

# Is friction good or bad?

Look at the photos. Where is friction a good thing and where is it a bad thing?

Look at the labels - should these objects have lots of friction or not much friction? Can you see any other examples?



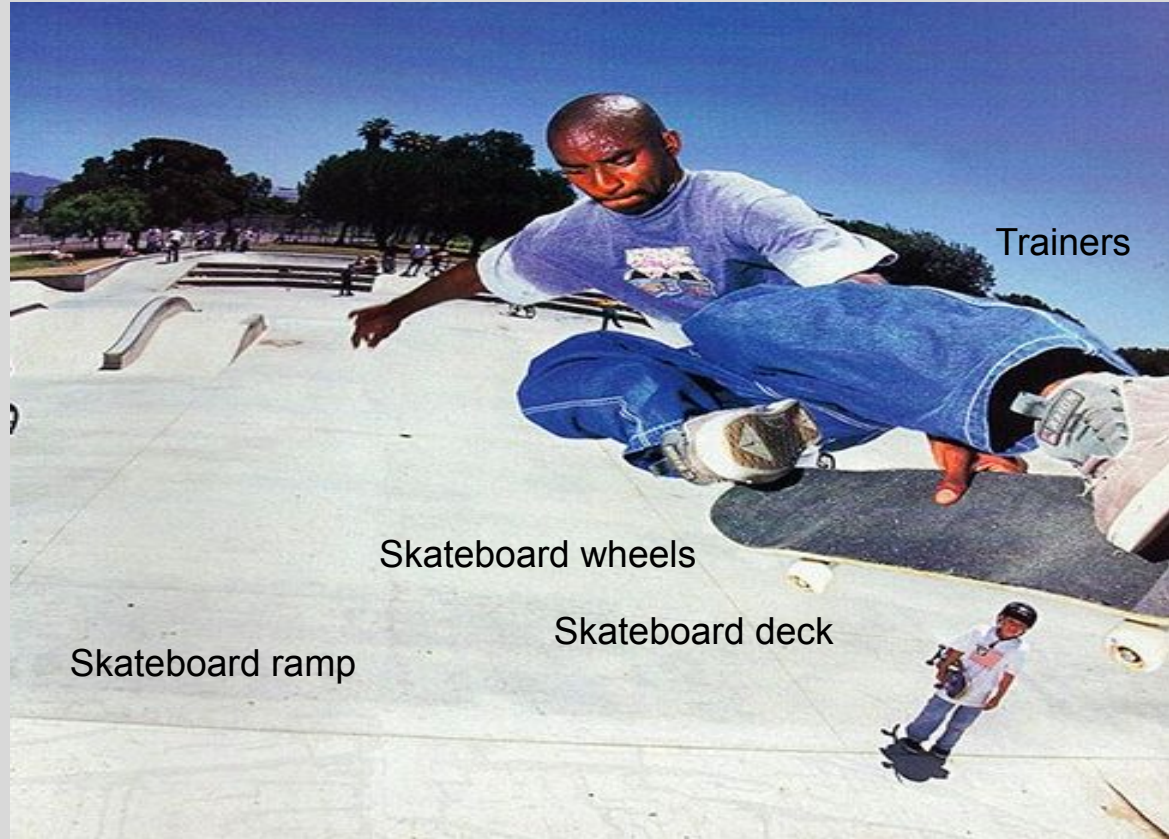
Gloves

Rope

Boots

Sledge

Look at the labels - should these objects have lots of friction or not much friction? Can you see any other examples?



Think about sports balls - do they feel rough, smooth or hairy?

Look at as many real sports balls as you can and feel the surface then write down how you think they feel

Talk about why different ones feel different - why are tennis balls hairy and baseballs or rounders balls smooth for instance?

What are your ideas?

- Does it make them easier or harder to hold?
- Does it let them travel faster or slower?
- What else could be the reason?



# Slippery Surfaces Instructions

1. Put the box flat on the desk
2. Put the object you are testing with against one end inside the box
3. Hold a ruler next to this end of the box
4. Lift this end up until the object slides - STOP and measure the height
5. Write the height in the table
6. Repeat the investigation with different materials in the box



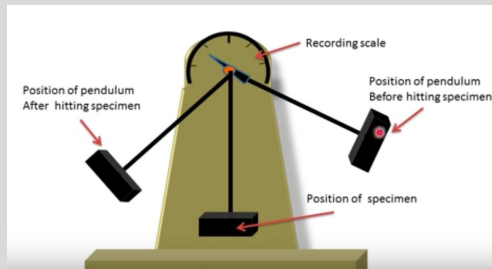


# Could you improve your model friction tester?

## FRICITION TESTER INCLINED PLANE



This is a real friction tester, it tilts on an axle in the middle - what could you use to make your model one work like this?



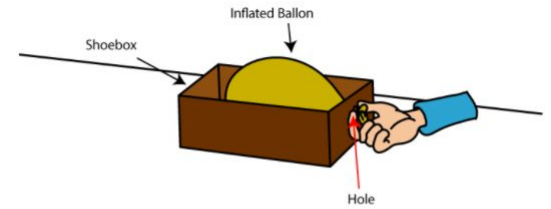
Or think of an idea of your own

You could make a swinging arm with a weight to hit the test object on different surfaces using LEGO or K'Nex if you have any



If you have a Newton meter you could pull or push the test object on different surfaces and measure the force

You could use this balloon propelled box on different types of surface



5. Let go of the balloon and measure the distance the box traveled.