

GCSE Physics: Energy

Priority Learning

Worksheet

Name: _____ Date: _____

Question:	1	2	3	4	5	6	7	8	9	10	Total
Marks:	2	2	2	2	2	5	6	2	3	6	32
Score:											

Aims of this worksheet:

- Learning the definitions of the different types of energy and familiarising yourself with the equations.

1. Define what is meant by kinetic energy and state the kinetic energy equation. (2 marks)

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2. Define what is meant by gravitational potential energy and state the gravitational potential energy equation. (2 marks)

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3. Define what is meant by elastic potential energy and state the elastic potential energy equation. (2 marks)

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4. Define what is meant by electrical energy and state the electrical energy equation. (2 marks)

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5. Define what is meant by thermal energy and state the thermal energy equation. (2 marks)

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6. This question is about standard units (or S.I. units as they are otherwise known).

(a) What is the S.I. unit for distance? (1 mark)

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(b) What is the S.I. unit for time? (1 mark)

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(c) What is the S.I. unit for velocity? (1 mark)

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(d) What is the S.I. unit for energy? (1 mark)

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(e) What is the S.I. unit for acceleration? (1 mark)

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7. A crane lifts a car of mass 1200kg 20m off the ground.

(a) What type of energy does the car gain? (1 mark)

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(b) Calculate how much energy the car gains. State the units. (2 marks)

(c) State the law of the conservation of energy. (2 marks)

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(d) By considering your answer to c) deduce what energy transfer took place in the crane lifting the car up. (1 mark)

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8. A car of mass 1500kg is travelling at 15ms^{-1} . How much kinetic energy does it have? Don't forget to put units on your answer. (2 marks)

9. A bowling ball has mass 8kg and kinetic energy 100J. What speed is it travelling at? (3 marks)

10. Two objects of equal shape are dropped from the same window, 15m above the ground, at the same time. Assume air resistance is negligible for this question.

- (a) If the objects have different mass explain why they will still hit the ground at the same time. (3 marks)

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- (b) Calculate the speed the objects will be travelling just before they hit the ground. Don't forget the units in your answer. (3 marks)