

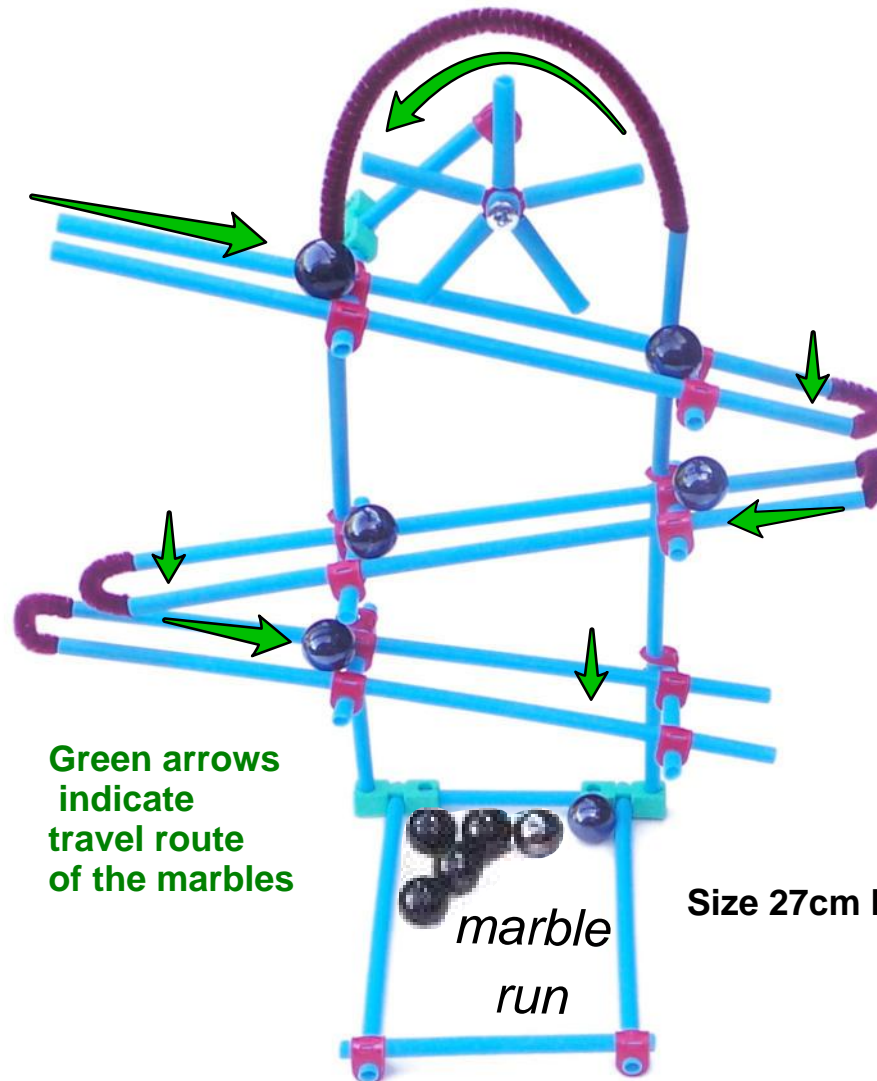
Introduction Page

Marble Run

Have fun watching marbles run down the marble run tracks whilst spinning the wheel on its way down to the storage area at the bottom. Parts can be adjusted to get best effect.

Keywords / Knowledge

Angle of inclination, delay time, rolling resistance, kinetic energy, potential energy, stability and effect of gravity.



Green arrows indicate travel route of the marbles

Size 27cm high x 23cm wide

SAFETY

Try to avoid marbles falling onto the floor where it could be hard to find or you could have a dangerous fall if standing on a marble.

TIP Place the marble run in a box or tin so marbles that fall are caught on a softer surface.

This is especially useful during the testing stage.

Parts List

14 x 5mm x 200mm Kre8 tubes

22 x Kre8 cross pieces

1 x Kre8 green connector

1 x 5 Kre8 star shape

1 x 4mm bolt

4 x marbles

2 x pipe cleaner (large type)

2 x Kre8 blue collars

4 x Marbles

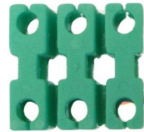
Parts List with Images



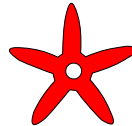
16 x Kre8 5mm dia. blue tubes 200mm long



22 x Kre8 cross pieces (can be supplied as a strip)



1 x Kre8
green connector



1 x Kre8 5 star



1 x 4mm bolt x 30mm long



2 x jumbo pipe cleaner (colour may vary)

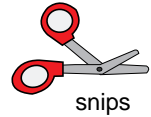


2 x blue collars



4 x marbles (16mm dia)

Tools you may need



snips



pencil



small screwdriver



ruler



Using the Cross Pieces General Assembling TIPS



1

Slide **cross piece** on the **tube**

2

Fold over to make a **loop**

3

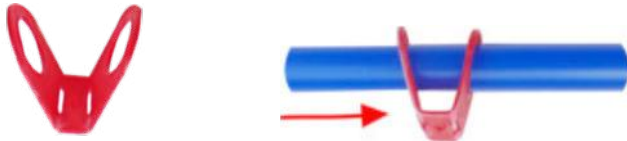
Slide **second tube** into the **loop**

Tips

Fold Cross Piece

Assembly is made easier if the **cross pieces** are folded first before sliding along the tube

Fold ready to use

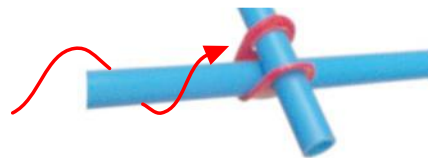


Leave Cross Pieces on strip until needed



Twist and insert Tube

Twisting the tube while inserting makes assemble easier



angle

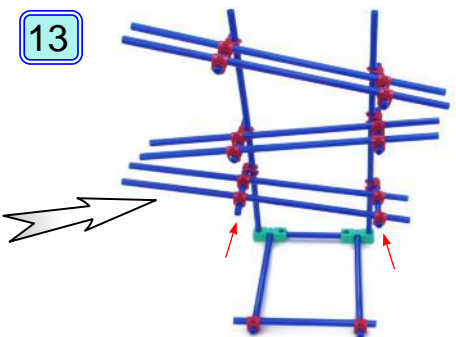
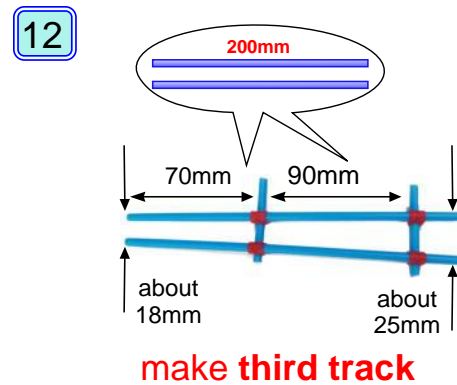
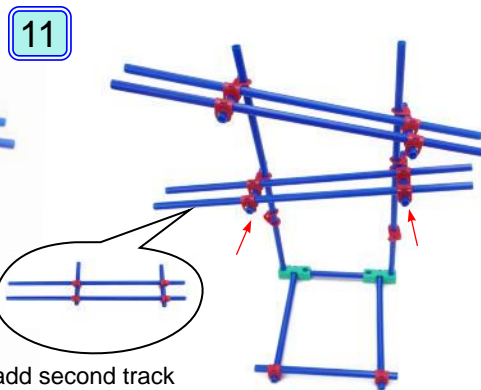
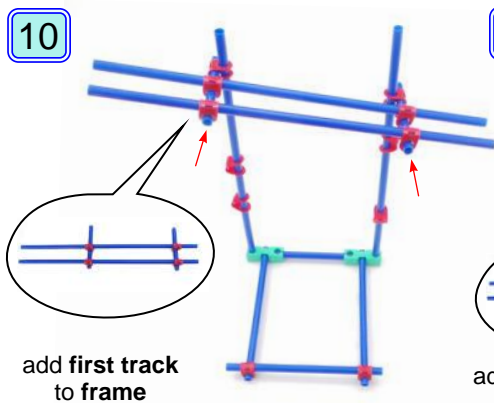
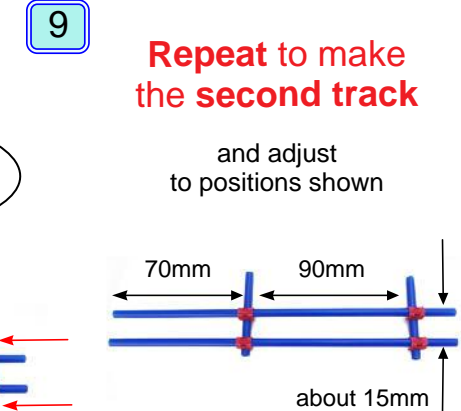
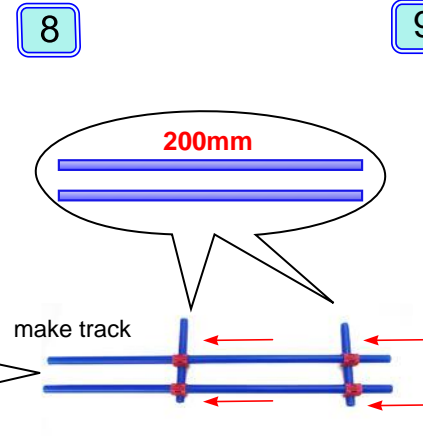
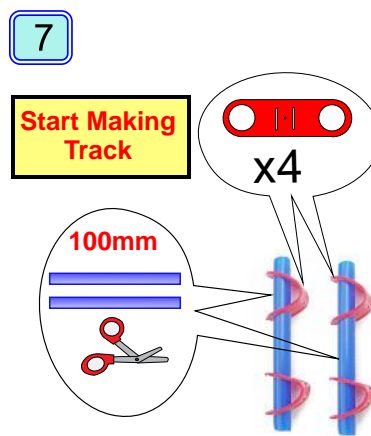
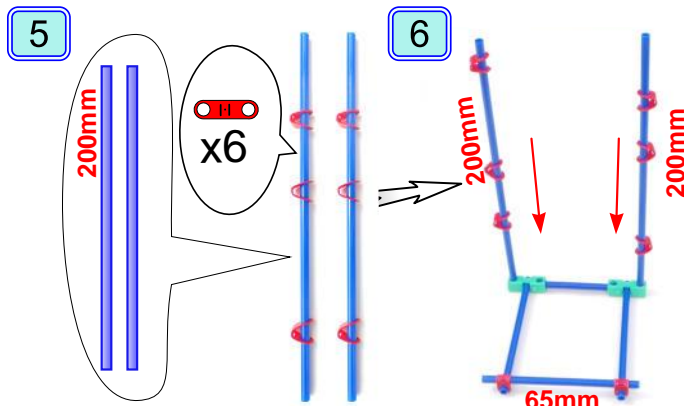
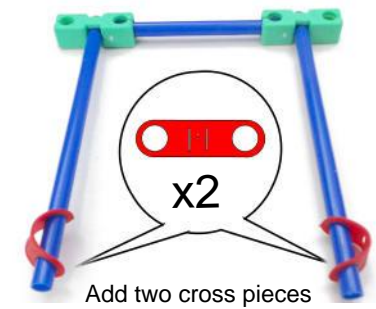
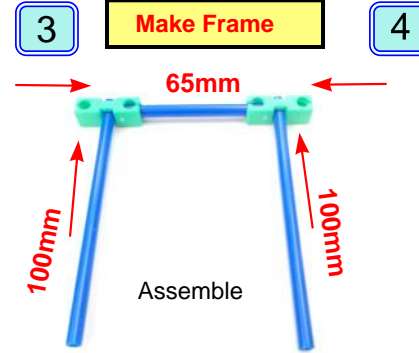
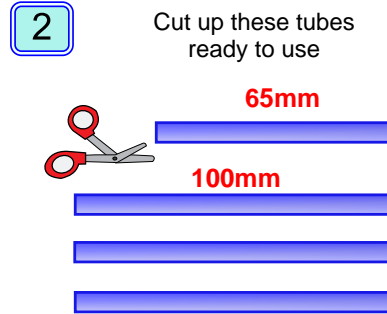
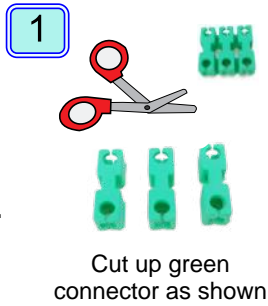


Cutting tubes at an angle can also make assemble easier

Marble Run

Making Step by Step 1 of 3

Using the parts shown in the **Parts List** make the Marble Run by following these steps. Also see using **cross pieces** page.



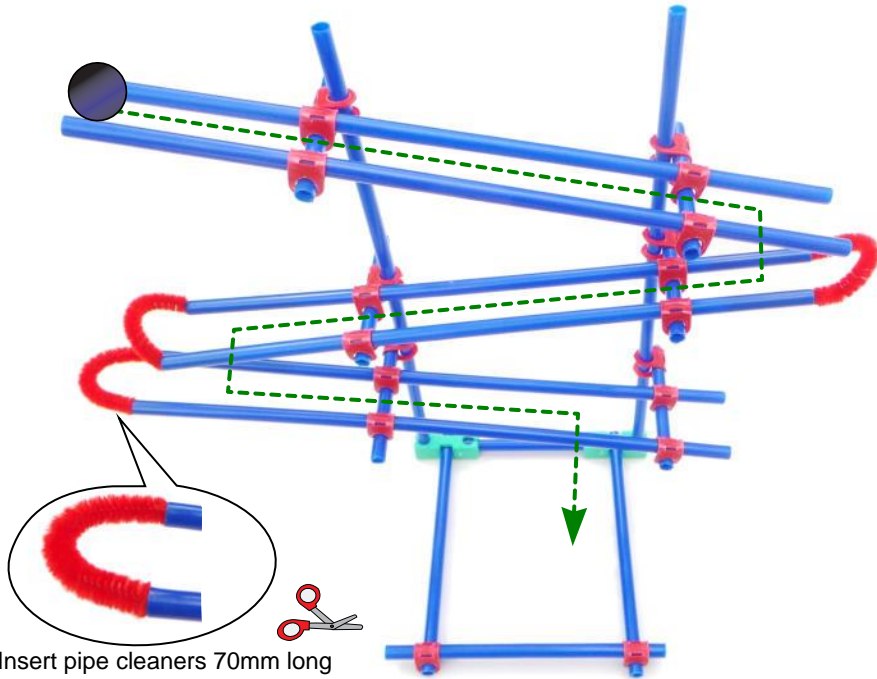
Marble Run

Making Step by Step 2 of 3

14

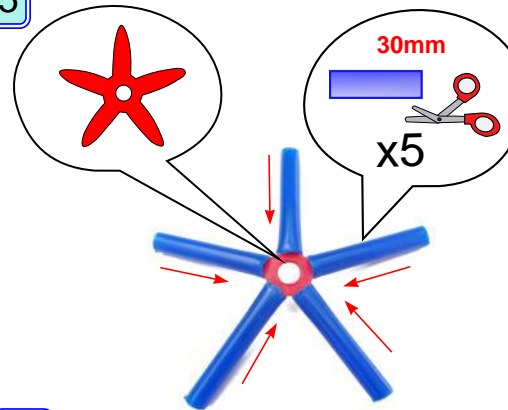
First TEST

Adjust track so marble runs along tracks then falls through and down at the end of each track as shown by green line

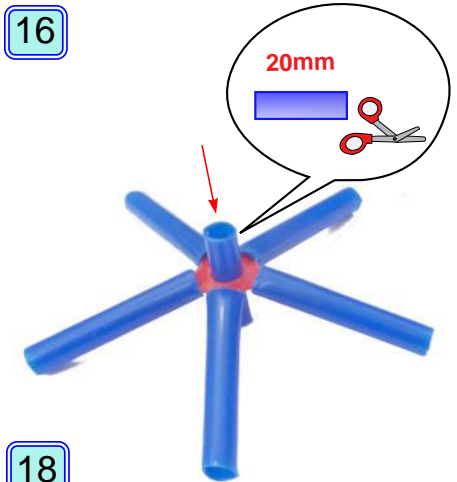


15

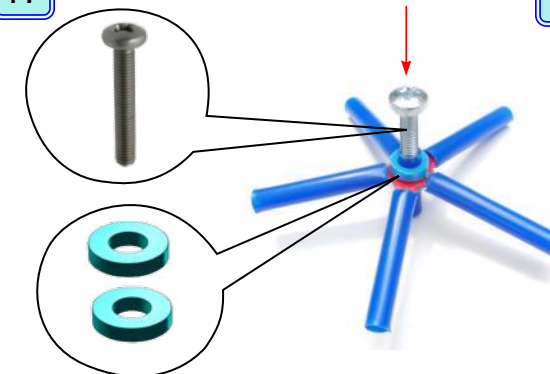
Spinner making



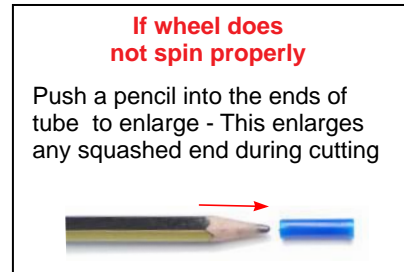
16



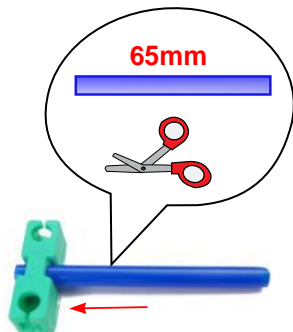
17



18

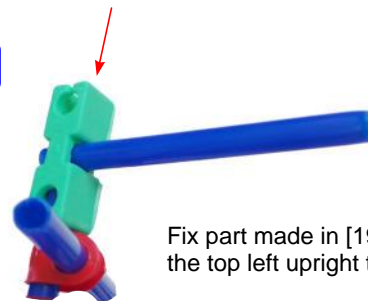


19



insert into the last green connector

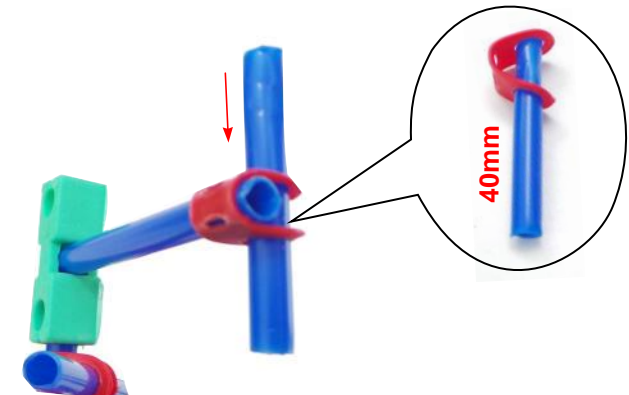
20



Fix part made in [19] to the back of the top left upright tube

See ** in [23] to see it in use

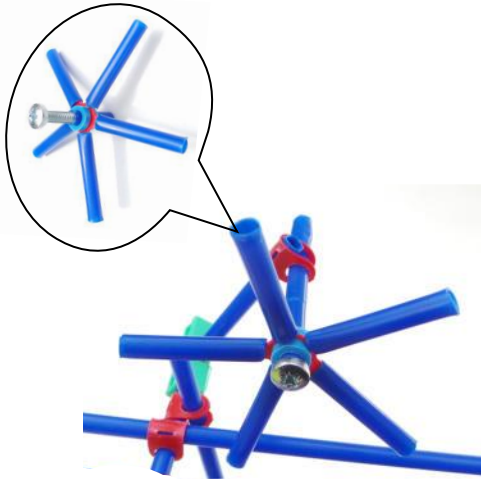
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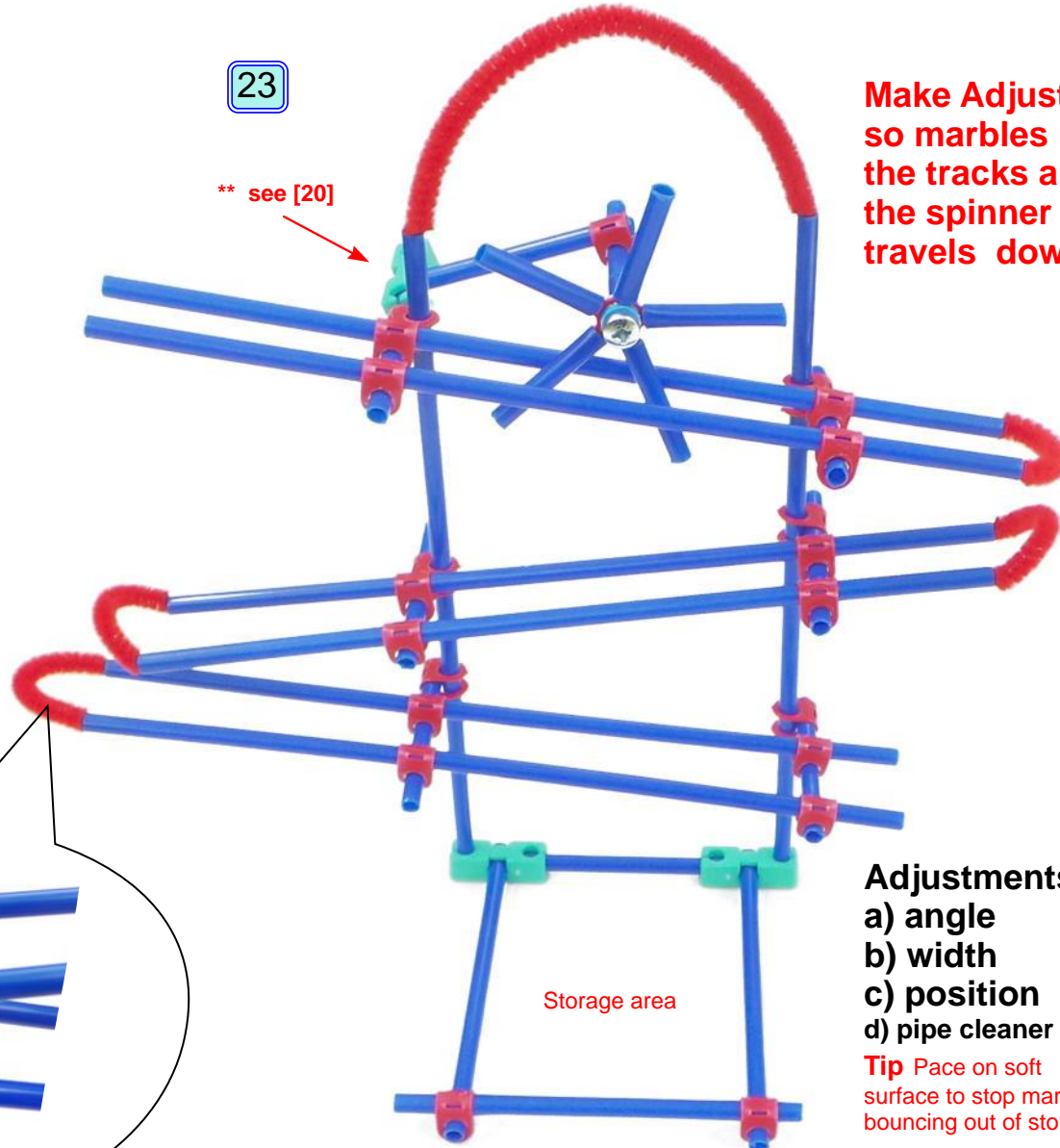
Marble Run

Making Step by Step 3 of 3

22

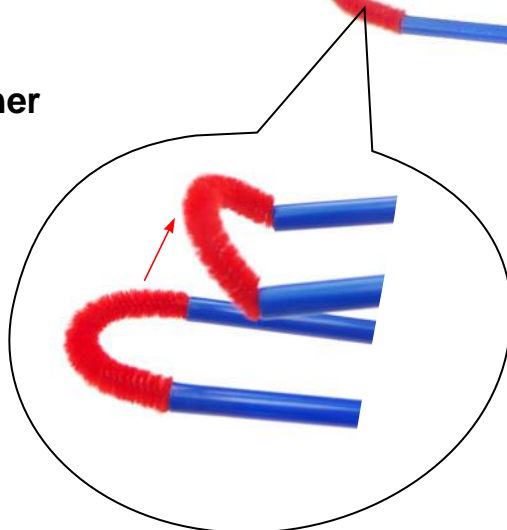


23



Make Adjustments
so marbles run down
the tracks and turn
the spinner as it
travels down.

Pipe cleaner
bent up
to stop
marble
running
off end



Adjustments
a) angle
b) width
c) position
d) pipe cleaner

Tip Pace on soft
surface to stop marbles
bouncing out of storage area