



HOME LEARNING

Subject: Science

Time: 40-50 mins

Learning Objective: To be able to describe how friction can be an advantage or disadvantage.

Friction - Mrs Baker's class

Task 1 – Listen to my audio clip [Click to listen](#)

Task 2 – Click the link, read the text and listen to the audio about cycling:

<https://www.bbc.co.uk/bitesize/guides/zttfyrd/revision/4>

Task 3 – Now try and answer the questions below, remember to put an explanation for your answer:

Friction - Advantages and Disadvantages

Look at the images and decide if friction is an advantage or disadvantage in the situation, then colour in the box you have chosen. Explain why.

fidget spinner



advantage

disadvantage

My explanation:

running shoes

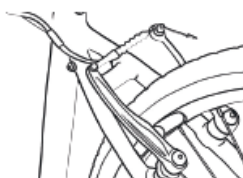


advantage

disadvantage

My explanation:

bike brakes



advantage

disadvantage

My explanation:

playground slide



advantage

disadvantage

My explanation:

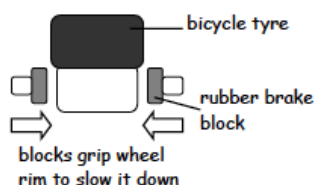
Task 4 – Read the text then fill in the gaps

Friction is a force that stops two surfaces sliding past each other. It is caused by tiny bumps on the surfaces which catch together.

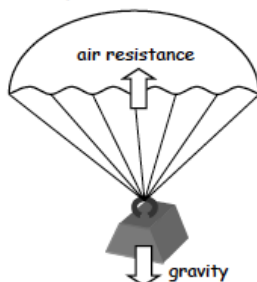
Uses of friction.

1. Friction gives grip for shoes and tyres. We could not move over the ground without friction.

2. Brakes on bicycles and cars use friction to slow down the wheels.



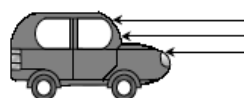
3. Air resistance is a type of friction that slows down parachutes.



Problems caused by friction.

1. Friction slows down moving machinery. It can also make machinery over heat. Grease and oil must be used to reduce friction.

2. Air resistance is a type of friction that slows down vehicles. The faster the vehicle travels the greater the air resistance becomes. Car bodies are designed so that the air slips smoothly over the bonnet.



Poor design - air hits against bonnet and slows the car down. The engine must work hard to keep at a high speed.



Good design - air slips smoothly over the bonnet. The air resistance is low and the car travels at high speed easily.

Exercise - Complete the missing words in the passage below.

The force that stops two surfaces sliding past each other is called If there was no friction between our shoes and the ground our feet would when we tried to walk. Rubber brake blocks grip against the of a bicycle wheel in order to slow it down. A parachute reaches a steady speed when the force of pulling it down is balanced by the air resistance pushing Friction between the moving parts of machinery can cause it to over The friction can be by using oil or The a car moves the greater the air resistance is that pushes against it.

slip reduced friction faster heat rims gravity grease upwards

Save your work:

If you are using a computer, open a blank document to do your work (you can use Word or Publisher). Don't forget to SAVE it with your name, the lesson you are doing and the date.

For example: T.Smith Maths 8 April

If you would like us to see or mark your work please email it or send a photo of your completed work to:

jlarrive@glebe.bromley.sch.uk

Thank you