

THE BERWICKSHIRE HIGH SCHOOL SCIENCE FACULTY
S2 PHYSICS - Transport and Forces Practice TEST

NAME: Answers

Total marks	Percentage (%)
/ 33	

1. Complete the table below

4

Quantity	Equation Symbol	Unit	Unit Symbol
distance	d	meters	m
Speed	<u>v</u>	<u>Meters per second</u>	<u>m/s</u>
<u>Time</u>	<u>t</u>	Seconds	<u>s</u>
<u>Mass</u>	<u>m</u>	<u>Kilograms</u>	Kg
Weight	<u>W</u>	<u>Newtons</u>	<u>N</u>

2. What device is used to measure the following quantities?

- | | | | |
|----|----------|-----------------------------------|---|
| a) | Distance | <u>meter stick, trundle wheel</u> | 2 |
| b) | Time | <u>stop watch, Light gates</u> | 2 |
| c) | Force | <u>Spring Balance</u> | 1 |
| d) | Mass | <u>Balance</u> | 1 |
| e) | Weight | <u>Spring Balance</u> | 1 |

3. a) Draw a free body diagram for a car that has 500N of driving force and 400N of frictional force. 1



- b) Calculate the resultant force on the car 1

500-400= 100N Right

- c) Is the resultant force balanced or unbalanced? 1

Unbalanced

- d) Will the speed increase, decrease or stay the same? 1

Stay the Same

- 4 a) Draw a labelled diagram of an experiment to calculate the average speed of an object. 2

- b) What measurements and calculations must be made to calculate the speed in the experiment above 3

Measurements:
Time from a-b
Distance from a-b

Calculations:
Speed - $v=d/t$

- 5 State the word equation for the friction energy change 1
Kinetic → Heat
- 6 State 2 ways to reduce friction 1
Lubrication, Reduce force, Smooth the Surface
- 7 State 2 ways friction can be useful 1
Any suitable
- 8 What are the 3 things a force can change? 1
Any suitable
- 9 A force is a Push or a Pull 1

10 Bob has a mass of 50kg. Calculate Bobs weight on:

a) Earth

2

$$\begin{aligned}W &= mg \\W &= 50 \times 10 \\W &= 500 \text{ N}\end{aligned}$$

b) Jupiter

2

$$\begin{aligned}W &= mg \\W &= 50 \times 23 \\W &= 1150 \text{ N}\end{aligned}$$

11 Sketch the magnetic field around 2 bar magnets with the south poles facing each other. 1

12 a) Describe how to make an electromagnet

2

b) What is a benefit of an electromagnet?

1