

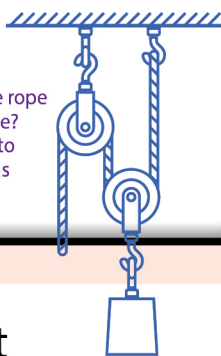
Scientists... let's investigate!

START



Predict

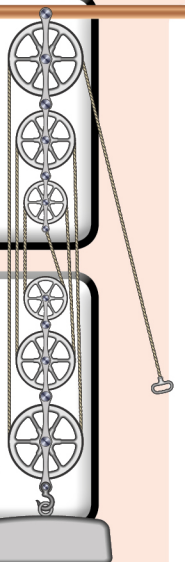
Will you be able to pull the broomsticks together when the rope is looped around them just once?
Will it become easier or harder to pull the broomsticks together as more loops are added?



Method

Tie the end of the rope to the middle of one broomstick.

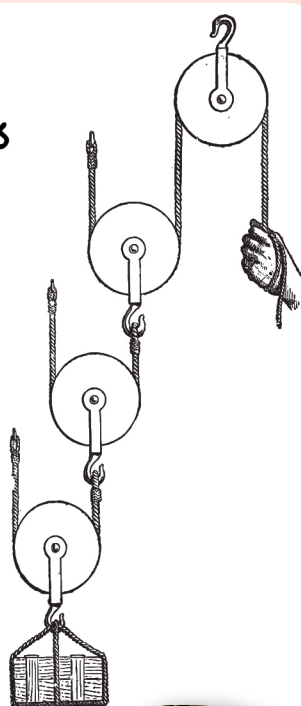
Swap roles so that everyone gets chance to be the puller. Discuss your results as a group.



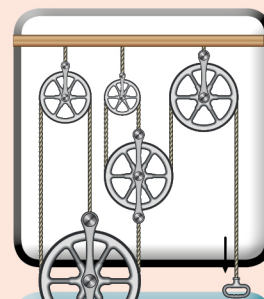
Puller – add more loops around the broomsticks and pull again. Work together to answer the same questions again.

Equipment

- ☐ Two broomsticks
- ☐ Long length of thin rope
- ☐ Paper
- ☐ Pencil
- ☐ Measuring tape (optional)



Choose two people to hold a broomstick each horizontally. They are the 'holders' and should stand and face each other approximately one metre apart.



Was it easier or harder to pull this time? Did you notice anything else when you pulled the rope? How far did you need to pull the rope?

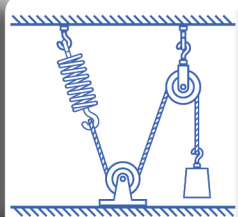
Puller – loop the rope around both broomsticks for a second time then try to pull them together again. **Holders** – try to stop them touching!

Is your test safe?

Watch out for trapped fingers, friction burns and falling backwards!



Person three is the 'puller'.
Puller – loop the other end of the rope around the middle of the second broomstick.



Work together to discuss and make a note of how hard it was to bring the broomsticks together. How far did you pull the rope?



Puller – pull the rope to try and bring the broomsticks together. **Holders** – try to stop the broomsticks touching!