

Chapter 2: Matter, Forces, and Energy

Section 2A: Matter

1. Define matter. Why is it hard to completely define?

- Matter is anything that occupies _____ and has

_____.

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2. What is the difference between pure substances and mixtures?

- _____ minerals made of just
_____ kind of _____

- _____ physical _____ of two or more

3. List the states of matter and describe their properties.

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4. Name the changes of state for each of the following:

a. Water vapor becomes liquid water droplets -

b. Molten steel hardens -

c. Ice forms on the windshield of your car -

d. Block of dry ice slowly disappears -

e. Beaker of liquid oxygen bubbles and forms oxygen gas -

5. Name three ways to measure matter.

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Section 2B: Forces

6. Define force:

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7. Differentiate between contact and field forces.

- _____
- exerted only
- _____
- can be exerted on

8. List and give examples of types of forces:

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-
-
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Bonus Question:

Which force do we experience constantly but never see?

Section 2C: Energy

9. Define energy and work.

- _____
- _____ - the _____ that acts on the _____ as it moves through a _____

10. What is the difference between potential and kinetic energy?

- _____ depends on the object's _____ and _____, _____ due to its _____ or _____
- _____ depends on the _____ of the object and its _____ above the level to which it could _____

11. List different forms of energy:

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12. What is the Law of Conservation of Energy?

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but can only be changed from one form to another.

Section 2D: Composition of Matter

13. Describe the structure of atoms.

- _____ These have a _____ charge and are found in the _____ of the _____, called the _____.
- _____ These have **no** charge and are also in the _____ with the protons.
- _____ These have a _____ charge and move around the _____ in areas called _____ or _____.

14. What is the difference between chemical, physical, and nuclear changes? Give an example of each.

- _____ - doesn't change its _____
- _____ - a pure substance changes to _____
- _____ - an atom emits _____; it changes into another _____

15. What is the difference between elements and compounds?

- _____ are made of only _____ kind of _____.
- _____ are made of _____ or more _____ that are chemically combined.

16. What are molecules and why are chemical bonds important?

- _____ are groups of _____ or more
_____ that are **chemically** bonded together.

- _____ are important because they
_____ the _____ together in a
_____.