

Year 7 Science Assessment 2: Friction experiment

Imagine if sliding were an Olympic sport. It would certainly be a fun and popular one. The fastest person down the slide would win the gold medal!

The clothes you wear to go down the slide might have an effect on how fast you can go...



You are going to do an investigation to see what material would be the best to go down a slide the fastest.

Your assessment will be due on **Thursday the 22nd August at 3pm**. Submit your report on MHOL and hand in your bar chart to Ms Suominen or Ms R-B.

AIM (group)

The aim of this investigation is to find out _____-

VARIABLES (group)

Independent variable - What variable are you changing ?

Dependent Variable / What variable will you be measuring ?

Control Variable - what will you keep the same ?

- 1.
- 2.
- 3.

EQUIPMENT / APPARATUS (group)

List the equipment used here:

- 1.
- 2.
- 3.
- 4.

From now on, complete your work individually

GRAPH (Maths and Science)

Present your results in a BAR chart - you will draw this on paper and hand it in to Ms Suominen.

CONCLUSION (Maths and science)

Complete the sentences to start writing a conclusion for your experiment.

Describe your graph, say which material produced the most and least friction, and which one you would wear to go fast on a slide. *Add any extra explanations that you think are needed.*

It took the biggest force to pull the block with _____ on it.

This material has the _____ friction.

It took the smallest force to pull the block with _____ on it.

This material has the _____ friction.

If I wanted to go fast down a slide, I would wear clothes made from _____.

If I was to do this experiment again, I would _____.

For help, use the words in the block below.

Most, least, repeat, more materials, slow, fast, rough, smooth,

DISCUSSION (Science)

In your OWN WORDS, and using examples, describe what friction is and how it influences movement.

For help, use the words in the block below.

Resistance force, measured in Newtons, opposing force, acts in the opposite direction to motion, can be good, can be bad, brakes of a car, engine parts, lubrication

Science rubric:

Y7	TOWARDS	AT	ABOVE	BEYOND
Investigation	You have attempted to gather data using a simple method.	You have attempted to gather and process data.	You have gathered and processed data.	You have gathered appropriate data. You have interpreted the data, drawing simple conclusions.
<i>Friction</i>	You have yet to identify friction as a force	You have identified friction and how it influences movement	You have described friction and how it influences movement	You have described friction and how it influences movement, with clear examples
Accuracy in Writing	You have made errors in grammar, spelling and/or punctuation and these are intrusive at times, consequently the reader has to infer meaning	You have made some errors, but minimal reader inference is needed as meaning is mostly clear	You have carefully edited your writing to ensure you have few intrusive errors and meaning is consistently clear	You have carefully edited your writing to ensure you have no intrusive errors and meaning is consistently clear
Time Management	You have yet to complete and submit your assessment	You have submitted your assessment late	You have submitted your assessment by the due date	You have submitted your assessment by the due date

Maths rubric:

Criteria	WORKING TOWARDS Curriculum expectation	Working AT curriculum expectation	Working ABOVE curriculum expectations	Working BEYOND curriculum expectation
Data Display	You have a developing understanding of data visualisations in your friction	You have demonstrated an understanding of data visualisations in your friction	You have demonstrated an understanding of accurate data visualisations in your friction	You have demonstrated a comprehensive understanding of accurate data visualisations in your friction

	experiment, and principles of effective graphs	experiment, integrating some principles of 'TAILS'	experiment, integrating principles of 'TAILS'	experiment, integrating principles of 'TAILS'
Data Analysis & Findings	You have shown some understanding of describing and identifying features, patterns, and trends in the data visualisation on friction	You have described and identified features, patterns, and trends in the data visualisation on friction, to answer your investigative question	You have accurately described and identified features, patterns, and trends in the data visualisation on friction, to answer your investigative question	You have effectively described and identified features, patterns, and trends in the data visualisation on friction, to answer your investigative question
Accuracy in Writing	You have made errors in grammar, spelling and/or punctuation which are intrusive and affect meaning.	You have made errors in grammar, spelling and/or punctuation which are intrusive at times, but readers can infer meaning.	You have made minor errors. Meaning is consistently clear.	You have made few to no intrusive errors. Meaning is consistently clear.
Time Management	You have yet to complete and submit your assessment	You have submitted your assessment late	You have submitted your assessment by the due date	You have submitted your assessment by the due date