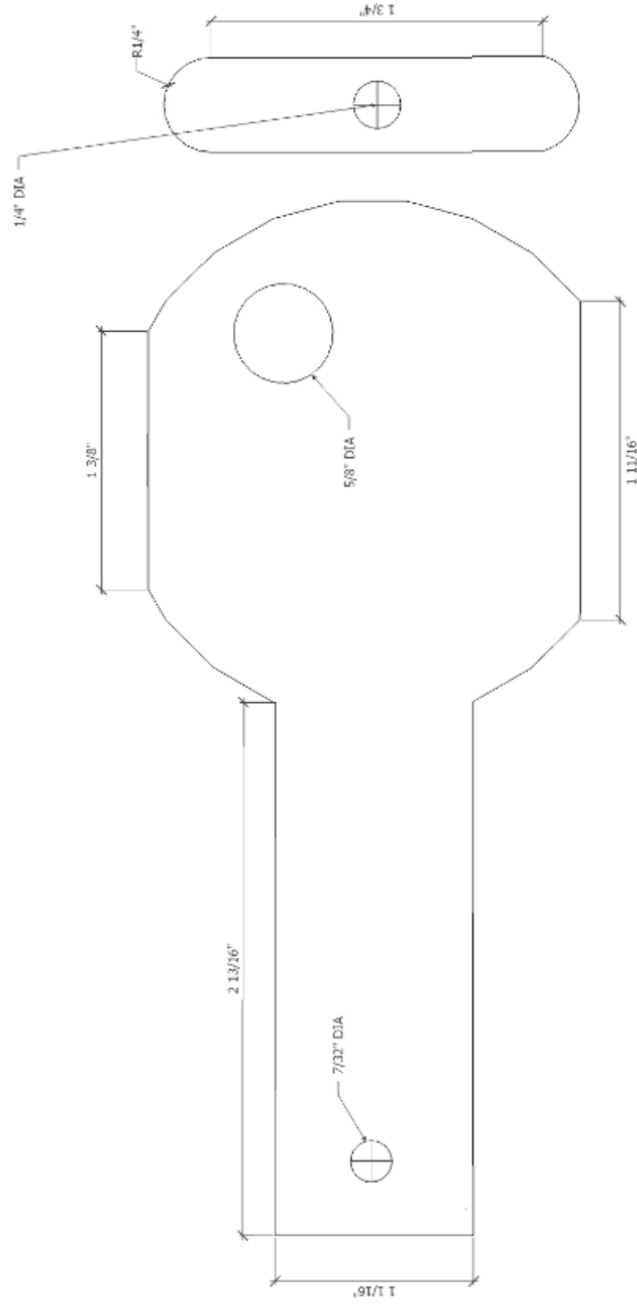
Finish

Use beeswax or leave unfinished to allow for even more creativity by the child to paint as desired.

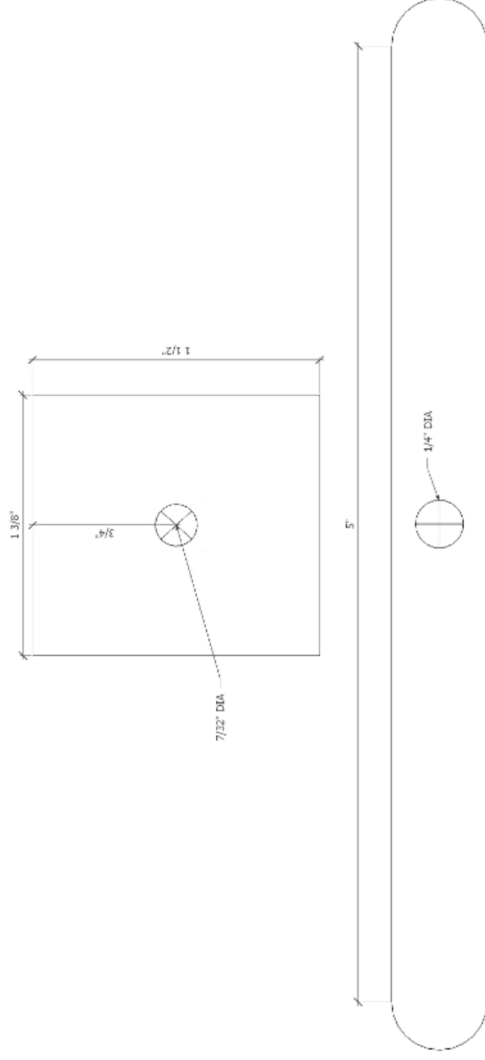
Conclusion

We at the Toy Group of the WWCH would like to thank you for participating in our toy making charitable activity. These toys will bring smiles to the less privileged children of our area.

WWCH Basic Helicopter Body – Profile View – To Scale



WWCH Basic Helicopter Top View – To Scale
Propeller placement and design
Note That Propeller is 3/4" Thick



WWCH Basic Helicopter Base View – To Scale

Note That Base Frame and Each Foot is 3/4" Thick

