



Name _____ Class _____ Date _____

1 Which piece of equipment would most likely be used to **separate organelles** from a mixture of crushed cells?

- A dissecting microscope
- B electron microscope
- C ultracentrifuge
- D microdissection instrument



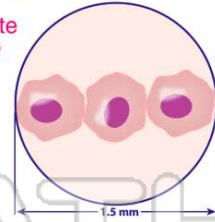
3 A student views a wet mount of a specimen with the low-power objective of a compound light microscope. After the student switches to **high power**, which procedure would most likely produce a **better view** of the specimen?

- A increasing the amount of light by adjusting the diaphragm
- B increasing the distance between the slide and the low-power objective, using the

2 The diagram below shows three cells in the field of view of a microscope. The diameter of the field of view is 1.5 millimeters.

What is the approximate **diameter** of each cell?

- A 50 μm
- B 250 μm
- C 500 μm
- D 4,500 μm



4 What is the **volume** of water in the **graduated cylinder** shown below?

- A 10.3 mL
- B 13.0 mL
- C 13.5 mL
- D 14.0 mL



5



PREVIEW

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7

- C an electronic balance
- D a dichotomous key



- even if it is disproved by the experiment.
- C A hypothesis requires no further investigation if it is proved by the experiment.
- D A hypothesis can be used to explain a conclusion even if it is disproved by the experiment.

9

Studies of fat cells and thyroid cells show that **fat cells have fewer mitochondria** than thyroid cells. A biologist would most likely **infer** that fat tissue

- A does not require energy
- B has energy requirements equal to those of thyroid tissue
- C requires less energy than thyroid tissue
- D requires more energy than thyroid tissue



10 A biologist reported success in **breeding a tiger with a lion**, producing healthy offspring. Other biologists will accept this report as **fact** only if

- A research shows that other animals can be crossbred
- B the offspring are given a scientific name
- C the biologist included a control in the experiment
- D other researchers can replicate the experiment

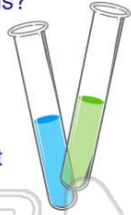




ANSWER KEY

Which piece of equipment would most likely be used to **separate organelles** from a mixture of crushed cells?

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- C** ultracentrifuge
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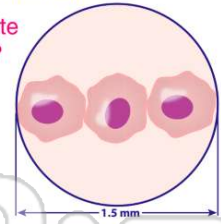


(C)

The diagram below shows three cells in the field of view of a microscope. The diameter of the field of view is 1.5 millimeters.

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- C** 500 μm
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(C)

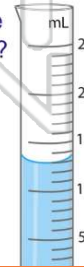
A student views a wet mount of a specimen with the low-power objective of a compound light microscope. After the student switches to **high power**, which procedure would most likely produce a **better view** of the specimen?

- A** increasing the amount of light by adjusting the diaphragm
- B** increasing the distance between the slide and the low-power objective, using the coarse adjustment

(a)

What is the **volume** of water in the **graduated cylinder** shown below?

- A** 10.3 mL
- B** 13.0 mL
- C** 13.5 mL
- D** 14.0 mL



(b)



PREVIEW

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Studies of fat cells and thyroid cells show that **fat cells have fewer mitochondria** than thyroid cells. A biologist would most likely **infer** that fat tissue

- A** does not require energy
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- C** requires less energy than thyroid tissue
- D** requires more energy than thyroid tissue



(C)

- C** A hypothesis requires no further investigation if it is proved by the experiment.
- D** A hypothesis can be used to explain a conclusion even if it is disproved by the experiment.

A biologist reported success in **breeding a tiger with a lion**, producing healthy offspring. Other biologists will accept this report as **fact** only if

- A** research shows that other animals can be crossbred
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- C** the biologist included a control in the experiment
- D** other researchers can replicate the experiment



(d)