

NAME: _____

PERIOD: _____

I. What is Science?

II. What are the 4 AREAS OF SCIENCE?

A.

B.

C.

D.

III. What is Earth Science?

IV. What are the 4 AREAS OF EARTH SCIENCE?

1.

2.

3.

4.

V. Geology

1. Define:

2. Examples:

3. Career Opportunities:

VI. Meteorology

1. Define:

2. Examples:

3. Career Opportunities:

a. N.O.A.A.: N=

O=

A=

A=

i. N.W.S.: N=

W=

S=

Meteorological Functions:

VII. Astronomy

1. Define:

Hale Bopp:

2. Examples:

3. Career Opportunities: N=

A=

S=

A=

Famous People:

VIII. Oceanography

1. Define:

2. Examples:

3. Career Opportunities: S=

C=

U=

B=

A=

Famous People:

NOAA Oceanographical Functions:

Example 1:

Example 2:

IX. What is Technology?

1.

2.

Examples:

A.

B.

C.

X. What does it mean for “technology to be transferable?”

1.

2. Give an example.

XI. What is the scientific method?

1. Define
2. What are the steps to the scientific method?

P

H

E

O

C

XII. Variables and Controls

A. Variables—factors that change in an experiment

- a. Independent Variable: the variable you want to test.
- b. Constants—the variable you do not change in the experiment.
- c. Dependent Variable: variable being measured.

B. Controls—standard to which your results can be compared.

C. Example: Soil Experiment: suppose you want to design an experiment to find out what kind of soil is best for growing cactus plants. What would be your variables and constants in the experiment?

1. What is the independent variable?
2. What are the constants?
3. What is the dependent variable?

XIII. Theories

A. Define:

B. Examples:

XIV. Laws

A. Define:

B. Examples:

XV. Measurement

A. International System of Units (SI)

1. French *Le Système International d'Unités (1960)*
2. Base 10
3. What does Base 10 mean?

XVI. Length

A. SI Unit :

1 cm = _____ mm

1 m = _____ cm

1 km = _____ m

B. History:

1771—1 meter was equal to 1 ten millionth (10^{-7}) the distance of Earth's Meridian traveling through Paris.

1983—length of the path traveled by light in a vacuum during a time interval of $1/299,792,458$ of a second.

C. What is the difference in length of the two?

XVII. Mass

A. SI Unit:

B. Measure of the amount of _____ in an object.

C. Depends on number of _____.

D. Does mass change with gravity?

E. Based on a comparison.

F. History:

XVIII. Weight

A. SI Unit:

B. Measure of the _____ force on an object.

C. Compare the moon's gravity to earth.

D. Compare the weight of an object on the moon to earth.

E. Compare the weight of an object on earth to the moon.

XIX. Area

A. SI Unit:

B. Define:

C. Formula for a 4 sided object:

D. Example:

XX. Volume

A. SI Unit:

B. Define:

C. Formula for a cube or box:

XXI. Temperature

A. SI Unit:

B. Define:

C. Formulas:

Celsius to Kelvin

Fahrenheit to Celsius

Celsius to Fahrenheit

D. Practice:

XXII. Density

A. SI Unit:

B. Define:

C. Formula:

D. Density of freshwater:

E. Density of ice: