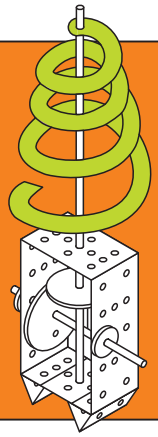
Visit TechCard at techcard.co.uk & Instagram & YouTube

Spiral Toy



Move-it Kit 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 because of the size of the drive wheel.

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

The toy is operated by the winder.

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	2

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	15

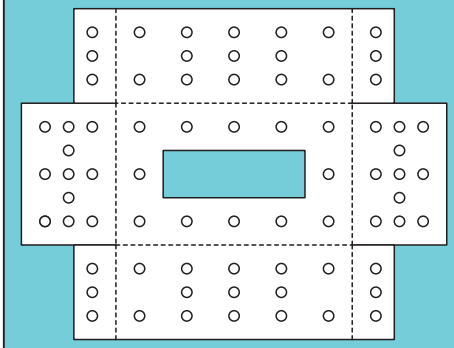
Additional Materials
A5 Size Thin Card x 10

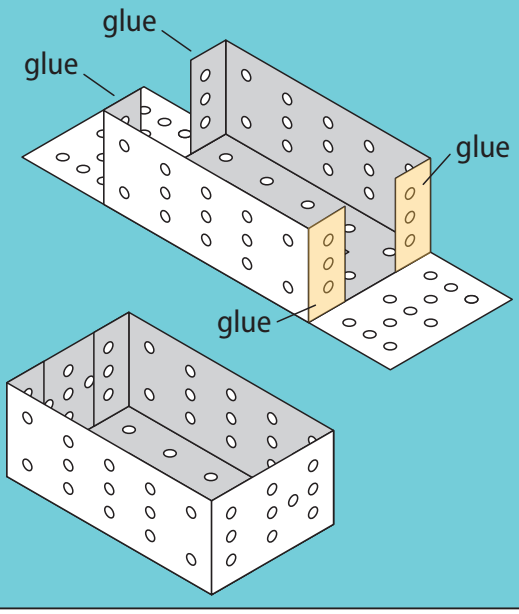
Based on pupils sharing off-cuts between them.

Make the Spiral Toy

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

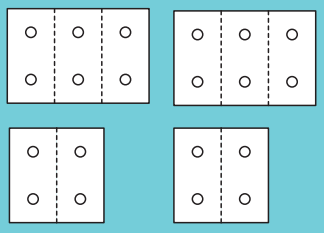
1 Make the base.





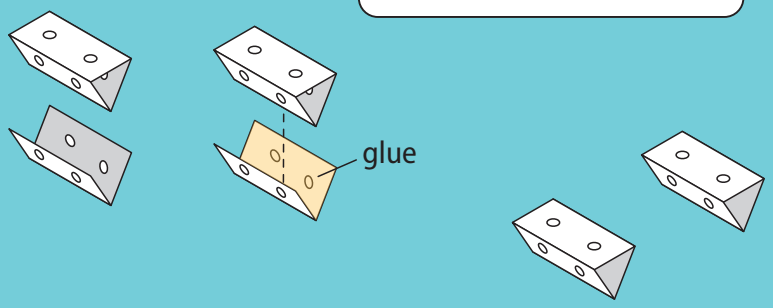
Fold and glue a TechCard project base.

2 Make the feet.

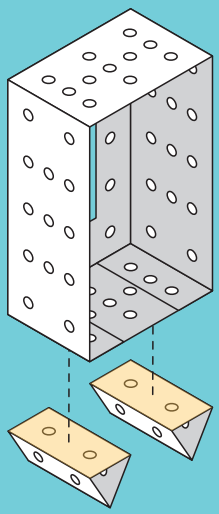


Cut two 50mm girders and two 50mm beams.

Fold and glue the girders and beams as shown.



3 Fit the feet.



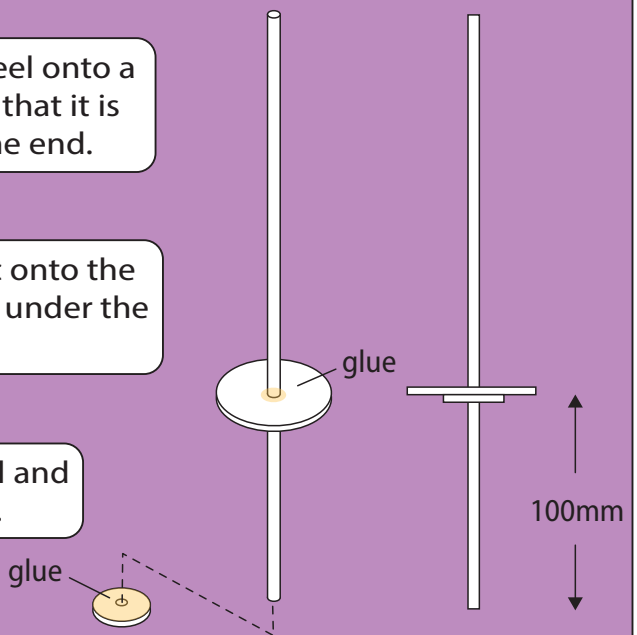
Glue the feet to the base where shown.

4 Assemble the long axle.

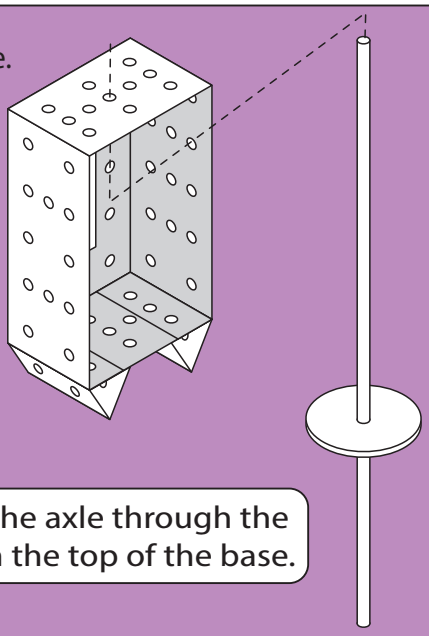
Fit a 50mm wheel onto a 300mm axle so that it is 100mm from the end.

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

Check the wheel and disc are straight.

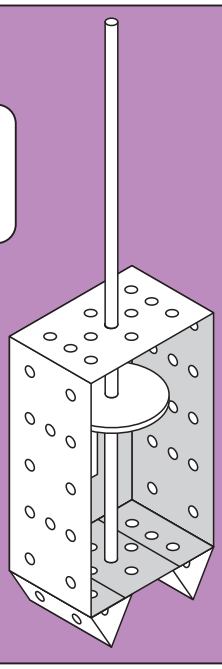


5 Fit the long axle.



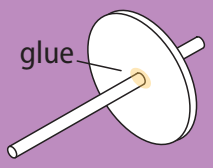
Fit the top of the axle through the middle hole in the top of the base.

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

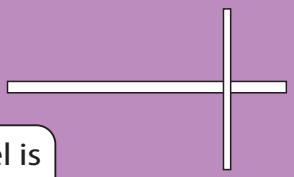


6 Assemble the short axle

Cut a 100mm axle.



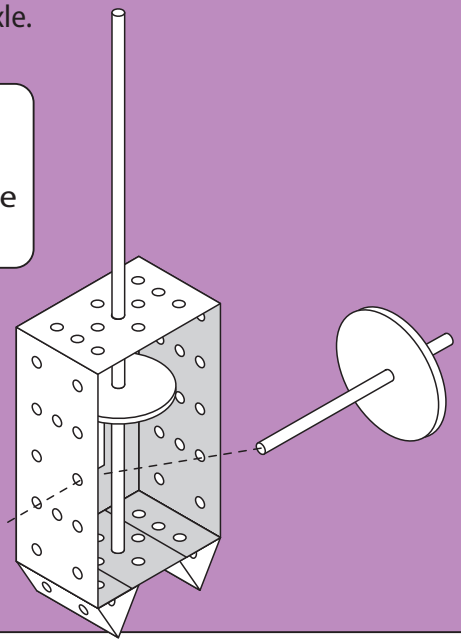
Fit a 60mm wheel onto the axle so that it is 35mm from one end.



Check the wheel is straight and glue.

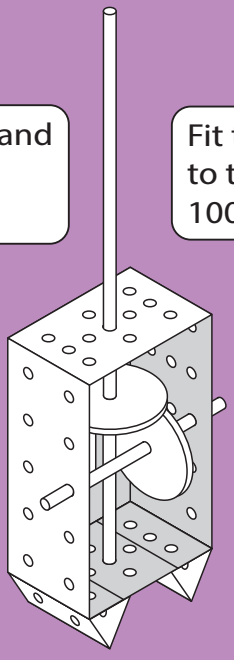
7 Fit the short axle.

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

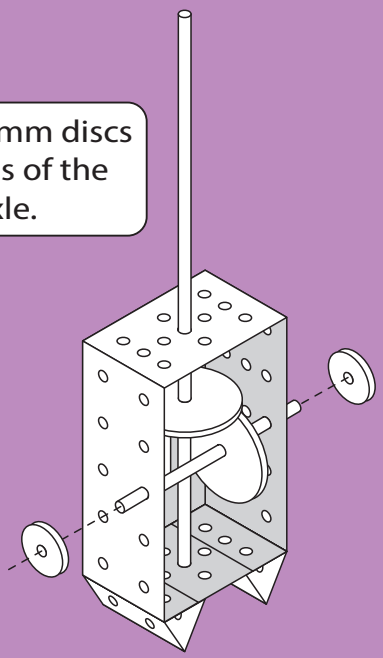


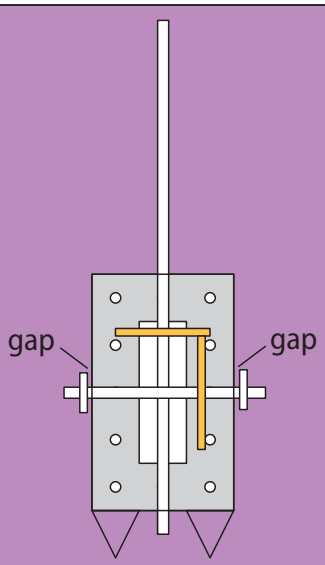
8 Finish the assembly.

Raise the 60mm wheel and fit the other end of the short axle as shown.



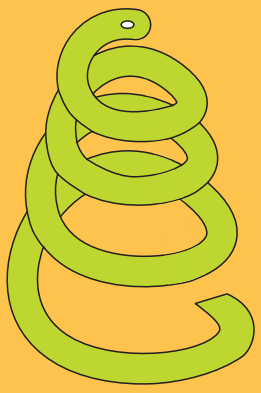
Fit two 25mm discs to the ends of the 100mm axle.





Check the assembly is as shown.

9 Make the spiral.



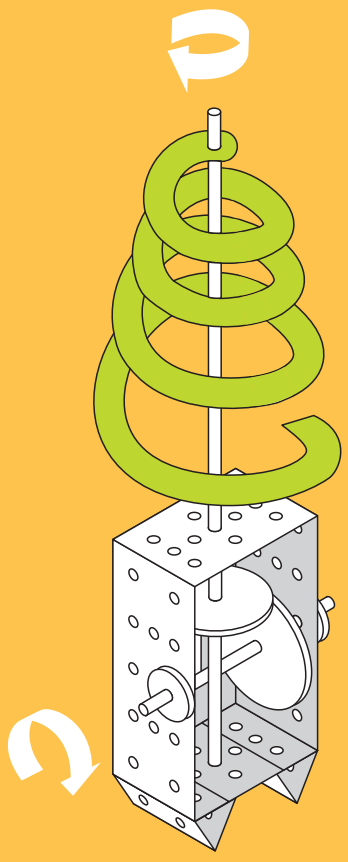
Carefully cut out and pull the spiral to shape and fit on the long axle.

10 Operate your 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 and cut out in the same way. Or you can design and make your own body panels!