

المعلومات العامة

الأسئلة المعلنه للعام الدراسي 2010

11

1

Which of the following is not true about alkanes?

- They are flammable.
- They are insoluble in water.
- They readily react with nucleophiles.
- They can undergo substitution reactions with chlorine.

Key: 3

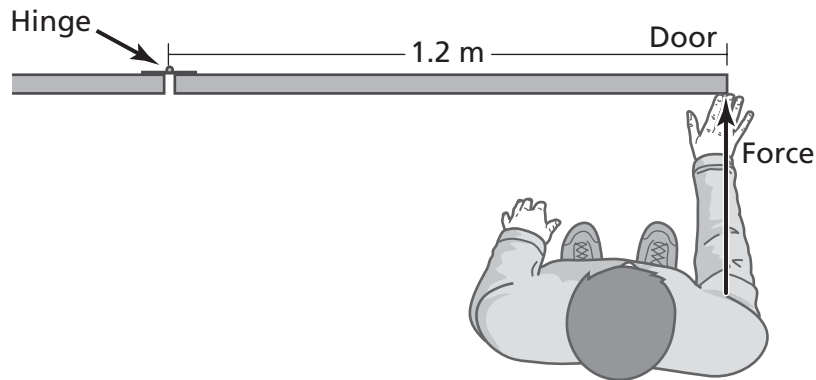
Strand: Chemistry

Standard: 19.2 Describe the chemistry of alkanes as exemplified by their combustion, by substitution by chlorine and by bromine, and by their general unreactivity towards electrophiles and nucleophiles.

DOK: 01 Understanding

2

A man pushes the edge of a door with a force of 60 N in the direction perpendicular to the plane of the door.



If the door is 1.2 meters wide, which of these best describes the magnitude and direction of the torque on the door?

- 50 N m parallel to the force
- 72 N m parallel to the force
- 50 N m along the hinges of the door
- 72 N m along the hinges of the door

Key: 4

Strand: Physics

Standard: 20.7 Describe and apply the moment of a force and the torque of a couple, and apply the principle of moments to a system in equilibrium.

DOK: 02 Application

3

Which of these describes a gene?

- a sequence of bases that occupies a specific location on a chromosome
- a piece of DNA containing nucleotide sequences and regulatory elements
- a nucleic acid that carries all the genetic information of the cell
- the ordering of nucleotides on a DNA molecule

Key: 1

Strand: Biology

Standard: 11.1 Know that a base sequence in a location on DNA forms a gene and that different functional base sequences at that location form alleles of that gene; know that differences in the base sequences of DNA of the individuals of a species result in variation.

DOK: 01 Understanding

The table describes several important blood vessels.

Complete the table by filling in the missing information.

Name of Vessel	Role of Blood Vessel	Oxygen Content
Vena cava		Low
Aorta		
	takes blood from right ventricle to lungs	
	takes blood from lungs to left atrium	High

Correct Answer:

A.

Name of Vessel	Role of Blood Vessel	Oxygen Content
vena cava	takes blood to the heart from the body	low
aorta	takes blood to the body from the heart	high
pulmonary artery	takes blood from right ventricle to lungs	low
pulmonary vein	takes blood from lungs to left atrium	high

Key Elements:

- 1 for at least 3-4 correct entries in table
- 2 for 5-6 correct entries in table

2 key elements	2 pts
1 key element	1 pt
Incorrect answer	0 pts
No answer	Blank

Points: 2

Strand: Biology

Standard: 07.4 Know that the human blood system is a double closed system and know the names, locations and roles of the major blood vessels.

DOK: 01 Understanding

What type of bonding does MgO have?

Answer: _____

Explain why MgO does not conduct electricity in a solid state but will do so when dissolved in water.

Answer: _____

Correct Answer:

A. Ionic bonding

B. Any response indicating that MgO only conducts electricity if its ions are free to move, such as when it is dissolved in water.

Key Elements:

- 1 for identifying MgO is an ionic compound
- 1 for explaining why MgO conducts electricity when dissolved in water

2 key elements	2 pts
1 key element	1 pt
Incorrect answer	0 pts
No answer	Blank

Points: 2

Strand: Chemistry

Standard: 16.1 Know that metals can be arranged in order of reactivity according to their reaction with agents such as air, water and acids, and that this order is related to their position in the periodic table.

DOK: 01 Understanding

Mitochondria are structurally divided into intermembrane spaces, matrixes, and cristae.

Which stage of aerobic respiration occurs in the matrix of mitochondria?

Answer: _____

How does the presence of cristae increase the efficiency of mitochondria?

Answer: _____

Correct Answer:	
A. Kreb's cycle	
B. Any response that indicates that the cristae increase the surface area of the mitochondria (allowing the mitochondria to contain more complexes needed for the electron transport chain/ respiration)	
Key Elements:	
<ul style="list-style-type: none"> • 1 for identifying the Kreb's cycle • 1 for explaining cristae increase efficiency 	
2 key elements	2 pts
1 key element	1 pt
Incorrect answer	0 pts
No answer	Blank

Points: 2

Strand: Biology

Standard: 05.1 Describe the structure of mitochondria and relate this to the biochemical reactions of respiration.

DOK: 02 Application