Name _____ Date _____ Class _____

FLORIDA END-OF-YEAR TEST COURSE 3

Directions: *Use the answer sheets at the end of the test to record your answers.*

1 A 25.0-mL sample of an unknown liquid has a mass of 20.5 grams at 20°C.

DENSITIES OF VARIOUS SUBSTANCES	
Substance	**Density at 20°C (g/mL)**
ethyl alcohol	0.79
kerosene	0.82
turpentine	0.87
water	0.998

Based on the table, what is the unknown liquid?

A. water
B. kerosene
C. turpentine
D. ethyl alcohol

2 Beth needs to precisely measure a board to replace a broken shelf. She has a stick 1 meter long, a tape measure marked in centimeters, a ruler marked in millimeters, and the broken shelf. Which tool will give Beth the most precise measurement?

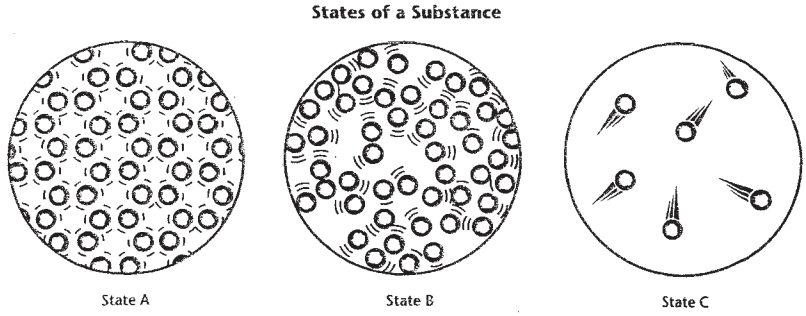
A. the stick
B. the ruler
C. the broken shelf
D. the tape measure

3 The moon's gravity is one-sixth that of Earth's. If an object weighs 90 newtons on Earth, what is its weight on the moon in newtons?

Name _____ Date _____ Class _____

FLORIDA END-OF-YEAR TEST COURSE 3

4 The diagram below compares the particles in three different states of matter.



By what process do the particles in State A change to State B?

A. condensation
B. evaporation
C. freezing
D. melting

5 More than 90 percent of all stars, including the Sun, are main-sequence stars. Which is true of main-sequence stars?

A. They are all the same size.
B. They are both hot and bright.
C. Their distance from Earth is constant.
D. Surface temperature increases as absolute brightness increases.

6 Todd is making a chocolate dessert. The chocolate he is using changes as he cooks with it. When are the particles in the chocolate closest together?

A. when the chocolate is frozen
B. when the chocolate is melted
C. when the chocolate is vaporized
D. when the chocolate is at room temperature

GO ON

Name _____ Date _____ Class _____

7 Earth is the largest of the planets of the inner solar system, as shown in the table below.

The Inner Planets

Planet	Diameter (km)	Period of Rotation (Earth days)	Average Distance from the Sun (km)	Period of Revolution (Earth years)
Mercury	4,878	59	58,000,000	0.24
Venus	12,104	243	108,000,000	0.62
Earth	12,756	1	150,000,000	1.0
Mars	6,794	1.03	228,000,000	1.9

How much larger in diameter is Earth than the next largest planet, **in kilometers**?

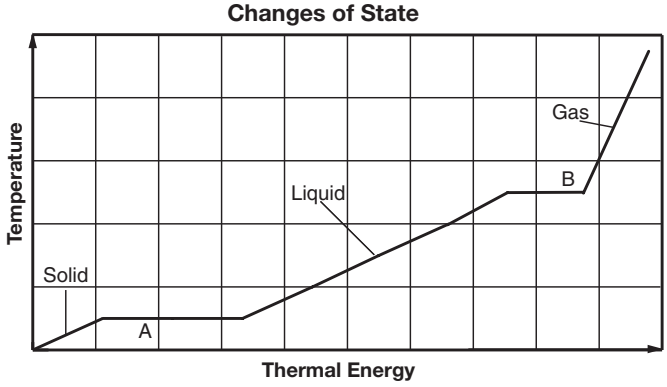
8 Life on Earth is maintained by a continuous input of energy. Which source provides nearly all of this energy?

A. plants
B. the Sun
C. consumers
D. deep-sea vents

9 Compounds consist of two or more elements. Which of the following properties must each of the elements in a compound have?

A. solubility
B. conductivity
C. high density
D. chemical reactivity

GO ON



10 Li Mei made the following graph to summarize her results.

What can Li Mei conclude?

A. As temperature increases, thermal energy decreases.
B. As temperature decreases, more particles are present.
C. As temperature increases, the molecules in a substance move faster.
D. Temperature plays little or no role in the motion of molecules in a substance.

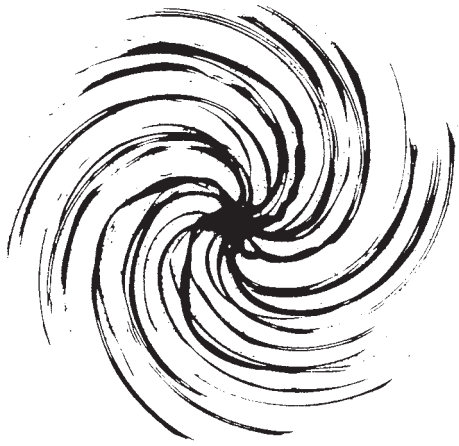
11 When you look at a star from different places, it appears to change positions. What is this called?

A. a parallax
B. a light-year
C. a constellation
D. a spectrograph

12 Go to your Answer Sheet to answer Number 12.

GO ON

13 The galaxy shown in the diagram is a spiral galaxy.



What is a common characteristic of spiral galaxies?

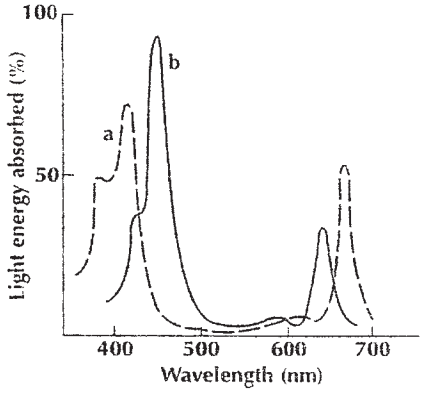
A. They contain little dust or gas.
B. Most new stars form in the spiral arms.
C. No new stars are forming in these galaxies.
D. They are smaller than other types of galaxies.

14 Tran is trying on bicycle helmets. He decides to buy the helmet that is most comfortable instead of the one with the highest safety rating. Deciding to buy a helmet that is more comfortable but less sturdy is a result of what process?

A. society affecting science
B. weighing the costs and benefits
C. collecting evidence
D. objective data analysis

GO ON

15 The graph below compares the wavelengths of light that are absorbed by the two types of chlorophyll in plants.



What may be inferred from the graph?

A. All wavelengths of light are absorbed equally.
B. Plants absorb light more efficiently at night than during the day.
C. The pattern of light absorption in plants and algae is probably different.
D. The two types of chlorophyll absorb slightly different wavelengths of light.

16 A scientist working at the hospital is conducting research on a new treatment for cancer. What is the most important reason for the scientist to keep accurate notes about the research?

A. Accurate notes will ensure that the treatment works as expected.
B. Accurate notes are required whenever scientists work with human subjects.
C. Accurate notes will help other scientists repeat the treatment on other patients.
D. Accurate notes are needed if the scientist wants to publish the results of the research in a scientific journal.

17 Go to your Answer Sheet to answer Number 17.

Name _____ Date _____ Class _____

18 Baldo helped as the timer at a track meet. He recorded the results in the chart below.

Race Results

Student	Race Time (seconds)
Raul	10.20
Mark	10.22
Tony	10.18

Using these data, can Baldo accurately predict that Tony will win all future races against the same two opponents?

A. No, because it was not a fair race.
B. No, because Raul ran faster than Tony.
C. Yes, because Tony was ahead of Mark by 0.04 s.
D. No, because the table shows results for only one trial.

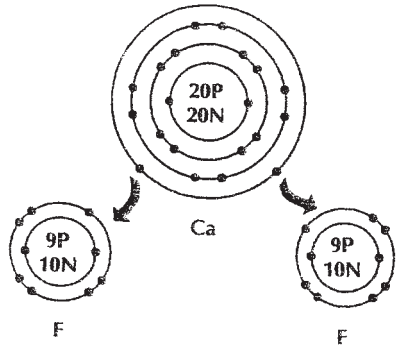
19 Which of these is the purpose of a space probe?

A. take satellites into orbit
B. house astronauts over long periods of time
C. carry astronauts to and from space stations
D. gather data about places where humans cannot travel

20 Go to your Answer Sheet to answer Number 20.

GO ON

21 The diagram below shows an interaction between three atoms.



What type of subatomic particle is being transferred from the larger atom to the two smaller atoms?

A. electron
B. neutron
C. nucleus
D. proton

22 For centuries, scientists accepted Ptolemy's view of the solar system, which was that the Sun and planets orbit Earth. Which of the following helped scientists gather data that caused this view to change?

A. the discovery of meteorites
B. the development of geometry
C. the invention of the telescope
D. the first manned space mission

23 Earth's moon is an average distance of 384,000 kilometers, which is about 30 times Earth's diameter. What is Earth's approximate diameter **in kilometers**?

GO ON

24 Ms. Dutta's class is incubating alligator eggs.

Eggs Hatched Versus Temperature

Incubation Temperature	Male Eggs	Female Eggs
25.2°C	0	95
28.4°C	8	42
29.5°C	25	18
30.6°C	51	15
32.8°C	112	0

The class wants to have both males and females hatch from the eggs, but they have only one incubator. On which Celsius temperature should they set the incubator so that the maximum number of eggs will hatch, including some males and some females?

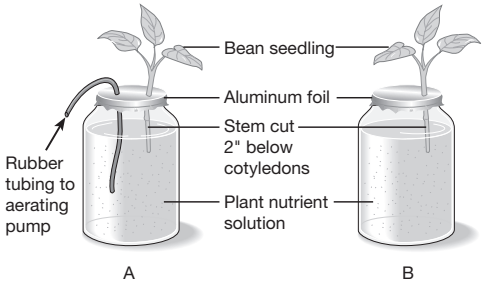
25 Computer programs can be used to model some experiments. What is an advantage for using a computer program to model events in a chemical reaction?

A. A computer can gather more accurate data.
B. A computer can do everything better than people.
C. A computer can interpret results faster than a human can.
D. A computer can model events too small to observe directly.

GO ON

Name _____ Date _____ Class _____

26 Lisa and Neil wanted to find out if air around the roots of plants made the plants grow more roots. They set up the following lab.



What is the responding, or dependent, variable?

A. air bubbles
B. plant height
C. number of roots
D. number of leaves

27 Venus completes an orbit around the Sun every 227 Earth days. How many complete orbits around the Sun will Venus make during ten Earth years?

28 The planets in the solar system are moving relative to the Sun. What kind of motion do the planets have?

A. circular
B. elliptical
C. straight-line
D. up-and-down

STOP

Name _____ Date _____ Class _____

FLORIDA END-OF-YEAR TEST COURSE 3

Directions: *Record your answer to each question on the following answer sheets.*

1 Ⓐ Ⓑ Ⓒ Ⓓ

2 Ⓐ Ⓑ Ⓒ Ⓓ

3

	∅	∅	∅	
⊙	⊙	⊙	⊙	⊙
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

4 Ⓐ Ⓑ Ⓒ Ⓓ

5 Ⓐ Ⓑ Ⓒ Ⓓ

6 Ⓐ Ⓑ Ⓒ Ⓓ

7

	∅	∅	∅	
⊙	⊙	⊙	⊙	⊙
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

8 Ⓐ Ⓑ Ⓒ Ⓓ

9

	∅	∅	∅	
⊙	⊙	⊙	⊙	⊙
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

10 Ⓐ Ⓑ Ⓒ Ⓓ

11 Ⓐ Ⓑ Ⓒ Ⓓ

GO ON

Name _____ Date _____ Class _____

12 Scientists develop theories to explain natural events. What causes scientists to reject even long-held theories and replace them with newer theories?

13 Ⓐ Ⓑ Ⓒ Ⓓ **14** Ⓐ Ⓑ Ⓒ Ⓓ **15** Ⓐ Ⓑ Ⓒ Ⓓ

16 Ⓐ Ⓑ Ⓒ Ⓓ

GO ON

17 Luis wanted to know which of his 4 toy cars is the fastest. He conducted an experiment, and recorded his results in the table shown below.

Race Time			
Car	**Track 1**	**Track 2**	**Track 3**
1	2.0 s	2.3 s	4.0 s
2	2.5 s	3.0 s	4.5 s
3	4.0 s	4.6 s	8.0 s
4	1.5 s	2.0 s	3.5 s

What were the dependent and independent variables in Luis's experiment?

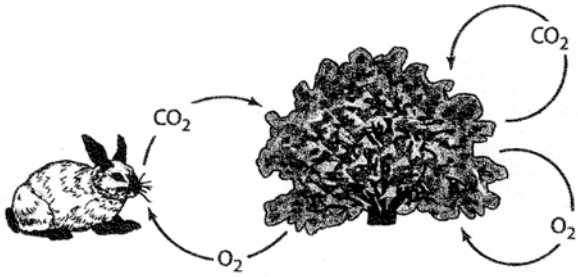
18 Ⓐ Ⓑ Ⓒ Ⓓ

19 Ⓐ Ⓑ Ⓒ Ⓓ

GO ON

Name _____ Date _____ Class _____

20 The diagram below demonstrates the cycles of respiration in animals and photosynthesis and respiration in plants.



Based on the illustration, describe how certain types of matter are cycled in the environment. Be sure to discuss how the same material can pass through soil, plants, and animals.

_____

_____

_____

_____

_____

21 Ⓐ Ⓑ Ⓒ Ⓓ

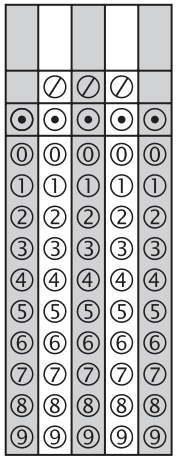
22 Ⓐ Ⓑ Ⓒ Ⓓ

GO ON

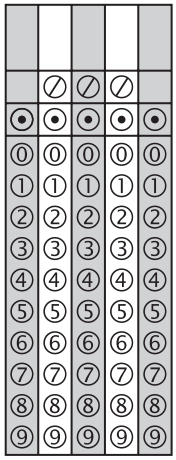
Name _____ Date _____ Class _____

FLORIDA END-OF-YEAR TEST COURSE 3

23



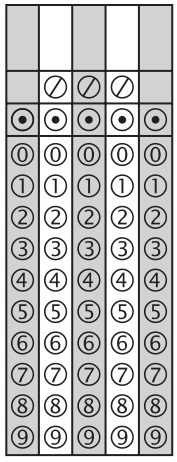
24



25 Ⓐ Ⓑ Ⓒ Ⓓ

26 Ⓐ Ⓑ Ⓒ Ⓓ

27



28 Ⓐ Ⓑ Ⓒ Ⓓ

STOP