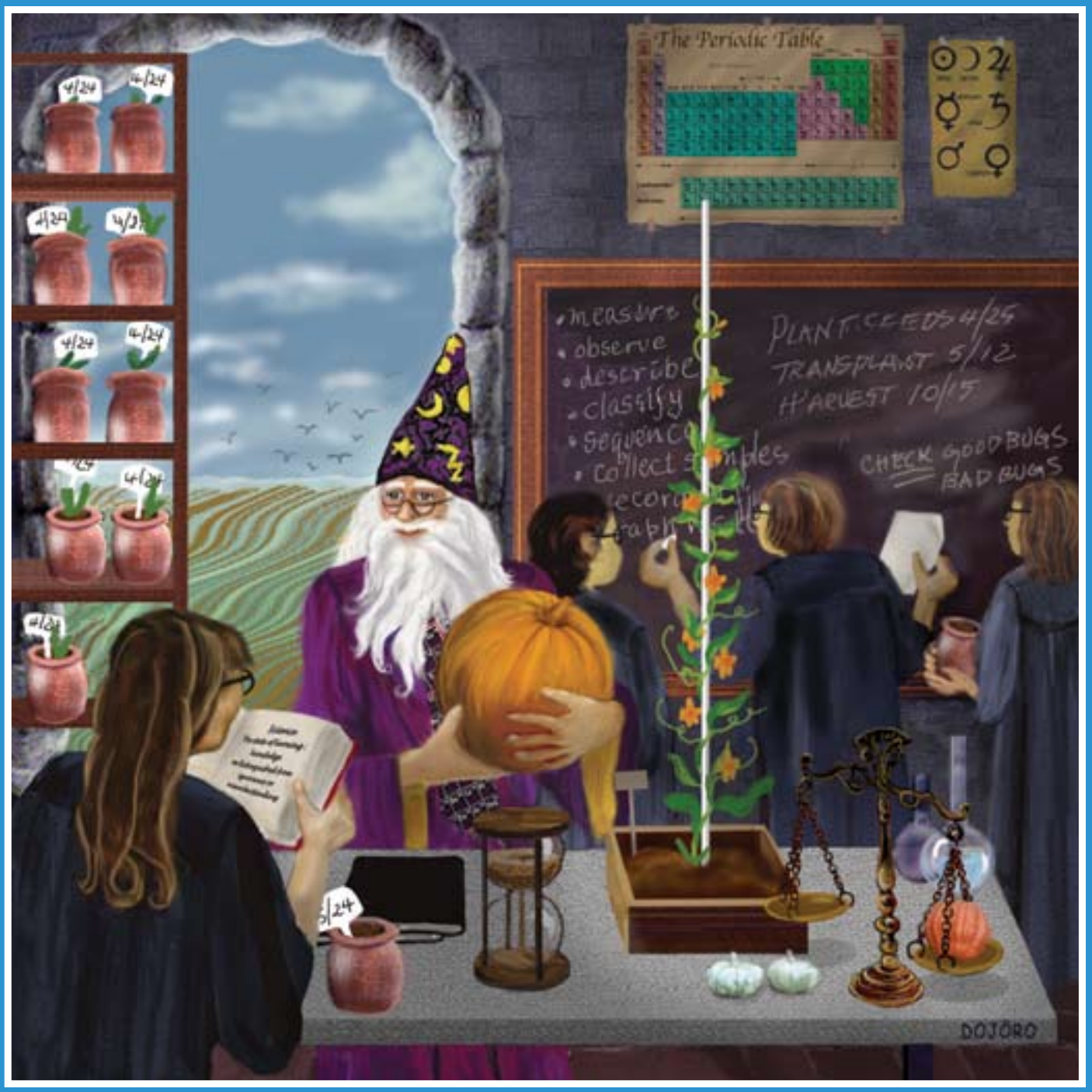
INTERMEDIATE SCIENCE 7 & 8



QUESTION CATALOGUE

eduware
Tools for the Intelligent Classroom

Wizard TEST MAKER

Intermediate Science
Part I: Life Science

I. UNITY AND DIVERSITY OF LIVING THINGS

II. MAINTENANCE IN LIVING THINGS

VI. EVOLUTION

VII. ECOLOGY

VIII. LABORATORY SKILLS

Intermediate Science
Part II: Physical Science

I. FOUNDATIONS OF SCIENCE

II. ASTRONOMY

III. EXPLORING THE EARTH

IV. ENERGY AND HEAT

V. THE WEATHER

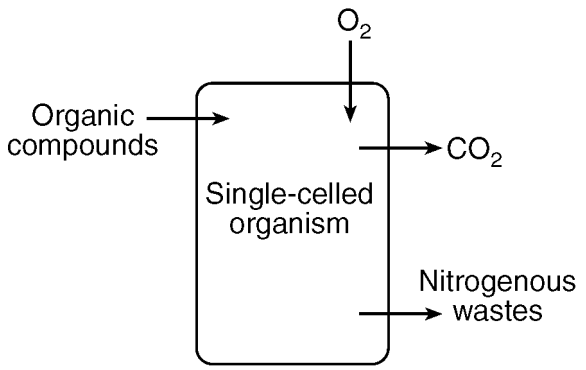
VI. CHEMISTRY

VII. MOTION, FORCES, and ENERGY

VIII. WAVES

IX. ELECTRICITY AND MAGNETISM

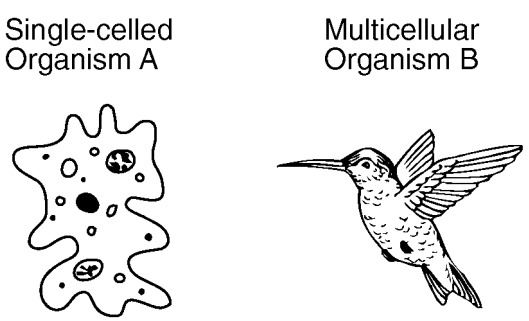
4018. The arrows in the diagram below indicate the movement of materials into and out of a single-celled organism.



The movements indicated by all the arrows are directly involved in

(1) the maintenance of homeostasis
(2) photosynthesis, only
(3) excretion, only
(4) the digestion of minerals

4011. Two organisms are represented below.



Which statement concerning organism *A* and organism *B* is correct?

(1) Organism *A* contains tissues while organism *B* lacks tissues.
(2) Organism *A* and organism *B* have the same organs.
(3) Organism *A* and organism *B* have structures that allow them to maintain homeostasis.
(4) Organism *A* lacks structures that maintain a dynamic equilibrium, while organism *B* has these structures.

3989. Organisms undergo constant chemical changes as they maintain an internal balance known as

(1) interdependence (3) synthesis
(2) homeostasis (4) recombination

3979. Both a deer and a tree react to changes in their external surroundings, helping them to maintain a constant internal environment. This statement describes

(1) predation (3) antibiotic resistance
(2) homeostasis (4) autotrophic nutrition

3528. When a person exercises, small blood vessels near the surface of the skin change in size and allow the body to cool. This best shows

(1) synthesis (3) excretion
(2) homeostasis (4) locomotion

3457. In a changing external environment, an animal must be able to maintain constant internal conditions. This is known as

(1) transport **(3) homeostasis**
(2) metabolism (4) nutrition

3396. An animal maintains its fluid balance by regulating the gain and loss of water. This maintenance is an example of

(1) homeostasis (3) cyclosis
(2) hydrolysis (4) peristalsis

3349. During a race, the body temperature of a runner increases. The runner responds by sweating, which lowers body temperature. This process is an example of

(1) homeostasis (3) respiration
(2) an allergic reaction (4) muscle fatigue

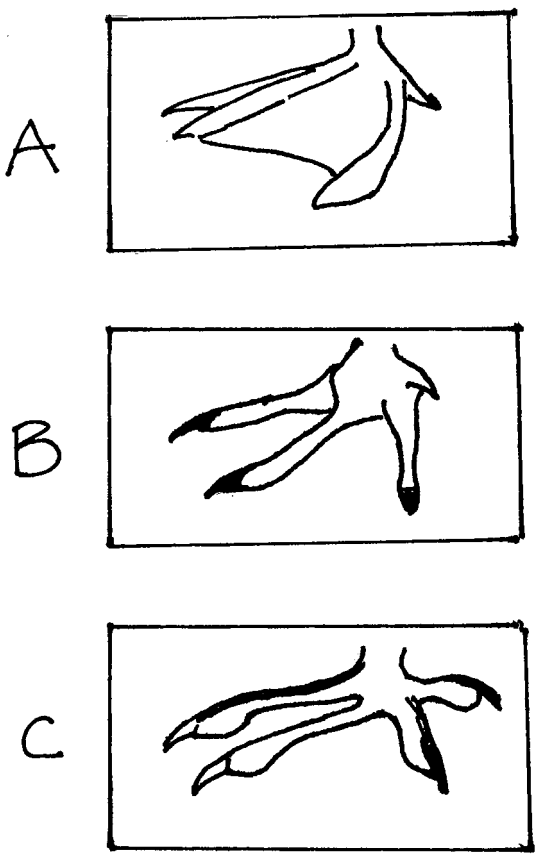
3037. The cell membrane controls the passage of material in and out of the cell. This process is called

(1) homeostasis (3) phagocytosis
(2) hydrolysis (4) metabolism

2925. Which term refers to the maintenance of a stable internal environment in an organism?

(1) respiration (3) metabolism
(2) regulation **(4) homeostasis**

3870. Compare the following pictures of feet.



Which of the pictures shows the ***best*** feet adapted for swimming?

(1) picture A (3) picture C
(2) picture B

3315. Cilia, pseudopods, and setae are all structural adaptations for the life process known as

(1) transport (3) circulation
(2) respiration **(4) locomotion**

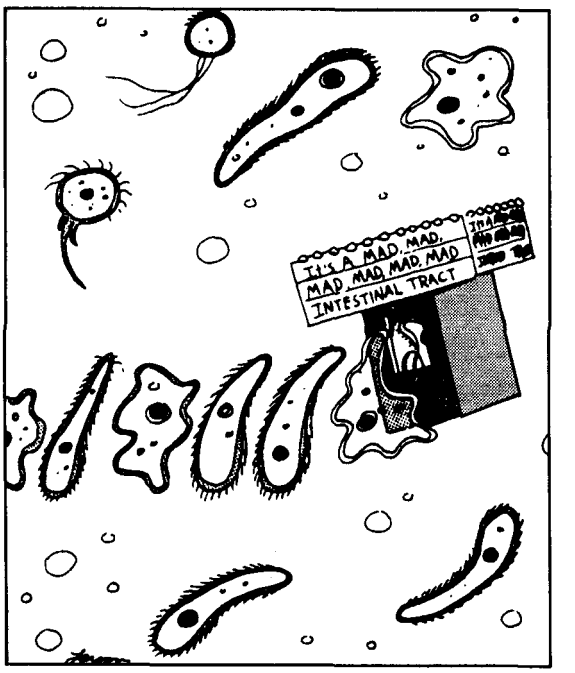
3172. Flagella, cilia, and pseudopods are used in locomotion and increase

(1) opportunities to obtain food
(2) the rate of cell division
(3) production of wastes
(4) the use of oxygen

2892. When being viewed under a microscope, an amoeba might move from view by using

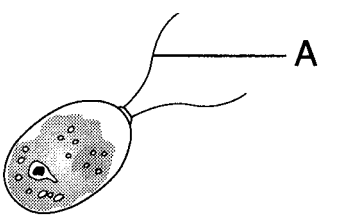
(1) tentacles (3) flagella
(2) pseudopodia (4) setae

3463. Which structures involved in locomotion are represented in the cartoon below?



(1) cilia, only
(2) cilia and pseudopodia, only
(3) cilia, flagella, and pseudopodia
(4) flagella, only

3086. The diagram below represents a green alga.



Which process is most closely associated with structure *A*?

(1) excretion **(3) locomotion**
(2) transport (4) reproduction

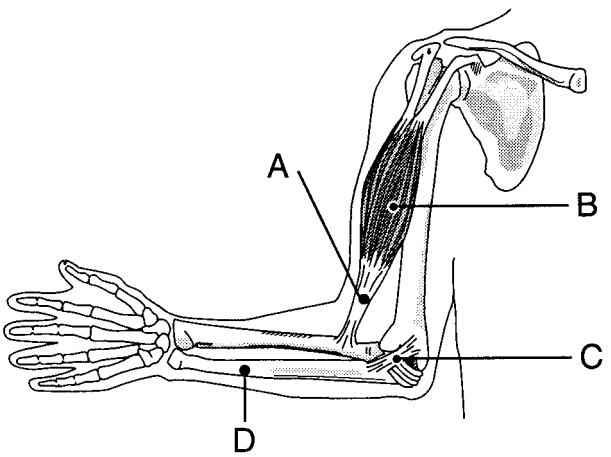
2886. If the cilia of a paramecium were destroyed, it would be difficult for the paramecium to

(1) obtain food (3) excrete solid wastes
(2) release energy (4) produce offspring

2859. Which structures allow paramecium to move?

(1) cilia (3) cell membranes
(2) nuclei (4) contractile vacuoles

3924. Some structures in the human arm are shown in the diagram below.



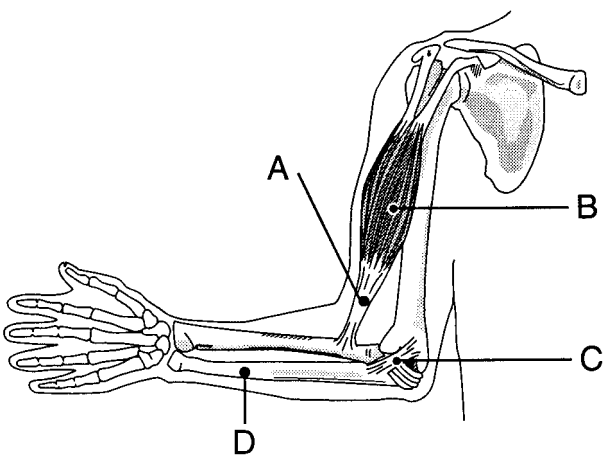
A ligament is represented by the structure labeled

(1) *A* **(3) *C***
(2) *B* (4) *D*

3441. In the knee, the ends of the leg bones are held together primarily by

(1) ligaments (3) tendons
(2) smooth muscle (4) cardiac muscle

3406. Some structures in the human arm are shown in the diagram below.



A bone is represented by the structure labeled

(1) *A* (3) *C*
(2) *B* **(4) *D***

3362. One function of human bones is to

(1) transmit impulses
(2) produce blood cells
(3) produce lactic acid
(4) store nitrogenous wastes

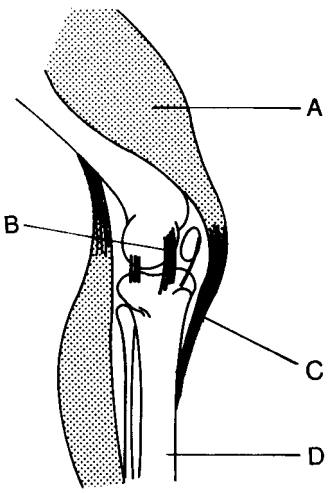
3274. Two functions of bones are to protect body structures and to

(1) serve as storage for glycogen
(2) synthesize vitamins
(3) provide sites for energy production
(4) act as levers during body movements

3225. The connective tissue that cushions the bones of the spine is

(1) tendon **(3) cartilage**
(2) muscle (4) bone

3175. Which letter in the diagram below indicates a bone?



(1) *A* (3) *C*
(2) *B* **(4) *D***

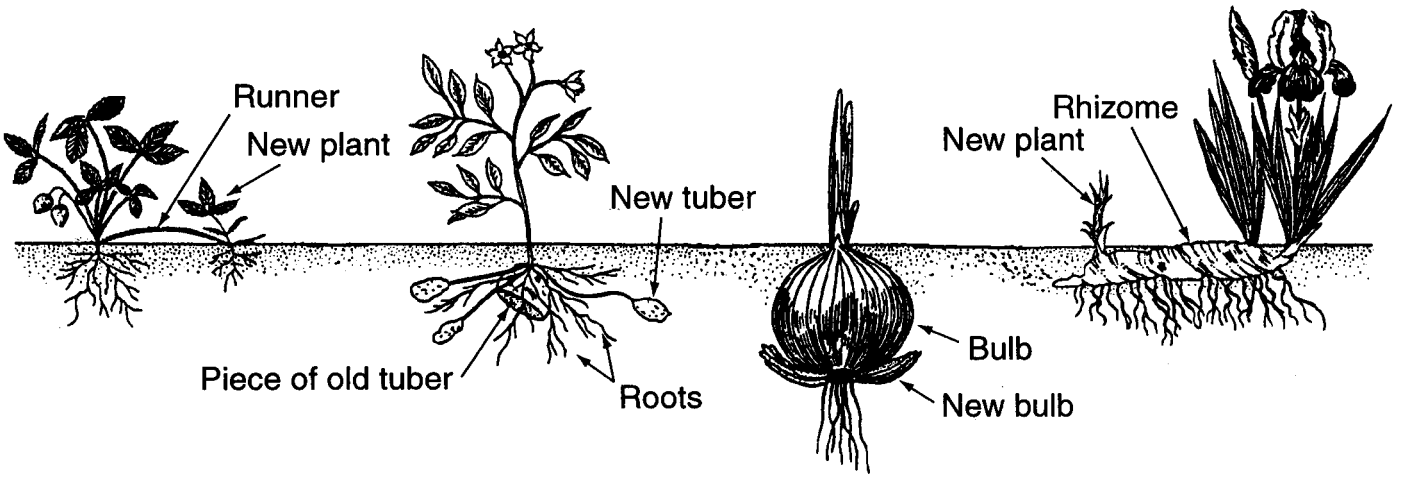
3090. Which statement does *not* correctly describe a function of cartilage?

(1) It anchors muscles to bones.
(2) It provides flexibility to some structures.
(3) It makes up the outer ear.
(4) It cushions bones at a joint.

2815. The end of one bone is connected to the end of another at a movable joint by

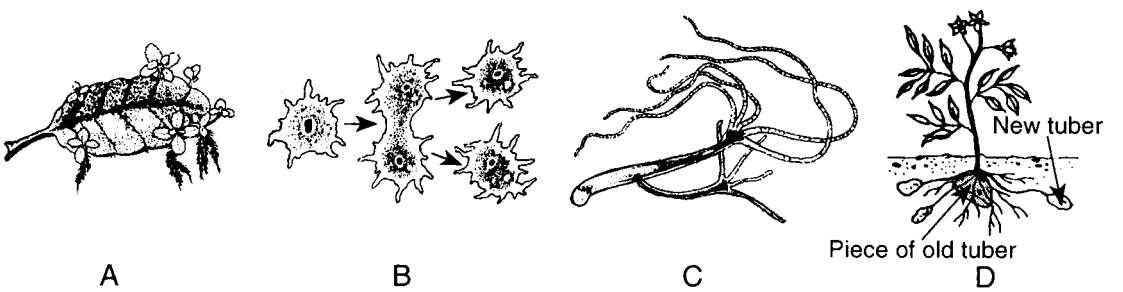
(1) a tendon (3) epidermal tissue
(2) a ligament (4) visceral muscle

3948. Which reproductive method is involved in the production of new organisms by all of the species shown below?



(1) budding (2) inbreeding (3) artificial selection **(4) vegetative propagation**

3442. Which two diagrams show organisms reproducing by vegetative propagation?



(1) *A* and *B* (2) *B* and *C* (3) *C* and *D* **(4) *A* and *D***

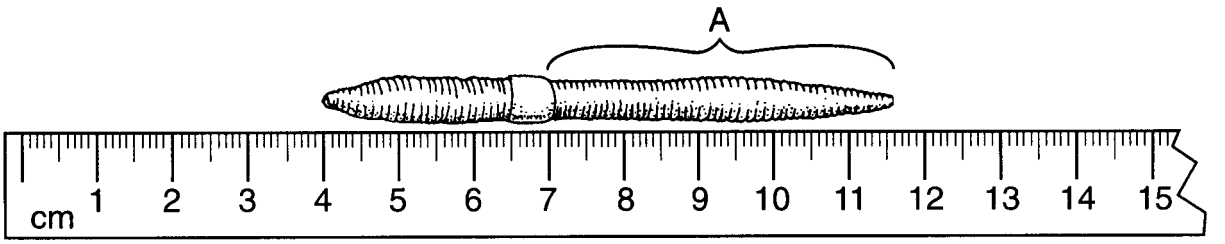
3226. Which statement is true regarding plants produced by vegetative propagation?
(1) They show dominant characteristics.
(2) They have half the number of chromosomes.
(3) They obtain most of their nutrients from the seed.
(4) They are identical to the parent.

3176. In certain plants, roots will develop from a stem cutting. This type of reproduction is known as
(1) vegetative propagation
(2) binary fission
(3) unicellular budding
(4) spore formation

3003. A certain fruit tree is found to have desirable characteristics. These characteristics could be propagated most easily and quickly by
(1) planting seeds produced by the tree
(2) grafting cuttings taken from the tree
(3) cross-pollinating with another tree
(4) culturing highly differentiated cells of the tree

2972. The best way to produce seedless oranges generation after generation is by
(1) cross pollination
(2) crossing-over
(3) nondisjunction
(4) vegetative propagation

3904. A student measured an earthworm using a metric ruler, as shown in the diagram below.



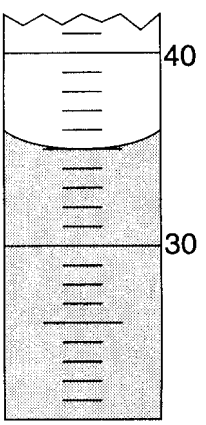
What is the length of *only* section *A*? (Note: Answers have different units)

(1) 7.6 cm (2) 11.6 cm **(3) 4.5 cm** (4) 23 mm

3761. A student incorrectly measured the volume of a mineral sample as 83 cubic centimeters when the actual volume was 89 cubic centimeters. What was the student's approximate percent deviation (percentage of error)?

(1) 6.7% (3) 9.3%
(2) 7.2% (4) 14.8%

3590. The diagram below represents a portion of a 100-milliliter graduated cylinder.



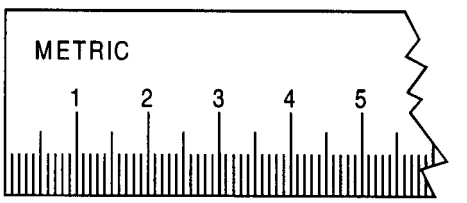
What is the volume measurement?

(1) 35.0 mL (3) 44.0 mL
(2) 36.0 mL (4) 45.0 mL

1786. Any substance that has mass and takes up space is called

(1) matter. (3) force
(2) energy. (4) work

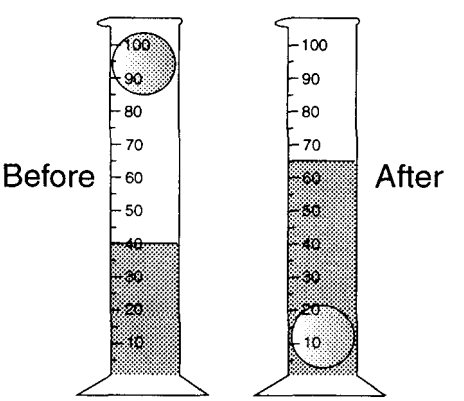
1997.



A student used the ruler shown above to measure the side of a square block. She recorded the length as 4.325 cm. What is wrong with her answer?

(1) She should have measured all sides of the block.
(2) She placed the decimal in the wrong place.
(3) She should have squared the answer to determine the correct length.
(4) Her ruler did not allow measurement as precise as 4.325 cm.

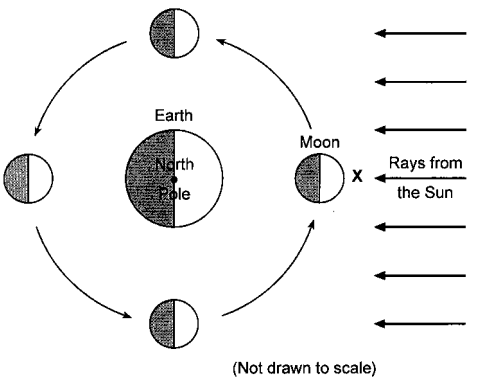
1902. The sphere was dropped into water in a graduated cylinder as shown below.



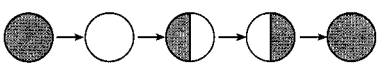
What is the volume of the sphere?

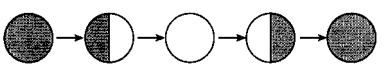
(1) 15 mL (3) 40 mL
(2) 25 mL (4) 65 mL

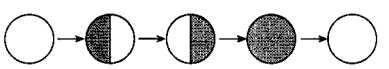
3705. The diagram below shows the Moon at four positions in its orbit around Earth as viewed from above the North Pole.



Beginning with the Moon at position *X* (the new-Moon phase), which sequence of Moon phases would be seen by an observer on Earth during 1 month?

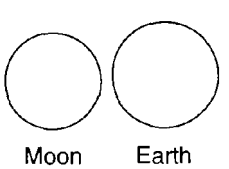
(1) 

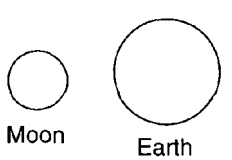
(2) 

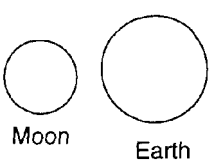
(3) 

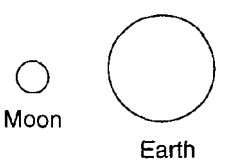
(4) 

829. Which diagram most accurately represents the diameter of the Moon and the diameter of Earth?

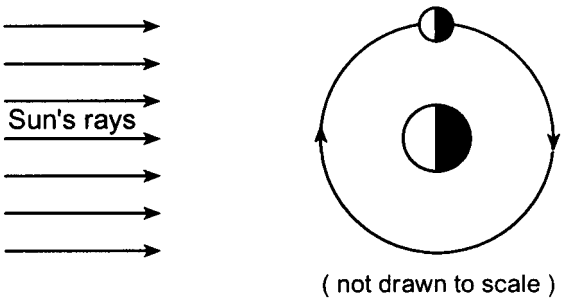
(1) 

(3) 

(2) 

(4) 

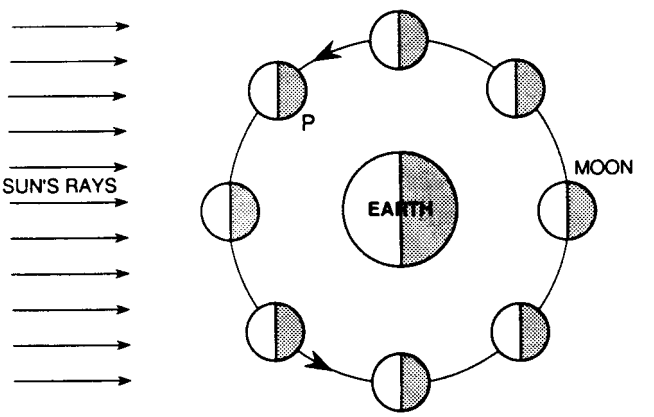
1853. The diagram below shows the Moon revolving around Earth as viewed from space.



What makes it possible to see the Moon from Earth?

(1) The surface of the Moon emits its own light.
(2) The Moon absorbs light during the day and emits the light at night.
(3) The Moon's surface reflects light from the Earth.
(4) The Moon's surface reflects light from the Sun.

805. The diagram below shows the relative positions of the Earth, Moon, and Sun for a 1-month period.



Which diagram best represents the appearance of the Moon at position *P* when viewed from the Earth?

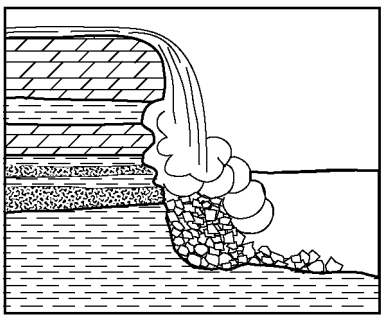
(1) 

(3) 

(2) 

(4) 

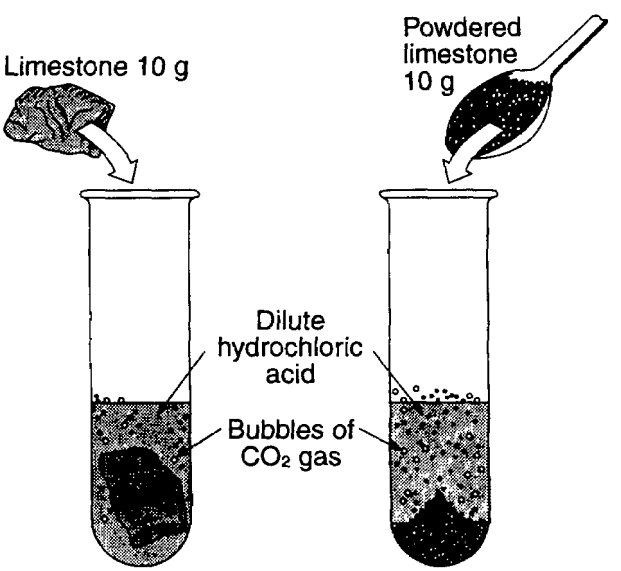
3712. The cross section below shows sedimentary rocks being eroded by water at a waterfall.



The sedimentary rock layers are being weathered and eroded at different rates primarily because the rock layers

(1) formed during different time periods
(2) contain different fossils
(3) have different compositions
(4) are horizontal

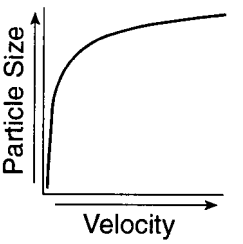
1909. The demonstration shown in the diagram below indicates that powdered limestone reacts faster than a single large piece of limestone of equal mass when both are placed in acid.

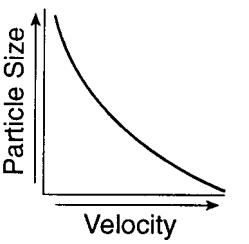


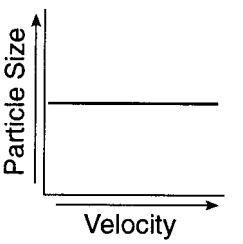
The most likely reason powdered limestone reacts faster is that it has

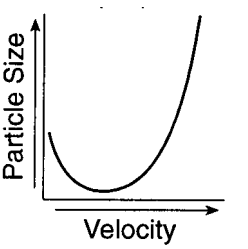
(1) less total volume
(2) more chemical bonds
(3) more total surface area
(4) lower density

889. Which graph best shows the general relationship between stream velocity and the diameter of particles transported by a stream?

(1)


(3)


(2)


(4)


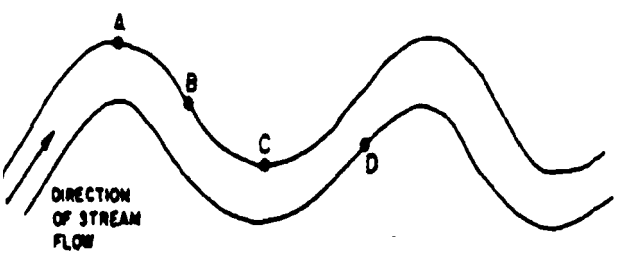
807. Why do most streams have a greater amount of water in spring than in summer?

(1) Potential evapotranspiration is greater in spring than in summer.
(2) More transpiration occurs in spring than in summer.
(3) Most New York State water budgets have a deficit in spring.
(4) Melting snow increases runoff in spring.

617. The greatest mass of rock material is transported to the Earth's oceans by

(1) wind
(2) **rivers**
(3) glaciers
(4) extraterrestrial events

591. The diagram below represents a winding stream. At which location is stream erosion the greatest?



(1) *A*
(2) *B*
(3) *C*
(4) *D*