






ROLLING ACROSS SURFACES FRICTION INVESTIGATION

Sonic travels and rolls across different surfaces as he collects different items, such as the Gold Rings.

You will be investigating which surface material is the easiest for Sonic to roll across. You should try and identify which surface material produces the least amount of friction to enable him to roll further.

YOU WILL NEED:

-  a smooth piece of wood or cardboard for a ramp
-  a small ball, such as a rubber ball or a tennis ball
-  a pile of books or a small table
-  a selection of materials, such as sandpaper, carpet or bubble wrap
-  a ruler, a metre stick or a tape measure

Friction occurs when two surfaces rub together. It is a force that tries to stop or slow down moving objects.



METHOD

1. Before starting the investigation, add your predictions to the sheet.
2. Set a smooth piece of wood or sturdy piece of cardboard on the edge of a pile of books or small table to create a ramp.
3. Measure the materials so that they are all cut to the same size and cover the ramp.
4. Roll the ball down the ramp without any surface material on it and measure how far it travels. Then, test the ramp with each surface material by sending the ball down and measuring how far it travels.
5. To make this a fair test, repeat the investigation for each surface material.

To ensure the safety of the children in your setting, it is your responsibility to assess whether adult supervision or other appropriate safety measures are required when using scissors

ROLLING ACROSS SURFACES FRICTION INVESTIGATION PLANNING SHEET



PREDICTION

Which surface material do you think will make the ball travel the least distance? Why?

Which surface material do you think will make the ball travel the furthest distance? Why?

RESULTS

Send the ball down the ramp with each surface material twice. Record how far the ball travels each time.

SURFACE MATERIAL	INVESTIGATION 1	INVESTIGATION 2



AVAILABLE NOW
© SEGA



CONCLUSION

What did you find out from your results? Which surface material enabled the ball to travel the furthest and least distance? Why do you think this is?

What did you learn about friction from this investigation?

