

FLPS

Name \_\_\_\_\_

Physical Science

Physical Science Exam

MP 2

- 11** Alexandra knows that the atomic number of the element potassium, K, is 19. She also knows that one particular isotope of potassium has a mass number of 39. How many neutrons can be found in the nucleus of this isotope of potassium?
- A. 19
  - B. 20
  - C. 39
  - D. 58
- 12** Atoms of different elements can join together in arrangements to produce a variety of substances that are found on Earth. There are more than a hundred known elements. Which of the following best describes these elements?
- F. Most of these elements are metals.
  - G. Most of these elements are metalloids.
  - H. Most of these elements are nonmetals.
  - I. Most of these elements are noble gases.
- 13** All matter has both physical and chemical properties. A physical property can be observed without changing the identity of the substance. Which of these choices is a physical property?
- A. density
  - B. flammability
  - C. ability to rust
  - D. reactivity with water
- 14** Dr. Suri placed a dog on the scale at the veterinary clinic. Then she recorded a reading of 8 lb. What does this reading mean?
- F. The dog's mass is equal to 8 lb.
  - G. The dog has an average density of 8 lb/ft<sup>3</sup>.
  - H. The volume of the dog is exactly 8 lb.
  - I. The weight of the dog as measured by the scale is 8 lb.

- 15** The row and the column where each element on the periodic table is located are useful in determining the properties of an element.

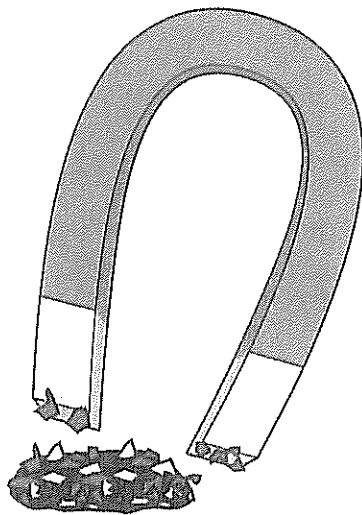
H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn						

Metals  
 Metalloids  
 Nonmetals

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

- Which of these statements best describes the elements Mn and Fe?
- They are in the same group.
  - They are in the same period.
  - They are in the same family.
  - They are in the same group and the same period.
- 16** Any atom that has 13 protons is an aluminum atom. Which statement **best** describes what would happen if a proton were added to an aluminum atom?
- The atom would lose electrons.
  - The atom would have a negative charge.
  - The atom would no longer be aluminum.
  - The atom would have a smaller atomic number.
- 17** Esther is studying the physical and chemical properties of a solid object. She subjects the object to a number of tests and observations. Which of these statements describes a chemical property of the object?
- The object is white in color.
  - The object has a powdery texture.
  - The object's density is  $2.11 \text{ g/cm}^3$ .
  - The object reacts with acid to form water.

- 18 A magnet was placed near a pile that contained both iron and sulfur. The magnet was moved gradually closer to the pile. As it neared the pile, the magnet started attracting small pieces of iron from the pile.



Which of these statements **best** describes the contents of the pile?

- F. It is a solution of iron and sulfur that can be separated by magnetism.
- G. It is a heterogeneous mixture of iron and sulfur that can be separated by magnetism.
- H. It is a compound of iron and sulfur that can be separated by magnetism.
- I. It is a suspension of sulfur in iron that can be separated by magnetism.