8th grade Summer Packet- [LGUZTMBFMA]

Student Name: _____ Teacher Name: Erlan Cabrera

Score: _____ Date: _____

Question 1 : 21421

Inner Planets

Planet	Distance From the Sun (in million miles)	Diameter (in mils)	Temperature (Kelvin)	Number of Moons
Mercury	36	3,031	100 - 700K	0
Venus	67.2	7,521	726K	0
Earth	93	7,926	260 - 310K	1
Mars	141.6	4,222	150 - 310K	2

Based on the information in the table, which inner planet is closest to the Sun?

A Earth

B Mars

C Mercury

D Venus

Question 2 : 41724

Which of these statements is true?

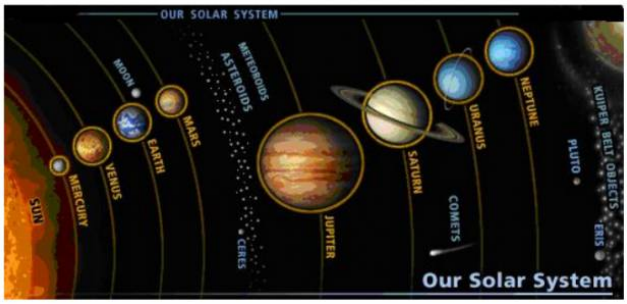
A	The orbit of Earth is smaller than that of Venus.
B	The orbit of Mercury is longer than that of Earth.
C	Earth takes a longer time to orbit the Sun than Mars.
D	Mars takes a longer time to orbit the Sun than Mercury.

Question 3 : 515445

Choose ALL of the answers that would support the theory of Continental Drift?

A	location of ancient climate areas
B	fossils of plants and animals
C	continents are not currently moving
D	land features match up (like mountains) on different continents
E	magnetic strips in the ocean floor
F	areas of freshwater and saltwater

Question 4 : 36428



The size of a planet can be found from measurements of its angular size and its distance. How large the planet appears to be is its angular size or angular diameter, the angle between two lines of sight along each side of the object. Yet, how large a planet appears to us depends on its

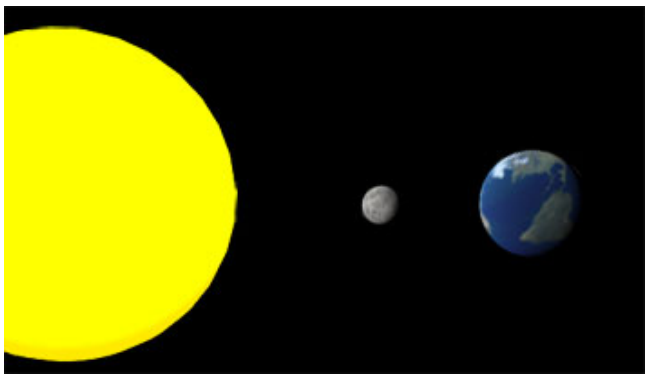
A	diameter.
B	composition.
C	distance from Earth.
D	distance from the Sun.

Question 5 : 31262

Earth is continually changing. Erosion leads to areas being slowly covered by dirt and rocks. As more soil gets deposited, it begins to increase the amount of pressure on the rocks, soil, and organic matter underneath. All BUT one could be formed in this manner. That is

A	oil.
B	gold.
C	diamonds.
D	natural gas.

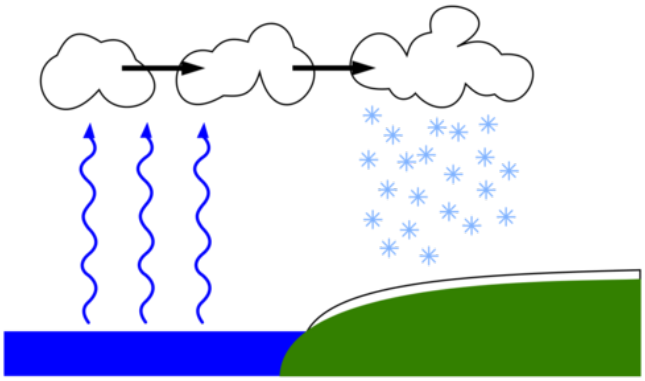
Question 6 : 3290



In the image (not to scale), which phase of the moon would you observe from the earth?

A	crescent
B	full
C	half
D	new

Question 7 : 291576



This model represents a weather event that often occurs in the Great Lakes Basin during the winter. Which statement best describes what is shown in the model?

A	This model shows the complete water cycle.
B	This model shows how sleet transforms into snow.
C	This model shows how desert monsoon seasons occur.
D	This model shows shows how lake effect snow forms.

Question 8 : 41338

Julian lives in New York City. He makes a sundial by erecting a pole vertically in his garden. The given figure shows the shadow of the pole at 7 A.M. on a winter day. What can be predicted about the shadow of the same pole, at the same time, during summer?

A	The shadow will be thinner.
B	The shadow length will be shorter.
C	The shadow will be directed toward the East.
D	The shadow will form in the opposite direction.

Question 9 : 96015

Sun - Mercury - Venus -

Which planet follows Venus in the sequence of planets orbiting the Sun?

A	Earth
B	Jupiter
C	Mars
D	Saturn

Question 10 : 25512

This gas is found in the stratosphere where it helps protect us from UV radiation.

A	ozone.
B	oxygen.
C	nitrogen.
D	carbon dioxide.

Question 11 : 3323

The Sun is composed of *primarily*

A	carbon.
B	helium.
C	hydrogen.
D	uranium.

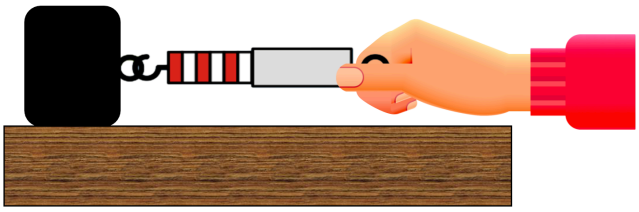
Question 12 : 2017647

Honey is a thick, sweet liquid with a relatively high density. Its density ranges from about 1.36 g/mL to 1.42 g/mL, depending on factors such as temperature and the specific type of honey. Which of the items listed below is more dense than honey? Which is less dense? Drag and drop each item into the correct box.

More Dense than Honey	Less Dense than Honey

- Vegetable oil with a density of .9 g/ml
- Maple syrup with a density of 1.3 g/ml
- Steel with a density of 8 g/ml
- Styrofoam with a density of .03 g/ml
- Brick with a density of 2.0 g/ml
- Granite with a density of 3.0 g/ml

Question 13 : 70091

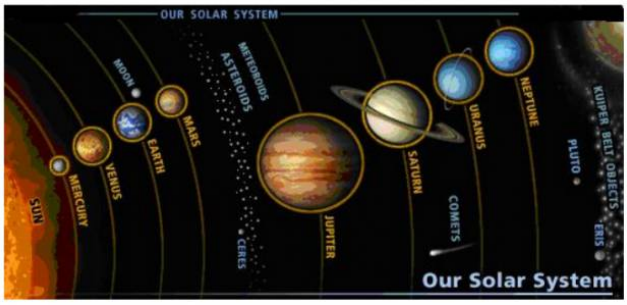


The friction force depends on the surface the block is sliding (slippery or rough) and the normal force on the block which is the force of gravity.

The image above shows a block pulled across a table. The spring scale which measures in Newtons, reads the force resisting the motion known as friction force. In the image above, what would be a reasonable measurement of friction force if normal force measured 100 Newtons?

A	40 Newtons
B	110 Newtons
C	120 Newtons
D	140 Newtons

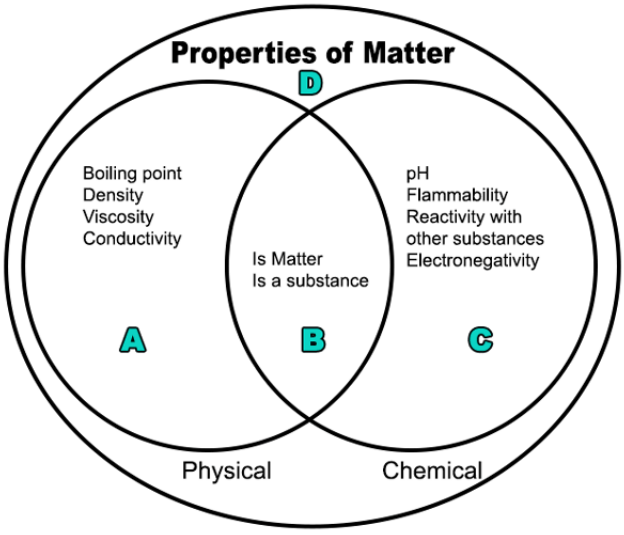
Question 14 : 28237



If the force of gravity between the Sun and the planets disappeared, what would happen to the path the planets follow?

A	They would continue to rotate around the sun.
B	The planets velocity would increase as it got closer to the sun.
C	The speed at which they are moving would significantly slow down.
D	They would move in a straight line at a constant speed and velocity.

Question 15 : 437236



Which of these could also be classified as a **chemical** property of matter?

A	odor
B	melting point
C	molecule size
D	generation of heat

Question 16 : 10418

Steve stands on a pedestal and touches the dome of a running Van de Graaff generator. In a few seconds, he observes his hair standing on end. Explain this observation.

A	Each hair was given a positive charge through conduction. Each hair repels against its neighbor and stands up.
B	Each hair was induced with a positive charge. Each hair is attracted to its neighbor and stands up.
C	Half of Steve's hairs were charged negatively, and the other half were charged positively. The differently charged hairs repel each other and stand up.
D	Half of Steve's hairs were charged negatively, and the other half charged positively. The differently charged hairs attract to each other and stand up.

Question 17 : 14461

You and your lab partner take two clear liquids and mix them together. When observing the final product, you notice a yellow solid has formed. What is the term for the solid that is formed as a result of a chemical change?

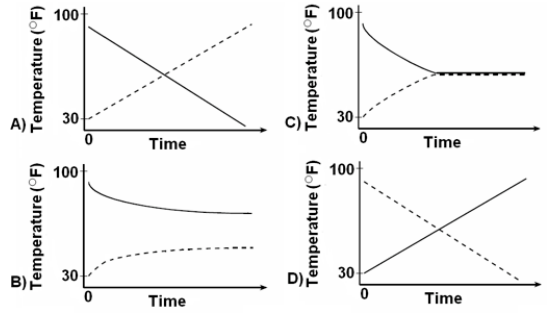
A	condensate
B	evaporate
C	precipitate
D	sublimate

Question 18 : 52150

When light waves pass through the lenses of a pair of glasses, the light waves _____ .

A	conduct
B	diffract
C	reflect
D	refract

Question 19 : 30213

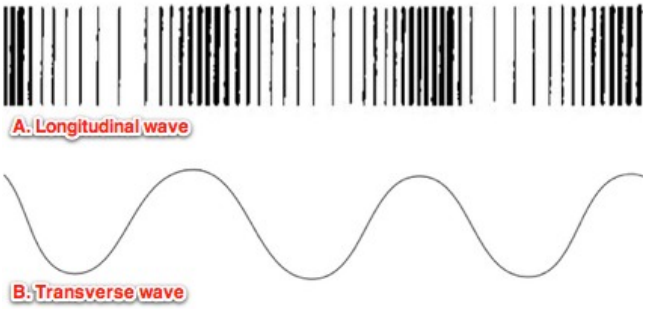


A small piece of a cold metal is placed in an insulated container filled with warm water. The temperatures of the metal and the water are recorded for several hours until equilibrium is reached. The dashed line represents the temperature of the metal, and the solid line represents the temperature of the water.

Which graph BEST represents the temperature of each substance over time.

A	A
B	B
C	C
D	D

Question 20 : 73805



In a compression or longitudinal wave, the _____is a point on a medium through which a longitudinal wave is traveling that has the maximum density.

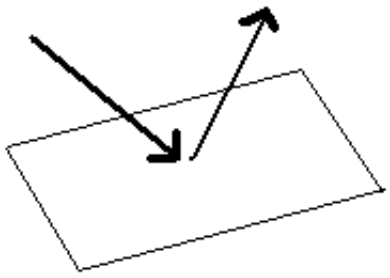
A	compression
B	rarefaction
C	trough
D	wavelength

Question 21 : 177162

The path of a meteor passing Earth is affected by its gravitational force and falls to Earth's surface. Another meteor of the same mass falls to Jupiter's surface due to its gravitational force. What statement accurately compares these two events?

A	The meteors fall at the same rate since they have the same mass.
B	The meteor falls to Earth faster due to its greater gravitational force.
C	The meteor falls to Jupiter faster due to its greater gravitational force.
D	The meteor falls to Jupiter at a faster rate due to its thinner atmosphere.

Question 22 : 24087



Assume the light wave directed at the paper is white light and the paper reflects the wavelengths of red-orange-yellow-green-blue-indigo-violet. What color will the paper appear to human eyes?

A	black
B	brown
C	green
D	white

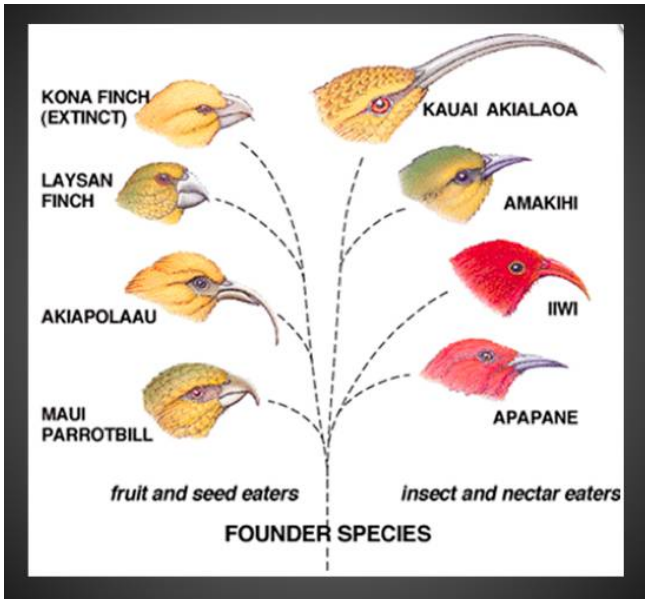
Question 23 : 534025

The more impressive the tail of a male peacock, the higher its chances of finding a mate. Female peacocks choose mates based on the color of the feathers and the overall physical prowess of the animal. However, a genetic mutation called leucism can produce a peacock with only white feathers. This mutation causes the inability of pigment to be deposited into their feathers which results in a white appearance. What would you infer to be the fitness of the white peacock? Choose ALL that apply.

A	The females will equally choose the brightly colored and white peacocks as mates.
B	White peacocks are highly prized, thought to symbolize purity, eternity, and unconditional love, making them desirable mates.

C	If females choose the brightest males as partners, the ones without the impressive tails will be less likely to mate and reproduce.
D	White peacocks are highly prized, thought to symbolize purity, eternity, and unconditional love, causing them to be selectively bred for their unique trait.
E	The peacocks with colored tails will be picked over the white peacocks as mates, causing the peacocks with the white mutation to die out of the population over time

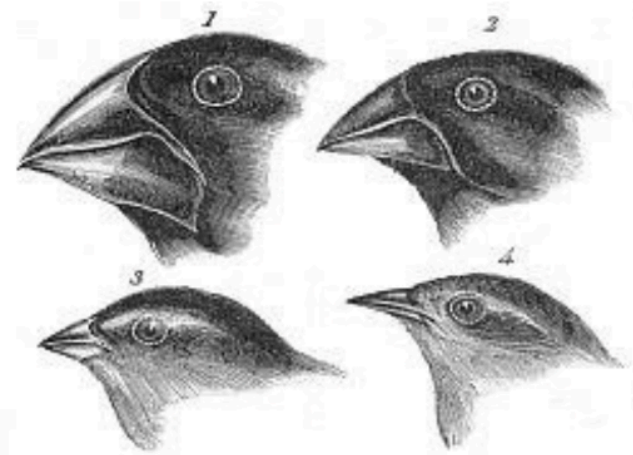
Question 24 : 114115



What is most likely the cause of the differences in the birds in the picture?

A	interbreeding
B	change in diet
C	mutations in DNA
D	mutagens in the environment

Question 25 : 15074



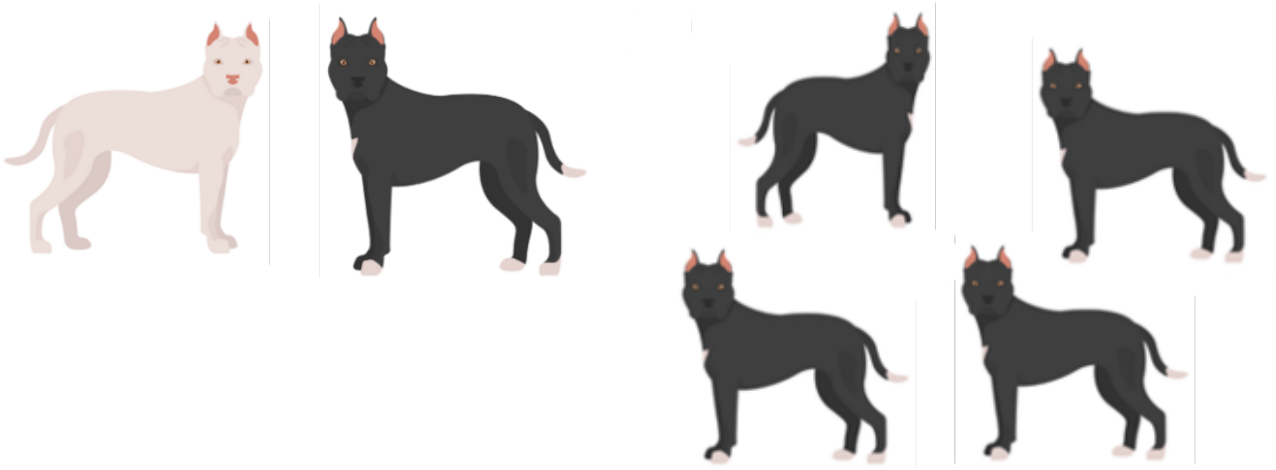
Finches from Galapagos Archipelago

Why are the beak sizes and shapes of Darwin's finches different?

A	They had different ancestors.
B	They adapted to the type of predators.
C	They adapted to the type of food available.
D	They crossbred with different bird species.

Question 26 : 624015

A student's dog has puppies. The parent dogs and the puppies are shown below.



Female Male Puppies

Which best explains the puppies' colorations?

A	The trait for black fur is recessive to white fur.
B	The trait for black fur is dominant to white fur.
C	The trait for white fur is dominant to black fur.
D	The puppies had an equal chance of being black or white.

Question 27 : 27229

Which part of the human skeletal system is INCORRECTLY matched with its function?

A	bones:protection
B	joints:flexible movement
C	muscle:bone to bone connection
D	cartilage:structure and support

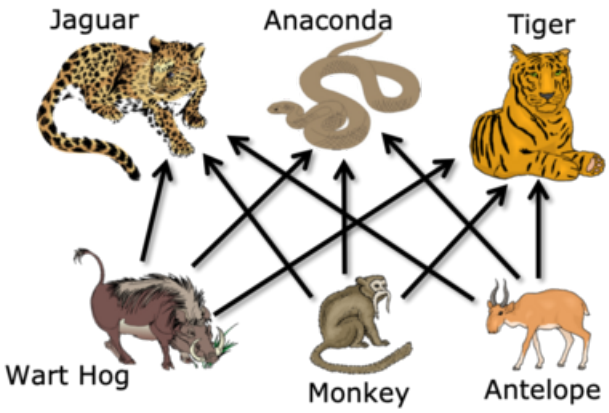
Question 28 : 73682

> prokaryotic cells
> contains unique rRNA
> live in extreme environments
> cell walls contain no peptidoglycan
> membranes composed of branched hydrocarbon chains

The characteristics listed above describe the **domain**

A	Archaea
B	Bacteria
C	Eukarya
D	Monera

Question 29 : 624025

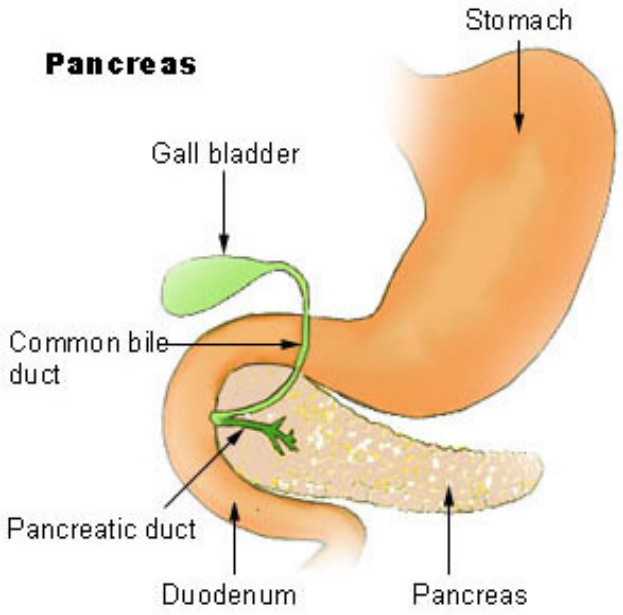


What type of relationship do the anaconda and antelope share?

A	Parasitism

B	Competition
C	Predation
D	Mutualism

Question 30 : 32540



In humans, these organs are part of a larger system, the _____ system.

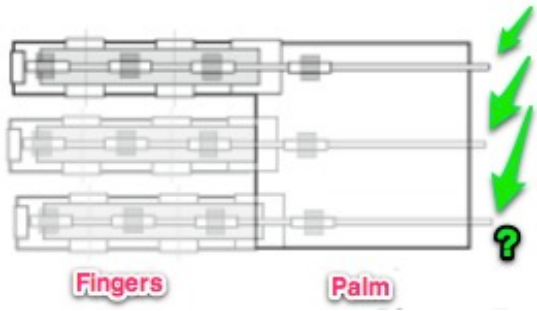
A	circulatory
B	digestive
C	nervous
D	reproductive

Question 31 : 117232

Making a Human Model

Materials
Cardboard
Rubber bands
Nylon cord
Drinking straws
Tape
Scissors

Students in Ms. Wong's 6th grade science class were asked to design and build a model of some part of the human skeleton. The challenge was to make a model that actually moved like the part that was being modeled. The students were given the materials listed in the table above and were asked to work in groups of 3 - 4 students. One group constructed the hand you see here:



The students in this group constructed a hand with three fingers and a palm. Noticed the arrows pointing to the nylon cords. The cord feature was added to represent the bones in the palm of your hands. Another student group commented on this design. "You should put the cords in the straws and then tape them into the palm."

What would this change represent in the prototype hand?

A	bones (straws) and skin (cords)
B	nerves (cords) and bones (straws)

C	bones (straws) and muscles (cords)
D	muscles (straws) and nerves (cords)

Question 32 : 9130
Scientists use the binomial nomenclature to identify and name organisms. All BUT one statement is true about the binomial system of classification. Which statement is false?

A	The family and species name are given.
B	It is a system devised by Carolus Linnaeus.
C	The name of the organism is written in Latin.
D	The system is universally accepted so an organism has the same name to all biologists.

Question 33 : 3586
A girl attempts to drink a large glass of water without stopping. When she finishes, she gasps for air as she was unable to breath while drinking.

The gasp response is an example of which type of behavior?

A	reflex
B	learned
C	instinct
D	conditioning

Question 34 : 8090
Dr. Bob hypothesizes that drug X causes cuts to heal more quickly. He performs a medical experiment on a group of 100 people and confirms his original hypothesis. In the control group, a 1

cm cut took seven days to heal. In the experimental group, a 1 cm cut took four days to heal. What should Dr. Bob do next?

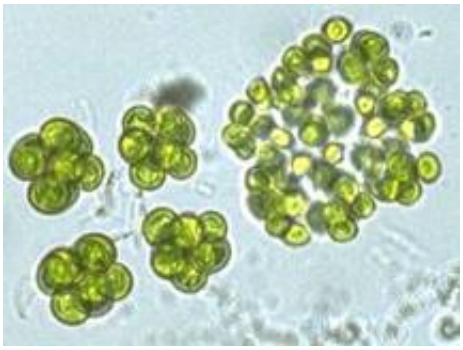
A	Repeat the experiment for accuracy.
B	Begin selling drug X to the public.
C	Write a scientific theory about drug X.
D	Publish the results of the experiment in a scientific journal.

Question 35 : 3407

Identify one of the many reasons why a scientist might use a model?

A	Models are easy to create.
B	Models waste natural resources.
C	Models are more accurate than the real thing.
D	Models are a less expensive means of testing.

Question 36 : 12793



Carol and her lab partner were trying to estimate the number of Volvox colonies in a 10 milliliter sample of pond water. The colonies were too small to count with a hand lens. Carol suggested

putting a sample of water on a microscope slide and counting the colonies per drop of water. Then they could figure how many drops of water were in 10 milliliters.

To get the most accurate measurement of the number of colonies, what power magnification should they use and why?

A	It does not really matter which magnification they use as long as they count accurately.
B	They should use the oil immersion lens with 400X to slow down the colonies and see as many as possible.
C	They should use the lowest magnification, which gives them the largest field of view and lets them see entire colonies to count.
D	They should use the 100X magnification to give the largest field of view allowing them to see as many colonies as possible at one time.

Question 37 : 47405

Pendulum Data

Mass of bob (g)	Length of string (cm)	Distance block moved (m)
10	25	1.5
20	25	3.0
30	25	4.5
40	25	6.0
50	25	7.5

Ms. Mayo challenged her students to build a pendulum that would hit a block of wood and move it. The group that moved the block of wood the farthest would win a prize. One group's experimental data is shown above. Ms. Mayo asked her students to present a line graph of their data. What label(s) should be written on the Y axis in this case?

A	meters per hit

B	mass of bob (g)
C	length of string (cm)
D	distance block moved (m)

Question 38 : 8108

Any piece of data that can be used to support an assertion is

A	evidence.
B	a hypothesis.
C	a conclusion.
D	an observation.

Question 39 : 114321

Time Spent on Chores Table 2

Weekday	Minutes
Monday	40
Tuesday	30
Wednesday	35
Thursday	30
Friday	20

Sandra recorded the minutes she spent doing chores each night this week in a data table. Use information from the table to answer the question.

Based on the data shown in the table, what is the *best* conclusion that can be made about

Sandra's time spent doing chores?

A	The time she spent doing chores increased throughout the week.
B	The time she spent doing chores decreased throughout the week.
C	She spent a different amount of time doing chores each night of the week.
D	She spent the most time doing chores the first night she recorded her time.

Question 40 : 14741

In this technological age, today's students are faced with on-line educational opportunities at both the high school and post-high school level. Many educators wonder how effective such on-line courses really are. Imagine you are an educator designing an on-line course. Before beginning, you decide to conduct a study about the effectiveness of on-line courses.

Which research question would be MOST appropriate to guide your study?

A	What are the strengths and weaknesses of on-line courses?
B	How do students' grades compare in on-line versus traditional courses?
C	How do standardized exam scores of on-line courses compare with standardized exam scores of traditional courses?
D	How does course completion of on-line courses compare with completion of traditional courses?