

Energy and Heat Booklet – Due Wed, September 16, 2015

GA Standards:

SPS7: Students will relate transformations and flow of energy within a system.

SPS7.a: Identify energy transformations within a system (e.g. lighting of a match).

SPS7.b: Investigate molecular motion as it relates to thermal energy changes in terms of conduction, convection, and radiation.

SPS7.c: Determine the heat capacity of a substance using mass, specific heat, and temperature.

I. Kinetic and Potential Energy

8 points total

Define, give an example (or draw a picture), give equation and units for kinetic energy and potential energy.

II. Other Types of Energy

18 points total

Define and give an example (or draw a picture) of

a. Energy,	d. Mechanical Energy,	g. Elastic Potential Energy
b. Work,	e. Nuclear Energy,	h. Chemical Energy,
c. Electrical Energy,	f. Electromagnetic Energy	i. Thermal Energy,

III. Energy Transformations

5 points sketch

Sketch the images below and answer the following questions for each image.

18 points for ?'s

<p>Questions</p> <ol style="list-style-type: none"> 1. What point(s) Kinetic energy is decreasing 2. What point(s) Kinetic energy is increasing 3. What point(s) Kinetic energy is the HIGHEST 4. What point(s) Kinetic energy is the LOWEST 5. What point(s) Potential energy is decreasing 6. What point(s) Potential energy is increasing 7. What point(s) Potential energy is the HIGHEST 8. What point(s) Potential energy is the LOWEST 9. What point(s) Both KE and PE present 	<p>Bouncing Ball</p>	<p>Pendulum</p>
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IV. Types of Energy Transfer

3 points each, 12 points total

1. Define heat and temperature, describe how heat flows, and the 3 factors that determine thermal energy
2. Conduction: Define, list 3 examples and draw 1 picture
3. Convection: Define, list 3 examples and draw 1 picture
4. Radiation: Define, list 3 examples and draw 1 picture

Other items affecting grade:

Neatness, use of color, creativity in design/layout

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