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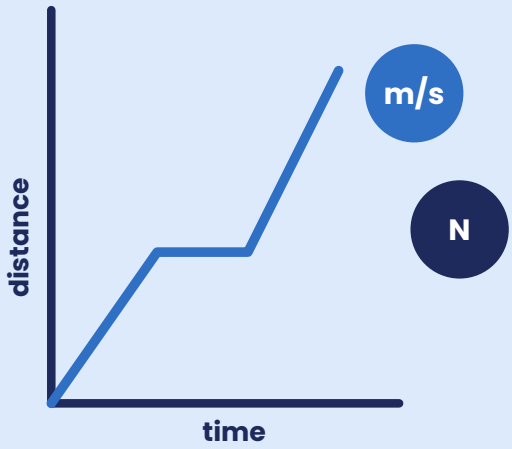
Year 7 • KS3 Physics

Forces & Motion

Mark Scheme – Teacher Copy

Answers, marking points and guidance for the Forces and Motion worksheet.



Forces | Friction | Balanced | Speed | Distance | Graphs

KEY IDEAS IN THIS WORKSHEET **YEAR 7**

Name: _____ Class: _____

Date set: _____ Date due: _____

What's inside

Section A	Forces	**12 marks**
Section B	Balanced and unbalanced forces	**9 marks**
Section C	Speed	**9 marks**
Section D	Distance-time graphs	**9 marks**

Marking notes

- (1) = one mark for each marking point.
- / separates alternative answers.
- Allow error carried forward in calculations.
- Accept any correct, clearly expressed alternative.

Total marks

39

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Forces and Motion Worksheet – Mark Scheme

Total: 39 marks. (1) = one mark. Accept any scientifically correct alternative wording.

Section A – Forces

Q	Answer	Mark	Guidance
1(a)	push; pull	2	
1(b)	friction	1	
1(c)	gravity; weight	2	
1(d)	balanced	1	
2	newtons (N) (1); a newtonmeter / force meter (1)	2	
3	air resistance (drag); reaction / support force; magnetic force; gravity / weight	4	1 mark each
	Section A total	**12**	

Section B – Balanced and unbalanced forces

Q	Answer	Mark	Guidance
4	stays still; moves / speeds up to the right; moves / speeds up downwards	3	1 mark each; allow 'constant speed' for the first if already moving
5	the forces are balanced (1); so the car moves at a constant speed in a straight line (1)	2	
6	the driving force decreases / stops (1); so friction and air resistance are bigger and the car slows down (1)	2	
7	useful: grip of shoes or tyres / brakes (1); problem: wears parts away / wastes energy as heat (1)	2	
	Section B total	**9**	

Section C – Speed

Q	Answer	Mark	Guidance
8	5 m/s; 40 m; 5 hours; 5 m/s	4	1 mark each
9	time = 1.5 h (1); 3 ÷ 1.5 (1); = 2 km/h (1)	3	
10	80 × 2 (1); = 160 km (1)	2	
	Section C total	**9**	

Section D – Distance-time graphs

Q	Answer	Mark	Guidance
11	(a) constant speed (1); (b) stationary / not moving (1); (c) faster (constant) speed (1)	3	
12	first part: 200 ÷ 40 = 5 m/s (1); stopped: 0 m/s (1); last part: 100 ÷ 20 = 5 m/s (1)	3	
13	measure the distance with a ruler / metre rule (1); time it with a stopwatch / light gates (1); calculate speed = distance ÷ time (1)	3	
	Section D total	**9**	

Worksheet total: 39