

Name \_\_\_\_\_ Block \_\_\_\_\_

## **“Inside Cancer” Web Activity**

- Go to the website: <http://www.insidecancer.org>
- Click on “Hallmarks of Cancer”. Go through each module to answer the questions below.

### Overview

1. What is the difference between solid tumors and liquid tumors?
2. Less than \_\_\_\_\_ of all cancer mutations are inherited. Usually mutations arise from \_\_\_\_\_.
3. Why does cancer increase with age?
4. Who published a paper in *Cell*, "The Hallmarks of Cancer," which identified some organizing principles of cancer cell development?

### Growing Uncontrollably

1. Cancer cells have to learn to grow in the absence of \_\_\_\_\_ that normal cells require and have to learn to grow in the presence of \_\_\_\_\_ that normally succeed in stopping the proliferation of normal cells.

### Evading Death

1. What is apoptosis?
2. What happens when a cell is signaled to die?

### Processing Nutrients

1. What does a tumor need in order to grow?
2. What is angiogenesis?

### Becoming Immortal

1. What is the function of telomeres?
2. What happens to telomeres as a cell goes through multiple cycles of growth and division?
3. How do cancer cells avoid the collapse of the telomeres?

### Invading Tissues

1. What causes most of the deaths from human cancers?
2. How do cancers kill?

### Avoiding Detection

1. What are the two arms of the adaptive immune response?
2. What is adjuvant therapy?

### Promoting Mutations

1. What is genomic instability?
2. List the ways in which mutations can occur.
3. How many genes, on average, need to acquire changes to cause “full-blown” cancer?

## Causes and Prevention of Cancer – Web Activity

- Go to the website: <http://www.insidecancer.org>
- Click on link to “Causes and Prevention”. Go through each module to answer the questions below.

### Overview

1. What percentage of cancers are:
  - a. Inherited?
  - b. Caused by synthetic chemicals?
2. What are all the other types of cancers caused by?
3. Based on the information provided about various types of cancers, what do you think is the best way of preventing each type of cancer?
  - a. Lung:
  - b. Liver:
  - c. Stomach:
  - d. Skin:
  - e. Breast:
  - f. Cervix:
  - g. Colon/Rectum:

### Other Modules (Click through each one to find out more information)

1. What are the types of cancer caused by:
  - a. Smoking:
  - b. Inheritance:
  - c. Diet:
  - d. Mold:
  - e. Viruses:
  - f. Sunlight: