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Spiral Toy

Make and Create: Skill Level ● ● ● ○ ○



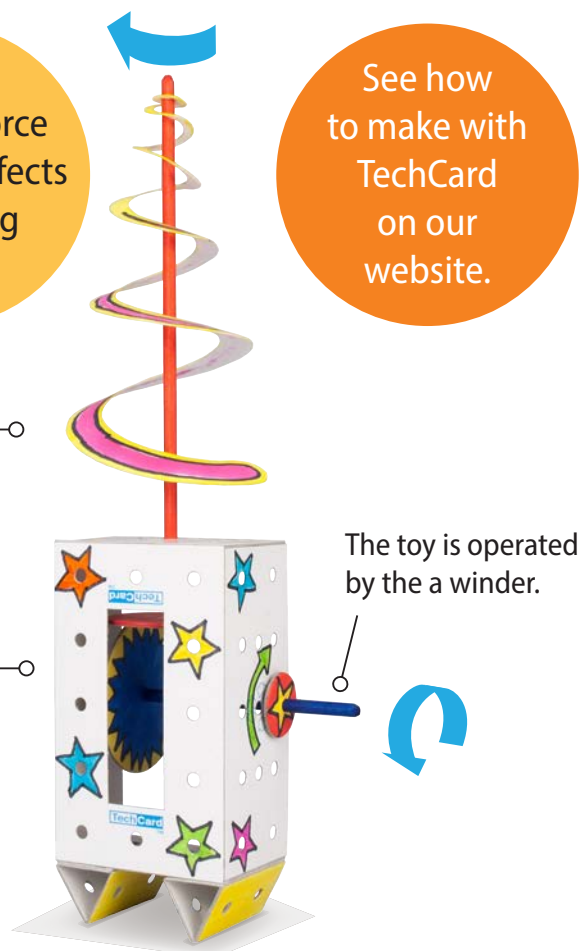
Build a spinning toy that shows how gears work!

Explore how the force of friction effects all moving things.

See how to make with TechCard on our website.

The spiral turns faster than the winder as the drive wheel is bigger.

Two wheels act like gears transferring force from the winder axle to the spiral.



Assembly videos on YouTube!

Parts to make 1 model

Structural Parts

TechCard Girder	1
TechCard Beam	1
TechCard Project Base	1

Mechanical Parts

25mm Disc	2
50mm Wheel	1
60mm Wheel	1
300mm Dowel Axle	1
100mm Dowel Axle	1

Additional Materials

A5 Size Thin Card

You will have parts left over towards other models.

Parts to make 10 models

Structural Parts

TechCard Girder	10
TechCard Beam	10
TechCard Project Base	10

Mechanical Parts

25mm Disc	20
50mm Wheel	10
60mm Wheel	10
300mm Dowel Axle	14

Additional Materials

A5 Size Thin Card x 10

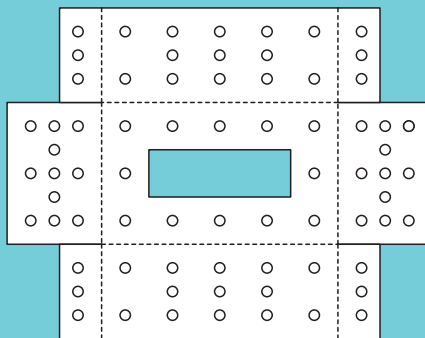
Based on pupils sharing off-cuts between them.

Make the Spiral Toy

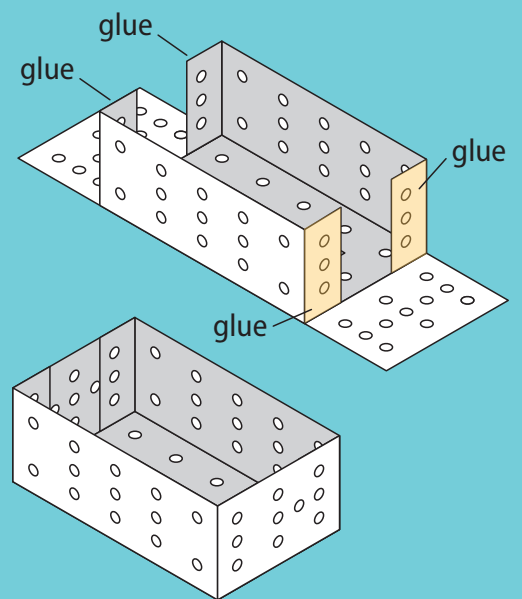


Before you start see
'Make with TechCard'
on our website.

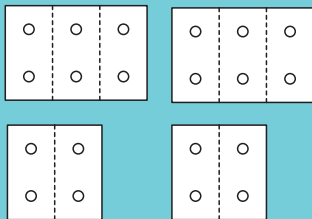
1 Make the chassis.



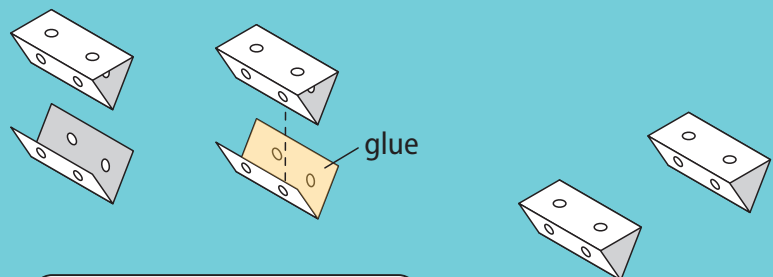
Fold and glue a TechCard
Project Base.



2 Make the feet.

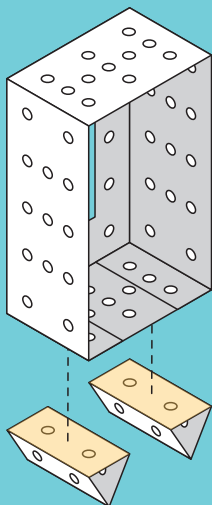


Cut two 50mm girders
and two 50mm beams.



Fold and glue the girders
onto the beams as shown.

3 Fit the feet.



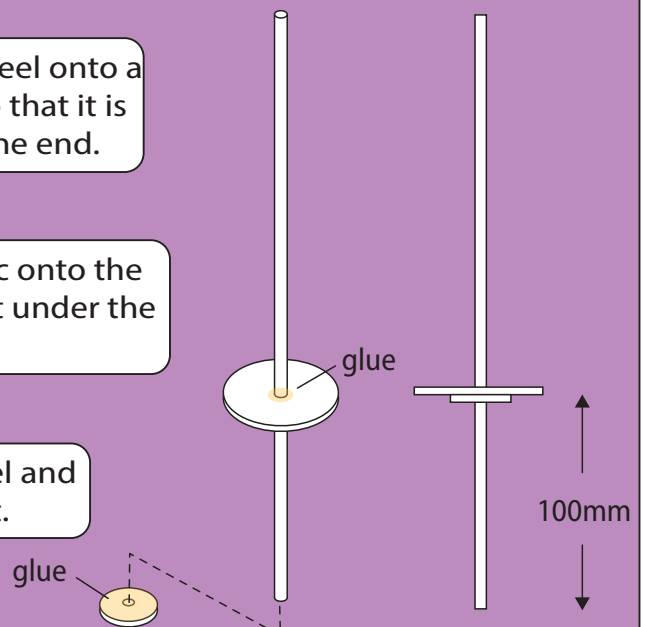
Glue the feet to the
box where shown.

4 Assemble the long axle.

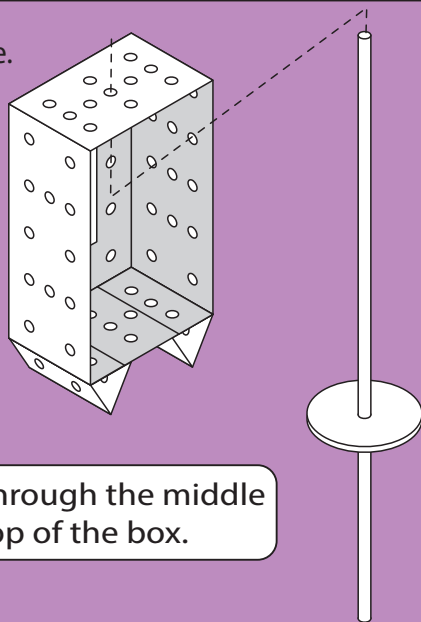
Fit a 50mm wheel onto a
300mm axle so that it is
100mm from the end.

Fit a 25mm disc onto the
axle and glue it under the
50mm wheel.

Check the wheel and
disc are straight.

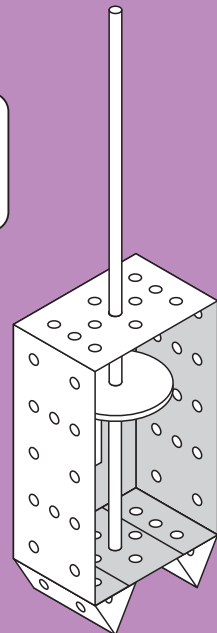


5 Fit the long axle.

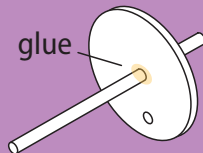


Fit the axle through the middle hole in the top of the box.

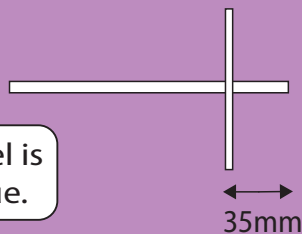
Fit the end of the axle through the base where shown.



6 Assemble the short axle.



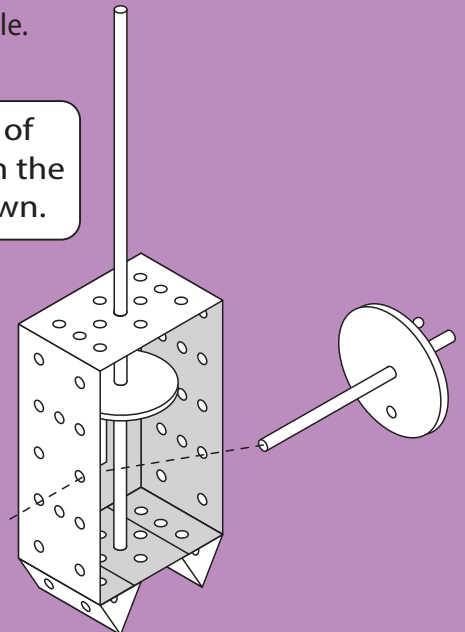
Fit a 60mm wheel onto a 100mm axle so that it is 35mm from one end.



Check the wheel is straight and glue.

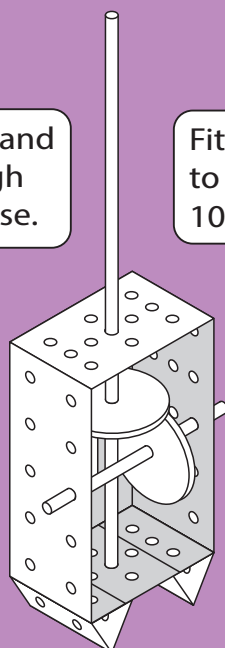
7 Fit the short axle.

Fit the long end of the axle through the base where shown.

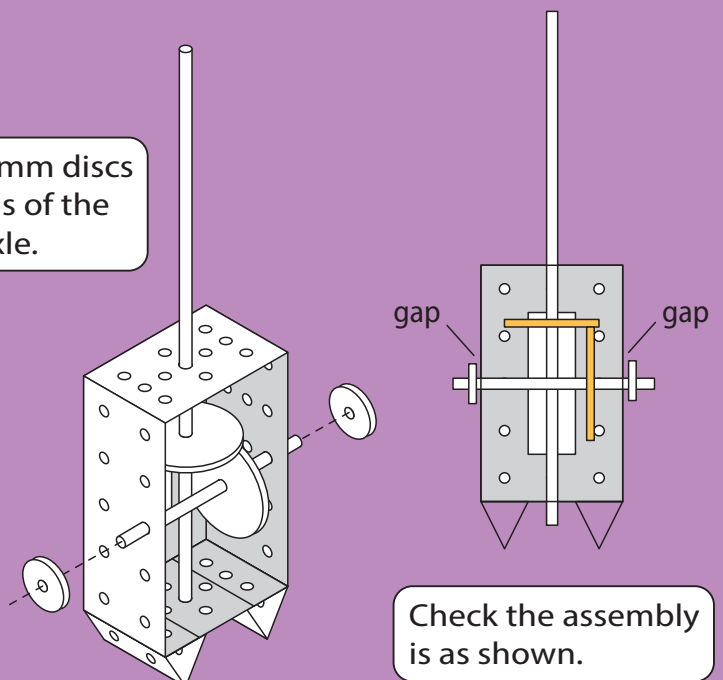


8 Finish the assembly.

Raise the 50mm wheel and fit the short axle through the other side of the base.

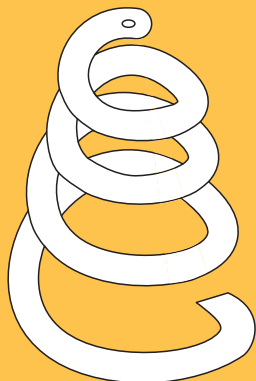


Fit two 25mm discs to the ends of the 100mm axle.



Check the assembly is as shown.

9 Make the spiral.



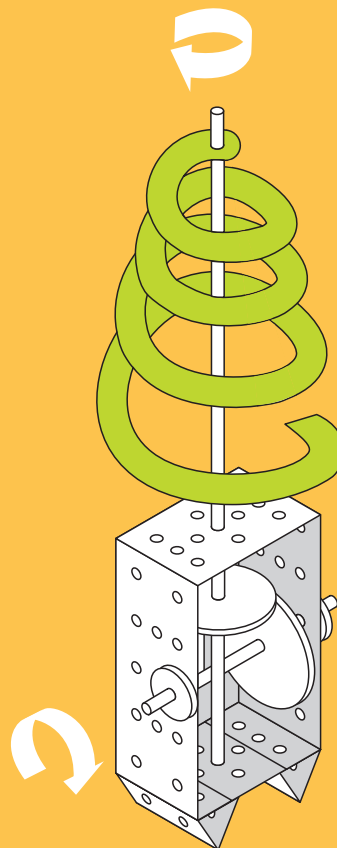
Carefully pull the spiral to shape and fit on the long axle.

10 Operate your Spiral Toy!

Turn the short axle and the force is transferred to the vertical axle by the wheels.

The two wheels act just like gears but gears have teeth so they can't slip.

The spiral turns faster because the larger wheel is driving the smaller wheel.



Card Panel

Print and cut along the solid lines.

Alternatively, copy the spiral onto thin card. Or you can design and make your own!

