Name: Class:

Total Possible Marks: 33

Energy Stores and Transfers

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1. When energy is transferred to an object, the energy is stored in one of the objects "energy stores". Look at the list of energy stores below and match each one with its corresponding definition:

A. ____ Thermal	a.	Any object. The hotter it is, the more energy it has in this store you may also see these types of energy stores called "internal energy stores".
B. ____ Kinetic	b.	Anything moving has energy in this store
C. ____ Chemical	c.	Anything that can release energy by a chemical reaction for example foods or fuels.
D. ____ Gravitational potential	d.	Anything that has mass and is inside a gravitational field.
E. ____ Elastic potential	e.	Anything that is stretched or compressed, for example a spring.
F. ____ Electrostatic	f.	Anything with electric charge that is interacting with another electric charge for example two charges that attract or repel each other.
G. ____ Magnetic	g.	Anything magnetic that is interacting with another magnetic item.
H. ____ Nuclear	h.	Atomic nuclei have energy in this store which can be released in nuclear reactions.

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2. A (a)_____ is just an alternative word for a (b)_____ object or a (c)_____ of objects that you might be interested in. In a (d)_____ system, neither (e)_____ nor energy can (f)_____ or leave, the net change in the (g)_____ energy of a closed system is always (h)_____. When a system (i)_____, energy is (j)_____. It can be transferred into or away from the system, between different (k)_____ in the system, or between different types of energy (l)_____.

stores	*enter*	*transferred*	*single*	*group*	*total*
objects	*closed*	*zero*	*system*	*changes*	*matter*

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3. "Work done" is just another way of saying "energy transferred".

(A) True

(B) False

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4.

Look at the picture of a child's "Jack in the box" toy. In a short paragraph, give an account of the energy changes/energy transfers when the toy is set and subsequently activated.

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5. Energy can be transferred between energy stores in one of 4 different ways. Look at the names of the 4 different ways, and match each with its corresponding correct definition.

A. ____ Mechanically

B. ____ Electrically

C. ____ By heating

D. ____ By radiation

a. Energy transferred from a hotter object to a cooler object, for example heating a pan of water on the hob.

b. An object moving due to a force acting on it, for example pushing, pulling, stretching or squashing.

c. Energy transferred by for example light or sound waves, for example energy from the sun reaching the earth by light.

d. A charge (current) moving through a potential difference, for example charges moving around a circuit.