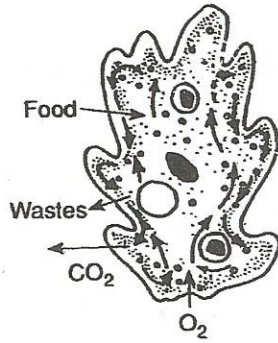


1. In the diagram to the right, the arrows show the direction of movement of various substances. Which of the cell's life activities are represented by the arrows?



- (1) nutrition, reproduction, and regulation  
 (2) excretion, transport, and respiration  
 (3) growth, digestion, and locomotion  
 (4) ingestion, regulation, and synthesis
2. Which process is a form of autotrophic nutrition?
- (1) transport                      (3) fermentation  
 (2) regulation                    (4) photosynthesis
3. By which process is the potential energy of organic molecules transferred to a form of energy that is usable by the cells?
- (1) digestion                      (3) photosynthesis  
 (2) hydrolysis                    (4) respiration
4. Organisms undergo constant chemical changes as they maintain an internal balance known as
- (1) interdependence              (3) synthesis  
 (2) homeostasis                    (4) recombination
5. Every single-celled organism is able to survive because it carries out
- (1) metabolic activities  
 (2) autotrophic nutrition  
 (3) heterotrophic nutrition  
 (4) sexual reproduction
6. The total magnification of an image formed by a compound light microscope is a result of the combined magnifications of the
- (1) eyepiece and diaphragm  
 (2) objective and mirror  
 (3) eyepiece and objective  
 (4) low-power objective and high-power objective
7. Which sentence represents a hypothesis?
- (1) Environmental conditions affect germination.  
 (2) Boil 100 milliliters of water, let it cool, and then add 10 seeds to the water.  
 (3) Is water depth in a lake related to available light in the water?  
 (4) A lamp, two beakers, and elodea plants are selected for the investigation.
8. Which statement describes the best procedure to determine if a vaccine for a disease in a certain bird species is effective?
- (1) Vaccinate 100 birds and expose all 100 to the disease.  
 (2) Vaccinate 100 birds and expose only 50 of them to the disease.  
 (3) Vaccinate 50 birds, do not vaccinate 50 other birds, and expose all 100 to the disease.  
 (4) Vaccinate 50 birds, do not vaccinate 50 other birds, and expose only the vaccinated birds to the disease.
9. A student wanted to investigate the effect of varying concentrations of tryptophan on a bacterial culture. Several cultures of the same bacterial species were grown on media, each with a different amount of tryptophan. The cultures were then incubated at 37°C. At the end of 24 hours, the cultures were examined. As a control, the student should have used a culture that
- (1) contained no bacteria  
 (2) was incubated at 25°C  
 (3) contained no tryptophan  
 (4) was not incubated
10. A new drug for the treatment of asthma is tested on 100 people. The people are evenly divided into two groups. One group is given the drug, and the other group is given a glucose pill. The group that is given the glucose pill serves as the
- (1) experimental group    (3) control  
 (2) limiting factor        (4) indicator

Name :

Homework: Magnification

Homework # 1.6

### Microscope Measurement Worksheet

1. What is the total magnification for each of the following?
- A) 10X objective, 15X eyepiece
  - B) 40X objective, 5X eyepiece
  - C) 4X objective, 10X eyepiece
2. Draw the following patterns as they would appear when viewed through a compound microscope:

A) h



G) H

B) X

E) m

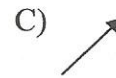
H) 2



F) 4



3. In what direction would you move the slide if you are observing an organism moving in the following directions through the compound microscope and you wish to keep the organism from moving out of the field?



4. Fill in the following:

A) 3 mm = \_\_\_\_\_  $\mu$ m

C) \_\_\_\_\_ mm = 500  $\mu$ m

B) \_\_\_\_\_ = 4000  $\mu$ m

D) 0.25 mm = \_\_\_\_\_  $\mu$ m

5. A student has obtained the following data on the relationship between field size and magnification. Fill in the missing field diameter.

Magnification	Field Diameter
50X	8mm
100X	4mm
200X	_____ mm