NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

HONORS BIOLOGY-EPIGENETICS

MULTIPLE CHOICE:  
Choose the answer that best completes the statement.

Epigenetic changes involve adding or removing \_\_\_\_\_\_\_\_\_\_\_\_\_ tags to DNA.  
 A. glycoprotein  
 B. RNA  
 C. methyl  
 D. protein  
  
Adding methyl tags to DNA turns genes \_\_\_\_\_\_\_\_\_\_\_.

A. ON

B. OFF

Epigenetics may play a role in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A. embryonic development  
 B. puberty  
 C. pregnancy  
 D. cancer  
 E. All of the above

The development of an embryonic stem cell into a nerve, muscle, skin, or blood cell is called \_\_\_\_\_\_\_\_\_\_.

A. homeostasis

B. metabolism

C. differentiation

D. evolution

E. stimulus

Blood cells look different than nerve cells and have different functions because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A. their DNA code is different

B. they came from different kinds of stem cells

C. they turn on and off different genes using methyl tags

D. they don’t show homeostasis

The dense region in the nucleus of female cells that forms when one of the X chromosomes is randomly inactivated is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ body.

A. Golgi

B. Polar

C. Methyl

D. Barr

TRUE/FALSE:   
Choose T if the statement is TRUE. Choose F if the statement is FALSE.   
If the statement is FALSE, make corrections to the underlined words to make it a TRUE statement

T F Environmental factors can cause changes in your epigenome by changing the gene code in the DNA.

T F Epigenetic changes can be passed on to offspring and even affect grandchildren.

T F As twins age, the pattern of the methyl tags on their DNA stays the same.

SHORT ANSWER:  
  
List some environmental factors that may add or remove “methyl tags” on DNA.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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