



Year: 7

Topic: Forces

Subject: Science

Link to national curriculum:

Homework:
Work through homework booklet.

lessons

Practical/skills

1/2 Learning Objectives and Outcomes:

Forces:

Name contact and non-contact forces.
Describe different types of forces.
explain the effect forces will have on objects and how we can measure it.

Quick class activity:
Investigating forces

Speed:

Compare different speeds
Know the relationship between speed distance and time
Measuring and calculating speeds using distance and time using the correct units

Class practical:
Measuring speed of toy cars/real cars/runners/animals
Numeracy:
Present answers to a given number of decimal places
7N15a
Estimate and visualise size when measuring and use the correct units ks3.7

3/4 Learning Objectives and Outcomes:

Gravity, mass and weight:

Name the units for mass and weight
Describe how weight is caused by gravity
Explain the difference between mass and weight.
Investigate gravity using the stretch of springs with masses

Class practical:
Recording forces using a newton meter (spring extension)

5/6/7 Learning Objectives and Outcomes:

Comparing friction forces:

Name the factors affecting friction
Describe what happens when two surfaces have contact
Explain contact friction in simple terms
Investigate friction of different surfaces.

Specified practical:
Investigating friction

Numeracy

Present answers to a given number of decimal places 7N15a
Estimate and visualise size when measuring and use the correct units ks3.7
Draw conclusion from data and recognise that some may be misleading KS3.19
Construct a wide range of graphs and diagrams to represent data

Literacy:

Collate summarise relevant information response and analysis
7RA3
distinguish between facts, opinions, theories and evidence
response and analysis 7RA4
Plan writing making choices about the best way to present content.

<p>and reflect the importance of scale 7D4a</p> <p>Record temperatures in appropriate scales 7.M8</p> <p>Interpret mathematical information, draw inferences from graphs, diagrams and data, including discussions and limitations of data KSS.21</p> <p>Interpret diagrams and graphs 7D3</p> <p>Measure to complete a task ks3.5</p> <p>Read and interpret scales 7M1</p>	<p>meaning purposes readers7WM3</p> <p>adapt structures in writing for different contexts Structure and organisation 7WS1</p> <p>Select and organise ideas and information to give a clear and full account Structure and organisation 7WS2</p> <p>Use varied and appropriate vocabulary accurately including subject specific words and phrases Language 7WL2</p>
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8 Learning Objectives and Outcomes:

Pressure: (reading task)

Define pressure in terms of forces and surface area.
 Name the two factors that can affect pressure.
 Explain how forces and surface area affect pressure.

Class demonstration:
 Collapsing can experiment

9/10 Learning Objectives and Outcomes:

balanced and unbalanced forces:

Show forces on a diagram
 Describe what balanced and unbalanced forces are.
 Explain and calculate the resultant force on a force diagram.

Class practical:
 Making and testing a parachute

11 – end of topic test

assessment