

By the end of Summer 1, you will know:

Forces and Motion

1. What do forces do?
2. What are forces measured in?
3. What are an interaction pair of forces?
4. Name some different contact forces.
5. How do you measure forces?
6. Name some different non-contact forces.
7. What is a resultant force?
8. What are balanced forces?
9. What does it mean if an object is in equilibrium?
10. Find the resultant force of a car with 50N left and 100N right.
11. What is Newton's first law?
12. What are the two outcomes if the resultant force is zero?
13. What happens if forces are unbalanced?
14. What is the equation and units for speed?
15. What do you do to find the relative motion of 2 objects in opposite directions?
16. What do you do to find the relative motion of objects in the same direction?
17. What is on the x axis of a distance time graph?
18. What is on the y axis of a distance time graph?
19. What does a slope on a distance-time graph show?
20. What does a flat line on a distance-time graph show?
21. What does a curve on a distance-time graph show?
22. What does a steep slope mean?
23. What piece of equipment is used for measuring time?
24. What is the standard unit for length?
25. What is the standard unit for time?
26. What does acceleration mean?
27. How do we calculate acceleration?
28. What are the units of acceleration?
29. What is the difference between velocity and speed?
30. What does a flat-line on a velocity-time graph show?
31. What does a sloping straight line on a velocity-time graph show?
32. What is gravity?

33. What factors affect gravity?
34. What is the gravitational field strength on Earth?
35. What is weight?
36. What are the units of weight?
37. What is the equation for weight?
38. What is mass?
39. What are the units of mass?
40. What piece of equipment is used for measuring mass?
41. What is the standard unit for mass?

Forces

42. What is friction?
43. What is drag?
44. Will friction be smaller or greater on a rough surface?
45. What could be done to reduce drag or friction?
46. What is deformation?
47. What is compression of an object?
48. What is tension of an object?
49. What is the reaction force?
50. What is the amount an object stretches called?
51. What is meant by the elastic limit of an object?
52. What is Hooke's law?
53. What is accuracy?
54. What is precision?
55. What is the independent variable in this practical?
56. What is the dependent variable in this practical?
57. What is the control variable in this practical?
58. What piece of equipment is used for measuring length?
59. How could reliability be improved?
60. What is an anomaly?
61. What is a pivot?
62. What is a moment?
63. What are moments measured in?
64. What is the equation and units for moments?
65. What is the centre of mass of an object?
66. What can be done to improve the stability of an object?
67. What is pressure?
68. What is the equation for pressure?
69. What are the units for pressure?
70. What is fluid pressure?
71. What is the equation and units for fluid pressure?
72. What happens to liquid pressure as you move further under water?
73. What does incompressible mean?

74. What is atmospheric pressure?
75. What happens to atmospheric pressure as you move up a mountain?
76. What happens to gas pressure if you increase the temperature? |
77. What is upthrust?
78. What two factors affect the upthrust of an object?.

By the end of Summer 2, you will know:

Electricity and Electromagnetism

79. Draw the symbols for; cell, battery, voltmeter, ammeter, bulb, open switch, closed switch.
80. What is a cell?
81. What is a battery?
82. What is a voltmeter?
83. What is an ammeter?
84. What is current?
85. How can current be measured?
86. What are the units of current?
87. What is potential difference?
88. How do you measure potential difference in a circuit?
89. What are the units of potential difference?
90. What is the rating of a cell or battery?
91. What is resistance?
92. What are the units of resistance?
93. What is the formula to calculate resistance?
94. Give an example of a material with high resistance?
95. Give an example of a material with low resistance?
96. What is an independent variable?
97. What is a dependent variable?
98. What is a control variable?
99. What is a hypothesis?
100. What is a prediction?
101. What is the independent variable?
102. What is the dependent variable?
103. What is the control variable?
104. What piece of equipment is used for measuring length?
105. Which axes does the independent variable go on?
106. Which axis does the dependent variable go on?
107. What is random error?
108. What is systematic error?
109. What is used to reduce the effect of random error?

110. What is a series circuit?
111. What is a parallel circuit?
112. What happens to potential difference in a series circuit?
113. What happens to current in a series circuit?
114. What happens to the potential difference in a parallel circuit?
115. What happens to the current in a parallel circuit?
116. What is a kilowatt hour?
117. What is an electricity meter?
118. Give 2 ways to reduce energy bills.
119. Identify the names and colour of the wires inside a plug.
120. Why are the pins made of metal?
121. Why is the casing made of plastic?
122. What is an electrostatic force?
123. What are the two types of electric charge?
124. What happens between; positive and positive, positive and negative, negative and negative?
125. Draw and label an atom.
126. What charges do electrons, protons and neutrons have?
127. How does an object become charged?
128. What is an electric field?
129. What is a magnet?
130. What are the different poles on a magnet called?
131. What happens when the following are placed together; North and North, North and South, South and South?
132. What is a permanent magnet?
133. Name some magnetic materials.
134. What is a magnetic field?
135. What are magnetic field lines?
136. Give 2 ways that we can show the shape of the magnetic field around a bar magnet.
137. What can the Earth's magnetic field be used for?
138. What is a solenoid?
139. What is an electromagnet?
140. Give 3 ways to increase the strength of an electromagnet.
141. Give two uses of electromagnets.
142. How is an electromagnet made?
143. What is reproducibility?
144. What is repeatability?
145. What is the independent variable in this practical?
146. What is the dependent variable in this practical?

147. What is the control variable?