**Assessment 7th grade integrated science**

**Standard 1, ObJective 1**

**Multiple Choice**

**a1.** What do scientists call the smallest unit of matter that has its own recognizable identity?

A. Atom

B. Compound

C. Electron

D. Molecule

**a2.** How do scientists know matter is made of particles?

A. They can see them.

B. Experiments have proven it.

C. People have always known it.

D. A famous scientist decided it was true.

**a3.** Democratis, an ancient Greek philosopher, predicted that when matter was broken down into smaller and smaller pieces, you would come to a particle that could not be made smaller. What was he describing?

A. a mineral

B. a cell

C. a virus

D. an atom

**b4.** What do scientists call a substance that is made of two or more atoms bonded together?

A. Atom

B. Electron

C. Molecule

D. Proton

**b5.** What do scientists call a substance that is made of more than one element?

A. Atom

B. Compound

C. Element

D. Nucleus

**b6.** What is a pure lump of the element gold made of?

A. gold and air atoms

B. atoms of gold

C. compounds of gold

D. gold cells

**b7.** What is the compound H2O (water) made of?

A. water molecules

B. atoms of water

C. water elements

D. water cells

**b8.** Which illustration is an example of an atom?



Picture A Picture B Picture C Picture D

*The following diagrams show the smallest part of three different substances. Use these diagrams to answer the next three questions.*

**A B C D**

**b9.** Which of the substances pictured is an atom?

A. A

B. B

C. C

D. D

**b10.** Which of the substances could be elements? (assume circles of the same size are the same element).

A. A and B

B. B and C

C. C and D

D. A and D

**b11.** Which substances are molecules?

A. A and B

B. B, C and D

C. A, B and C

D. B and D

**The boxes pictured show the particles of a substance in three states of matter. Use them to answer the next three questions.**

# A B C

**c12.** Which shows the substance in its’ liquid state?

A. A

B. B

C. C

**c13.** Which has atoms with the least amount of movement?

A. A

B. B

C. C

**c14.** Which shows states of matter taking the shape of their container?

A. A and B

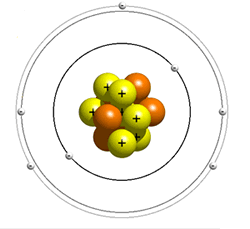
B. B and C

C. C and A

**d15.** Which of the following is the best model of molecules in a gas?

A. Marbles glued together in a ball

B. Marbles in a box

C. Marbles being shaken in a box

D. Marbles frozen in a box

**d16.** What ways is this drawing of an atom **accurate?**

A. It has accurate colors for the parts.

B. It shows the correct distance and size of the parts.

C. It has moving parts.

D. It shows the correct parts of the atom.

**d17.** If a model were made of an atom with the nucleus the size of a pea, how large would the rest of the atom be?

A. the size of a basketball

B. the size of a house

C. the size of a football stadium

D. the size of a planet

**e18.** An understanding of the structure of the atom has been developed. How much time did it take to do?

A. Several weeks of time at a university department of physics

B. One to two years in a government project

C. Fifty years when a scientist created it as a special project

D. Several hundred years as many scientists worked on it

**e19.** Early chemists thought the parts of the atom were spread evenly throughout the atom. How has the model changed? We now know

A. that it is shaped like a cube.

B. it has most of it’s mass in the center

C. most of the atoms’ particles are in the outer layer.

D. atoms are holding still.

**e20.**  Ancient people thought matter was made of Earth, wind and fire. What do we now know matter is made of?

A. electricity

B. nothing

C. air

D. atoms

**Essay**

**1**. Compare and contrast how atoms and molecules are alike and different. Give one similarity and one difference.

**2.** What proof for the particle theory of matter do you find most convincing. Why?

**3.** Describe one historical idea about matter that is incorrect according to modern particle theory. Tell why it now considered incorrect.

**4.**  List two common items that are made from a pure element.