# Pool Canvas

Add, modify, and remove questions. Select a question type from the Add Question drop-down list and click **Go** to add questions. Use Creation Settings to establish which default options, such as feedback and images, are available for question creation.

**Add** Calculated Formula GO | Creation Settings

**Name** Chapter 1: Chemistry: The Central Science
**Description** Question pool for Chapter 1: Chemistry: The Central Science
**Instructions**

Modify

Add Question Here

Question 1 **Multiple Choice** **0 points** Modify Remove

**Question**
What is a unifying principle that explains a body of experimental observations?
**Answer**
- Law
- Hypothesis
- ✓ Theory
- Phenomena
- Prediction

Add Question Here

Question 2 **Multiple Choice** **0 points** Modify Remove

**Question**
What is defined as a tentative explanation for observations that are made that result in the formulation of this concept?
**Answer**
- Law
- ✓ Hypothesis
- Theory
- Phenomena
- Prediction

Add Question Here

Question 3 **Multiple Choice** **0 points** Modify Remove

**Question**
What term is used for findings that are summarized based on a pattern or trend?
**Answer**
- ✓ Law
- Hypothesis
- Theory
- Phenomena
- Prediction

Add Question Here

Question 4 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of the following activities is not a part of good science?
**Answer**
- Proposing a theory
- Developing a hypothesis
- Making quantitative observations
- Designing experiments
- ✓ Indulging in speculation

Add Question Here

Question 5 **Multiple Choice** **0 points** Modify Remove

**Question**
Which one of the following is a "substance" in the sense of the word as used in your textbook?
**Answer**
- Air
- Tap water
- Sea water
- ✓ Water
- Toothpaste

Add Question Here

Question 6 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of the following cannot be separated into a simpler substance by chemical means?
**Answer**
- ✓ Element
- Emulsion
- Compound
- Homogeneous mixture
- Heterogeneous mixture

Add Question Here

Question 7 **Multiple Choice** **0 points** Modify Remove

**Question**
If a liquid contains 60% sugar and 40% water throughout its composition, what is it called?

**Answer**
- Solute
- Compound
- ✓ Homogeneous mixture
- Heterogeneous mixture
- Solvent

Add Question Here

Question 8 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of the following does not have a uniform composition throughout?

**Answer**
- Element
- Compound
- Homogeneous mixture
- ✓ Heterogeneous mixture
- Solvent

Add Question Here

Question 9 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of the following is not an S.I. base unit?

**Answer**
- Meter
- Ampere
- Second
- ✓ Gram
- Kelvin

Add Question Here

Question 10 **Multiple Choice** **0 points** Modify Remove

**Question**
The S.I. base unit of mass is

**Answer**
- mg
- g
- ✓ kg
- metric ton
- lb

Add Question Here

Question 11 **Multiple Choice** **0 points** Modify Remove

**Question**
The S.I. prefix mega- (M) means

**Answer**
- $10^{-6}$
- $10^{-3}$
- $10^{3}$
- ✓ $10^{6}$
- $10^{9}$

Add Question Here

Question 12 **Multiple Choice** **0 points** Modify Remove

**Question**
The SI prefixes *milli* and *mega* represent, respectively:

**Answer**
- $10^{6}$ and $10^{-6}$
- ✓ $10^{-3}$ and $10^{6}$
- $10^{3}$ and $10^{-6}$
- $10^{-3}$ and $10^{9}$
- $10^{-6}$ and $10^{-3}$

Add Question Here

Question 13 **Multiple Choice** **0 points** Modify Remove

**Question**
How many micrograms are in 65.3kg?

**Answer**
- 0.653 µg
- $6.53 \times 10^{7}$ µg
- $6.53 \times 10^{4}$ µg
- $6.53 \times 10^{-8}$ µg
- ✓ $6.53 \times 10^{10}$ µg

Add Question Here

Question 14 **Multiple Choice** **0 points** Modify Remove

**Question**
A dose of medication was prescribed to be 35 microliters. Which of the following expresses that volume in centiliters?

**Answer**

- $3.5 \times 10^{5}$ cL
- $3.5 \times 10^{4}$ cL
- 3.5 cL
- $3.5 \times 10^{-4}$ cL
- ✓ $3.5 \times 10^{-3}$ cL

Add Question Here

Question 15 **Multiple Choice** **0 points** Modify Remove

**Question**
How many milliliters is 0.0055 L?

**Answer**

- 0.55 mL
- ✓ 5.5 mL
- 0.5 mL
- 0.0000055 mL
- 182 mL

Add Question Here

Question 16 **Multiple Choice** **0 points** Modify Remove

**Question**
How many hertz is 600.11 MHz?

**Answer**

- $6.0011 \times 10^{-4}$ Hz
- 60.011 Hz
- $6.0011 \times 10^{6}$ Hz
- $6.0011 \times 10^{-2}$ Hz
- ✓ $6.0011 \times 10^{8}$ Hz

Add Question Here

Question 17 **Multiple Choice** **0 points** Modify Remove

**Question**
The distance between carbon atoms in ethylene is 134 picometers. Which of the following expresses that distance in meters?

**Answer**

- $1.34 \times 10^{-13}$ m
- $1.34 \times 10^{-12}$ m
- ✓ $1.34 \times 10^{-10}$ m
- $1.34 \times 10^{-7}$ m
- $1.34 \times 10^{-6}$ m

Add Question Here

Question 18 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of these quantities represents the largest mass?

**Answer**

- $2.0 \times 10^{2}$ mg
- 0.0010 kg
- $1.0 \times 10^{5}$ µg
- ✓ $2.0 \times 10^{2}$ cg
- 10.0 dg

Add Question Here

Question 19 **Multiple Choice** **0 points** Modify Remove

**Question**
The mass of a sample is 550 milligrams. Which of the following expresses that mass in kilograms?

**Answer**

- $5.5 \times 10^{8}$ kg
- $5.5 \times 10^{5}$ kg
- ✓ $5.5 \times 10^{-4}$ kg
- $5.5 \times 10^{-6}$ kg
- $5.5 \times 10^{-1}$ kg

Add Question Here

Question 20 **Multiple Choice** **0 points** Modify Remove

**Question**
The average distance between the Earth and the Moon is 240,000 miles. Express this distance in kilometers. (1mi = 1609m)

**Answer**

- $6.1 \times 10^{5}$ km
- $5.3 \times 10^{5}$ km
- ✓ $3.9 \times 10^{5}$ km
- $1.5 \times 10^{5}$ km
- $9.4 \times 10^{4}$ km

Add Question Here

Question 21 **Multiple Choice** **0 points** Modify Remove

**Question**
How many inches are in 382.5 cm? (1in = 2.54 cm)

**Answer**
- ✓ 150.6 in
- $6.641 \times 10^{-3}$ in
- 151 in
- 971.6 in
- 972 in

Add Question Here

Question 22 **Multiple Choice** **0 points** Modify Remove

**Question**
How many cubic inches are in 1.00 liter? (1in = 2.54cm)

**Answer**
- ✓ $61.0\ in^3$
- $155\ in^3$
- $394\ in^3$
- $1.64 \times 10^4\ in^3$
- None of the above

Add Question Here

Question 23 **Multiple Choice** **0 points** Modify Remove

**Question**
Convert 500. milliliters to quarts. (1L = 1.06 qt)

**Answer**
- 1.88 qt
- 0.472 qt
- ✓ 0.528 qt
- $4.72 \times 10^5$ qt
- $5.28 \times 10^5$ qt

Add Question Here

Question 24 **Multiple Choice** **0 points** Modify Remove

**Question**
Given that 1 inch = 2.54 cm, 1 $cm^3$ is equal to

**Answer**
- $16.4\ in^3$
- $6.45\ in^3$
- $0.394\ in^3$
- $0.155\ in^3$
- ✓ $0.0610\ in^3$

Add Question Here

Question 25 **Multiple Choice** **0 points** Modify Remove

**Question**
A large pizza has a diameter of 15 inches. Express this diameter in centimeters. (1in = 2.54cm)

**Answer**
- ✓ 38 cm
- 24 cm
- 18 cm
- 9.3 cm
- 5.9 cm

Add Question Here

Question 26 **Multiple Choice** **0 points** Modify Remove

**Question**
The average distance between the Earth and the Moon is 240,000 miles. Express this distance in meters. (1mi = 1609m)

**Answer**
- $6.1 \times 10^5$ m
- $5.3 \times 10^5$ m
- ✓ $3.9 \times 10^9$ m
- $1.5 \times 10^5$ m
- $9.4 \times 10^4$ m

Add Question Here

Question 27 **Multiple Choice** **0 points** Modify Remove

**Question**
What is the volume in milliliters of a 32.0 oz can of juice? (1 fl oz = 29.6 mL)

**Answer**
- 1.08 mL
- ✓ 947 mL
- 0.925 mL
- 0.95 mL
- 1.1 mL

Add Question Here

Question 28 **Multiple Choice** **0 points** Modify Remove

**Question**

How many $mm^3$ are in $16.7cm^3$?

**Answer**

- $1.67 \times 10^{-5}\ mm^3$
- $1.67 \times 10^{-8}\ mm^3$
- $1.67 \times 10^{7}\ mm^3$
- ✓ $1.67 \times 10^{4}\ mm^3$
- $1.67 \times 10^{-4}\ mm^3$

Add Question Here

Question 29 **Multiple Choice** **0 points** Modify Remove

**Question**

A patient in the hospital is running a temperature of 39.5°C; what is this in Fahrenheit?

**Answer**

- 99°F
- 101.3°F
- 102.4°F
- ✓ 103.1°F
- 104°F

Add Question Here

Question 30 **Multiple Choice** **0 points** Modify Remove

**Question**

If normal body temperature is 98.6°F, what is this in Celsius?

**Answer**

- 34°C
- 35.5°C
- 36.4°C
- ✓ 37°C
- 38.7°C

Add Question Here

Question 31 **Multiple Choice** **0 points** Modify Remove

**Question**

Express 122°F in °C.

**Answer**

- ✓ 50.0°C
- 64.4°C
- 67.8°C
- 162.0°C
- 219.6°C

Add Question Here

Question 32 **Multiple Choice** **0 points** Modify Remove

**Question**

The boiling point for liquid helium is 4 K; what is the temperature in Fahrenheit?

**Answer**

- ✓ -452.5°F
- -498.9°F
- -237.2°F
- 131.8°F
- 530.9°F

Add Question Here

Question 33 **Multiple Choice** **0 points** Modify Remove

**Question**

If the temperature is 38°F, what is the temperature in Kelvin?

**Answer**

- 3.33 K
- 100.4 K
- ✓ 276.5 K
- 311.15 K
- 235.15 K

Add Question Here

Question 34 **Multiple Choice** **0 points** Modify Remove

**Question**

Dry ice (carbon dioxide) changes from a solid to a gas at –78.5°C. What is this temperature in °F?

**Answer**

- – 173°F
- – 12.6°F
- ✓ – 109°F
- – 75.6°F
- None of the above are within 2°F of the correct answer.

Add Question Here

Question 35 **Multiple Choice** **0 points** Modify Remove

**Question**

The boiling point for liquid nitrogen is 77 K; what is the temperature in Fahrenheit?

**Answer**

-126.8°F
-288.8°F
✓ -3211°F
176.8°F
662.3°F

Add Question Here

Question 36 **Multiple Choice** **0 points** Modify Remove

**Question**
Acetone, which is used as a solvent and as a reactant in the manufacture of Plexiglas®, boils at 56.1°C. What is the boiling point in degrees Fahrenheit?

**Answer**

159°F
✓ 133°F
101°F
69.0°F
43.4°F

Add Question Here

Question 37 **Multiple Choice** **0 points** Modify Remove

**Question**
Isopropyl alcohol, commonly known as rubbing alcohol, boils at 82.4°C. What is the boiling point in Kelvin?

**Answer**

387.6 K
✓ 355.6 K
323.6 K
190.8 K
-190.8 K

Add Question Here

Question 38 **Multiple Choice** **0 points** Modify Remove

**Question**
Acetic acid boils at 244.2°F. What is its boiling point in degrees Celsius?

**Answer**

382.0°C
167.7°C
153.4°C
✓ 117.9°C
103.7°C

Add Question Here

Question 39 **Multiple Choice** **0 points** Modify Remove

**Question**
What is the volume of a container that contains 14.3 g of a substance having a density of 0.988 g/cm$^3$?

**Answer**

14.1 cm$^3$
0.0691 cm$^3$
✓ 14.5 cm$^3$
141 cm$^3$
691 cm$^3$

Add Question Here

Question 40 **Multiple Choice** **0 points** Modify Remove

**Question**
If you have a graduated cylinder, containing 15.5 mL and this volume changes to 95.2 mL after a metal with a mass of 7.95g is dropped into the graduated cylinder then what is the density of this metal?

**Answer**

0.0835 g/mL
0.513 g/mL
0.0718 g/mL
10.0 g/mL
✓ 9.97 x 10$^{-2}$ g/mL

Add Question Here

Question 41 **Multiple Choice** **0 points** Modify Remove

**Question**
The density of mercury, the only metal to exist as a liquid at room temperature, is 13.6 g/cm$^3$. What is that density in pounds per cubic inch? (1in = 2.54 cm; 1 lb = 454 g)

**Answer**

849 lb/in$^3$
491 lb/in$^3$
376 lb/in$^3$
✓ 0.491 lb/in$^3$
1.83 × 10$^{-3}$ lb/in$^3$

Add Question Here

Question 42 **Multiple Choice** **0 points** Modify Remove

**Question**

Radio waves travel at the speed of light, which is $3.00 \times 10^{8}$ m/s. How many minutes does it take for a radio message to reach Earth from Saturn if Saturn is $7.9 \times 10^{8}$ km from Earth?

**Answer**

- $4.4 \times 10^{-2}$ min
- $1.6 \times 10^{5}$ min
- $4.0 \times 10^{15}$ min
- ✓ 44 min
- 2.6 min

Add Question Here

Question 43 **Multiple Choice** **0 points** Modify Remove

**Question**

The speed needed to escape the pull of Earth's gravity is 11.3 km/s. What is this speed in mi/h? (1 mile = 1609 m)

**Answer**

- 65,500 mi/h
- ✓ 25,300 mi/h
- 18,200 mi/h
- 1,090 mi/h
- $5.02 \times 10^{-3}$ mi/h

Add Question Here

Question 44 **Multiple Choice** **0 points** Modify Remove

**Question**

Radio waves travel at the speed of light, which is $3.00 \times 10^{8}$ m/s. How many kilometers will radio messages to outer space travel in exactly one year?

**Answer**

- $9.46 \times 10^{15}$ km
- $7.30 \times 10^{8}$ km
- $7.10 \times 10^{10}$ km
- ✓ $9.46 \times 10^{12}$ km
- $3.33 \times 10^{-3}$ km

Add Question Here

Question 45 **Multiple Choice** **0 points** Modify Remove

**Question**

The diameter of Earth is 12.7 Mm. Express this diameter in centimeters.

**Answer**

- $1.27 \times 10^{5}$ cm
- $1.27 \times 10^{6}$ cm
- $1.27 \times 10^{7}$ cm
- $1.27 \times 10^{8}$ cm
- ✓ $1.27 \times 10^{9}$ cm

Add Question Here

Question 46 **Multiple Choice** **0 points** Modify Remove

**Question**

Some molecules move with speeds approaching the "escape velocity" from Earth, which is 7.0 miles per second. What is this speed in cm/h? (1 mile = 1609 m)

**Answer**

- 313 cm/h
- $4.1 \times 10^{5}$ cm/h
- ✓ $4.1 \times 10^{9}$ cm/h
- $1.1 \times 10^{6}$ cm/h
- $1.6 \times 10^{9}$ cm/h

Add Question Here

Question 47 **Multiple Choice** **0 points** Modify Remove

**Question**

The city of Los Angeles is now approximately 2400 miles south of Alaska. It is moving slowly northward as the San Andreas Fault slides along. If Los Angeles is to arrive near Anchorage, Alaska, in 76 million years, at what average rate will it have to move in mm per month? (1mi =1609m)

**Answer**

- $2.0 \times 10^{-10}$ mm/mo.
- $6.6 \times 10^{-6}$ mm/mo.
- ✓ 4.2 mm/mo.
- 9.5 mm/mo.
- 51 mm/mo.

Add Question Here

Question 48 **Multiple Choice** **0 points** Modify Remove

**Question**

Which of the following speeds is the greatest? (1mi = 1609m)

**Answer**

- ✓ 40 mi/h
- $2.0 \times 10^{5}$ mm/min
- 40 km/h
- 0.74 km/min
- 400 m/min

Add Question Here

Question 49 **Multiple Choice** **0 points** Modify Remove

**Question**

Iron has a density of 7.87 g/cm$^3$. What mass of iron would be required to cover a football playing surface of 120 yds × 60 yds to a depth of 1.0 mm? (1 inch = 2.54 cm)

**Answer**

- 76 kg
- ✓ 47 Mg
- $7.6 \times 10^5$ g
- $4.7 \times 10^8$ g
- $1.9 \times 10^7$ g

Add Question Here

Question 50 **Multiple Choice** **0 points** Modify Remove

**Question**

The recommended daily allowance (RDA) of calcium is 1.2 g. Calcium carbonate contains 12.0% calcium by mass. How many grams of calcium carbonate are needed to provide the RDA of calcium?

**Answer**

- 0.10 g
- 0.14 g
- 1.2 g
- ✓ 10 g
- 14 g

Add Question Here

Question 51 **Multiple Choice** **0 points** Modify Remove

**Question**

One of the common intravenous fluids, called physiological saline, is a homogeneous mixture of NaCl in water. In this mixture, 0.89% of the mass is contributed by the NaCl. What mass of NaCl is found in 450. mL of physiological saline? (Given: density of physiological saline = 1.005 g/cm$^3$)

**Answer**

- 2.0 g
- ✓ 4.0 g
- 5.1 g
- 508 g
- 400 g

Add Question Here

Question 52 **Multiple Choice** **0 points** Modify Remove

**Question**

An empty flask's mass is 17.4916 g; its mass is 43.9616 g when filled with water at 20.0°C (d = 0.9982 g/mL). The density of “heavy water” at 20.0°C is 1.1053 g/mL. What is the mass of the flask when filled with heavy water at 20.0°C?

**Answer**

- 29.2573 g
- ✓ 46.8016 g
- 46.7489 g
- 29.3100 g
- 43.9140 g

Add Question Here

Question 53 **Multiple Choice** **0 points** Modify Remove

**Question**

A flask has a mass of 78.23 g when empty and 593.63 g when filled with water. When the same flask is filled with concentrated sulfuric acid, $H_2SO_4$, its mass is 1026.57 g. What is the density of concentrated sulfuric acid? (Assume water has a density of 1.00 g/cm$^3$ at the temperature of the measurement.)

**Answer**

- 1.992 g/cm$^3$
- ✓ 1.840 g/cm$^3$
- 1.729 g/cm$^3$
- 1.598 g/cm$^3$
- 0.543 g/cm$^3$

Add Question Here

Question 54 **Multiple Choice** **0 points** Modify Remove

**Question**

Talc is a mineral that has low conductivity for heat and electricity and that is not attacked by acid. It is used as talcum powder and face powder. A sample of talc weighs 35.97 g in air and 13.65 g in mineral oil ($d$ = 1.75 g/cm$^3$). What is the density of talc?

**Answer**

- ✓ 4.61 g/cm$^3$
- 2.82 g/cm$^3$
- 2.63 g/cm$^3$
- 2.44 g/cm$^3$
- 1.61 g/cm$^3$

Add Question Here

Question 55 **Multiple Choice** **0 points** Modify Remove

**Question**

Which of the following is a chemical change?

**Answer**
- Boiling of water
- Melting wax
- ✓ Broiling a steak on a grill
- Condensing water vapor into rainfall
- Carving a piece of wood

Add Question Here

Question 56 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of these is an example of a *physical* property?

**Answer**
- Corrosiveness of sulfuric acid
- Toxicity of cyanide
- Flammability of gasoline
- Neutralization of stomach acid with an antacid
- ✓ Lead becomes a liquid when heated to 601°C

Add Question Here

Question 57 **Multiple Choice** **0 points** Modify Remove

**Question**
Which one of these represents a *physical* change?

**Answer**
- ✓ Water, when heated, forms steam
- Bleach turns hair yellow
- Sugar, when heated, becomes brown
- Milk turns sour
- Apples, when exposed to air, turn brown

Add Question Here

Question 58 **Multiple Choice** **0 points** Modify Remove

**Question**
Which one of these represents a *chemical* change?

**Answer**
- Boiling water to form steam
- ✓ Turning hair yellow with bleach
- Melting butter
- Mixing powdered charcoal and oxygen at room temperature
- Cutting a bar of sodium metal into pieces with a knife

Add Question Here

Question 59 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of the following is an extensive property of oxygen?

**Answer**
- Boiling point
- Temperature
- Average kinetic energy of molecules
- Density
- ✓ Mass

Add Question Here

Question 60 **Multiple Choice** **0 points** Modify Remove

**Question**
When the value of something does not depend on the amount of the matter, what is this called?

**Answer**
- Empirical property
- ✓ Intensive property
- Inclusive property
- Extensive property
- Exclusive property

Add Question Here

Question 61 **Multiple Choice** **0 points** Modify Remove

**Question**
Which of the following is an extensive property?

**Answer**
- Density
- Temperature
- ✓ Mass
- Specific Heat
- Pressure

Add Question Here

Question 62 **Multiple Choice** **0 points** Modify Remove

**Question**
The number $1.050 \times 10^9$ has how many significant figures?

**Answer**
- 2
- 3
- ✓ 4
- 9
- 13

Add Question Here

Question 63 **Multiple Choice** **0 points** Modify Remove

**Question**
After carrying out the operations below, how many significant figures are appropriate to show in the result? (13.7 + 0.027) ÷ 8.221

**Answer**

1
2
✓ 3
4
5

Add Question Here

Question 64 **Multiple Choice** **0 points** Modify Remove

**Question**
How many significant figures are in 0.006570?

**Answer**

3
✓ 4
5
6
7

Add Question Here

Question 65 **Multiple Choice** **0 points** Modify Remove

**Question**
The result of (3.8621 × 1.5630) - 5.98 is properly written as

**Answer**

✓ 0.06
0.056
0.0565
0.05646
0.056462

Add Question Here

Question 66 **Multiple Choice** **0 points** Modify Remove

**Question**
Select the answer with the correct number of decimal places for the following sum: 13.914 cm + 243.1 cm + 12.00460 cm =

**Answer**

269.01860 cm
269.0186 cm
269.019 cm
269.02 cm
✓ 269.0 cm

Add Question Here

Question 67 **Multiple Choice** **0 points** Modify Remove

**Question**
How many significant figures does the sum 8.5201 + 1.93 contain?

**Answer**

1
2
3
✓ 4
5

Add Question Here

Question 68 **Multiple Choice** **0 points** Modify Remove

**Question**
Select the answer that expresses the result of this calculation with the correct number of significant figures.

$$\frac{13.602 \times 1.90 \times 3.06}{4.2 \times 1.4097} =$$

**Answer**

13.3568
13.357
13.36
13.4
✓ 13

Add Question Here

Question 69 **Multiple Choice** **0 points** Modify Remove

**Question**
Which is correct if 0.01234 is rewritten in scientific notation?

**Answer**

$1.234 \times 10^{-3}$
$12.3 \times 10^{4}$
$1 \times 10^{-1}$
$1.234 \times 10^{2}$
✓ $1.234 \times 10^{-2}$

Add Question Here

Question 70 **Multiple Choice** **0 points** Modify Remove

**Question**
You prepare 1000. mL of tea and transfer it to a 1.00 quart pitcher for storage. Which of the following statements is true? (1L = 1.06qt)

**Answer**
- The pitcher will be filled to 100% of its capacity with no tea spilled.
- The pitcher will be filled to about 95% of its capacity.
- The pitcher will be filled to about 50% of its capacity.
- ✓ The pitcher will be completely filled and a small amount of tea will overflow.
- The pitcher will be completely filled and most of the tea will overflow.

Add Question Here

Question 71 **Multiple Choice** **0 points** Modify Remove

**Question**
The speed needed to escape the pull of Earth's gravity is 11.3 km/s. What is this speed in mi/h? (1mi = 1609m)

**Answer**
- 65,500 mi/h
- ✓ 25,300 mi/h
- 18,200 mi/h
- 1,090 mi/h
- $5.02 \times 10^{-3}$ mi/h

Add Question Here

Question 72 **True/False** **0 points** Modify Remove

**Question**
The ripening of fruit, once picked, is an example of physical change.

**Answer**
- True
- ✓ False

Add Question Here

Question 73 **True/False** **0 points** Modify Remove

**Question**
When applying the scientific method, it is important to avoid any form of hypothesis.

**Answer**
- True
- ✓ False

Add Question Here

Question 74 **True/False** **0 points** Modify Remove

**Question**
When applying the scientific method, a model or theory should be based on experimental data.

**Answer**
- ✓ True
- False

Add Question Here

Question 75 **True/False** **0 points** Modify Remove

**Question**
Matter is anything that has mass and occupies space.

**Answer**
- ✓ True
- False

Add Question Here

Question 76 **True/False** **0 points** Modify Remove

**Question**
The density of a substance is an intensive property.

**Answer**
- True
- ✓ False

Add Question Here

Question 77 **True/False** **0 points** Modify Remove

**Question**
The volume of a substance is an intensive property.

**Answer**
- True
- ✓ False

Add Question Here

Question 78 **True/False** **0 points** Modify Remove

**Question**
Boiling point and melting point are extensive properties.

**Answer**
- True
- ✓ False

Add Question Here

Question 79 **True/False** **0 points** Modify Remove

**Question**
Rusting of a piece of iron under environmental conditions is a physical change.

**Answer**
- True
- ✓ False

Add Question Here

Question 80 **True/False** **0 points** Modify Remove

**Question**
The number 6.0448, rounded to 3 decimal places, becomes 6.045.

**Answer**
✓ True
False

Add Question Here

Question 81 **True/False** **0 points** Modify Remove

**Question**
A dip of vanilla ice cream is a pure substance.

**Answer**
True
✓ False

Add Question Here

Question 82 **True/False** **0 points** Modify Remove

**Question**
A particular temperature in degrees Celsius is larger than the temperature in Kelvin.

**Answer**
True
✓ False

Add Question Here

Question 83 **True/False** **0 points** Modify Remove

**Question**
Zero Kelvin < 0° Fahrenheit < 0° Celsius.

**Answer**
✓ True
False

Add Question Here

Question 84 **True/False** **0 points** Modify Remove

**Question**
77K is colder than 4 K.

**Answer**
True
✓ False

Add Question Here

Question 85 **True/False** **0 points** Modify Remove

**Question**
The juice from an orange is a mixture.

**Answer**
✓ True
False

Add Question Here

Question 86 **Essay** **0 points** Modify Remove

**Question**
What term is applicable that has a definite composition?

**Answer** pure substance

Add Question Here

Question 87 **Essay** **0 points** Modify Remove

**Question**
What term would you use to describe a combination of two or more substances in which the substances retain their distinct identities?

**Answer** mixture

Add Question Here

Question 88 **Essay** **0 points** Modify Remove

**Question**
What term describes a substance that cannot be separated into simpler substances by chemical means?

**Answer** element

Add Question Here

Question 89 **Essay** **0 points** Modify Remove

**Question**
What term describes a substance composed of atoms of two or more elements chemically united in fixed proportions?

**Answer** compound

Add Question Here

Question 90 **Essay** **0 points** Modify Remove

**Question**
Give examples of three *physical* properties.

**Answer** (Answers will vary.) Melting point, boiling point, density, color

Add Question Here

Question 91 **Essay** **0 points** Modify Remove

**Question**
Give an example of an *extensive* property.

**Answer** (Answers will vary.) Mass, length, and volume

Add Question Here

Question 92 **Essay** **0 points** Modify Remove

**Question**
Give an example of an *intensive* property.

**Answer** (Answers will vary.) Temperature, density, melting point, boiling point

Add Question Here

Question 93 **Essay** **0 points** Modify Remove

**Question**
Identify this process as a *physical* or *chemical* change: Bacteria converts milk to yogurt.

**Answer** Chemical

Add Question Here

Question 94 **Essay** **0 points** Modify Remove

**Question**
What is the equation for the conversion of Celsius to Kelvin?

**Answer** °C + 273.15 = Kelvin

Add Question Here

Question 95 **Essay** **0 points** Modify Remove

**Question**
If two numbers are added together, one which has 2 digits after the decimal point and the other has 1 digit after the decimal point, explain how to round the answer.

**Answer** The answer will have 1 digit after the decimal point because the least number of digits after the decimal point in the two numbers used in the calculation was 1. Use the least number of digits after the decimal point.

Add Question Here

Question 96 **Essay** **0 points** Modify Remove

**Question**
If two numbers are multiplied together, one which has 3 significant figures and the other has four significant figures, explain how to round the answer.

**Answer** The answer will have 3 significant figures because the least number of significant figures in the two numbers used in the calculation was 3.

Add Question Here

Question 97 **Essay** **0 points** Modify Remove

**Question**
What is the equation used to calculate the mass from the density?

**Answer** mass = density x volume or m = dv

Add Question Here

Question 98 **Fill in the Blank** **0 points** Modify Remove

**Question**
Melting ice is a _____ change.

**Answer** physical

Add Question Here

Question 99 **Fill in the Blank** **0 points** Modify Remove

**Question**
Burning wood in a fireplace is a _____ change.

**Answer** chemical

Add Question Here

Question 100 **Fill in the Blank** **0 points** Modify Remove

**Question**
A(n) _____ is a substance composed of atoms of two or more elements chemically united in fixed proportions.

**Answer** Compound

Add Question Here

Question 101 **Fill in the Blank** **0 points** Modify Remove

**Question**
A(n) _____ is a substance that cannot be separated into simpler substances by chemical means.

**Answer** Element

Add Question Here

Question 102 **Fill in the Blank** **0 points** Modify Remove

**Question**
A(n) _____ is a combination of two or more substances in which the substances retain their distinct identities.

**Answer** Mixture

Add Question Here

Question 103 **Fill in the Blank** **0 points** Modify Remove

**Question**
A(n) _____ is something that has a definite composition.

**Answer** Pure substance

Add Question Here

Question 104 **Fill in the Blank** **0 points** Modify Remove

**Question**
_____, _____, and _____ are the three states of matter.

**Answer** Liquid, solid, and gas

Add Question Here

Question 105 **Fill in the Blank** **0 points** Modify Remove

**Question**
A(n) _____ _____ has a uniform composition throughout.
**Answer** Homogeneous mixture

Add Question Here

Question 106 **Fill in the Blank** **0 points** Modify Remove

**Question**
A(n) _____ _____ does not have a uniform composition throughout.
**Answer** Heterogeneous mixture

Add Question Here

Question 107 **Fill in the Blank** **0 points** Modify Remove

**Question**
A(n) _____ tells how closely multiple measurements of the same thing are to one another.
**Answer** Precision

Add Question Here

Question 108 **Fill in the Blank** **0 points** Modify Remove

**Question**
_____ is the term used to indicate a measurement is accurate. (Hint: Often used when measurement the volume of a liquid.)
**Answer** Graduated or Calibrated

Add Question Here

Question 109 **Fill in the Blank** **0 points** Modify Remove

**Question**
_____ tells how close a measurement is to the true value.
**Answer** Accuracy

Add Question Here

Question 110 **Essay** **0 points** Modify Remove

**Question**
Briefly explain the relationship between hypothesis and experiment in the scientific method.
**Answer** A hypothesis should be capable of leading to a prediction which is testable by experiment. If the experimental result differs from the prediction, the hypothesis should be modified.

Add Question Here

Question 111 **Essay** **0 points** Modify Remove

**Question**
Explain the difference between accuracy and precision.
**Answer** Accuracy is how close a measurement is to the true value and precision is how close multiple measurements of the same thing are to one another.

Add Question Here

Question 112 **Essay** **0 points** Modify Remove

**Question**
Explain the difference between a hypothesis and a theory.
**Answer** A hypothesis is a tentative explanation for observations made and a theory is a unifying principle that explains a body of experimental observations and the laws that are based on them.

Add Question Here

Question 113 **Essay** **0 points** Modify Remove

**Question**
Explain the difference between quantitative measurements and qualitative measurements.
**Answer** A quantitative measurement is expressed with a number and a qualitative measurement does not require an explicit measurement.

Add Question Here

Question 114 **Essay** **0 points** Modify Remove

**Question**
Explain the difference between a physical property and a chemical property.
**Answer** A physical property can be observed and measured without changing the identity of the substance and a chemical property requires a chemical change from one substance to another substance.

Add Question Here

Question 115 **Essay** **0 points** Modify Remove

**Question**
Explain the difference between an extensive property and an intensive property.
**Answer** An extensive property depends on the amount of matter and an intensive property does not depend on the amount of matter.

Add Question Here

Question 116 **Essay** **0 points** Modify Remove

**Question**
Explain the rule for significant figures for addition and subtraction.
**Answer** The answer cannot have more digits to the right of the decimal point than any of the original numbers used in the calculation.

Add Question Here

Question 117 **Essay** **0 points** Modify Remove

**Question**
Explain the rule for significant figures for multiplication and division.

**Answer** The number of significant figures in the final product or quotient is determined by the original number that has the smallest number of significant figures.

Add Question Here

Question 118 **Essay** **0 points** Modify Remove

**Question**
Explain the difference between a heterogeneous mixture and a homogeneous mixture.

**Answer** A homogeneous mixture has a uniform composition throughout and a heterogeneous mixture does not have a uniform composition throughout.

Add Question Here

Question 119 **Essay** **0 points** Modify Remove

**Question**
Discuss the benefits of using the metric system for measurements.

**Answer** All measurements in the metric system are a multiple of 10; therefore it makes it easy to simply move the decimal point.

Add Question Here

Question 120 **Essay** **0 points** Modify Remove

**Question**
Discuss the difference between the Celsius and Fahrenheit scale for measuring temperatures.

**Answer** 0ºC = 32ºF and 100ºC = 212ºF. To convert from ºF to ºC, use the equation ºC = (ºF -32ºF) x -ºC/9ºF. To convert from ºC to ºF, use the equation ºF = [9ºF/5ºC]( ºC) + 32ºF.

Add Question Here

OK