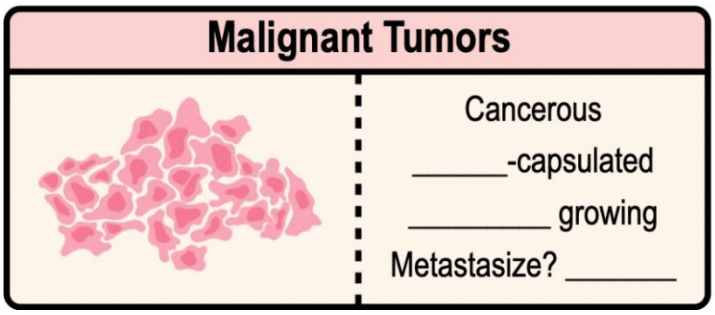
CONCEPT: CANCER

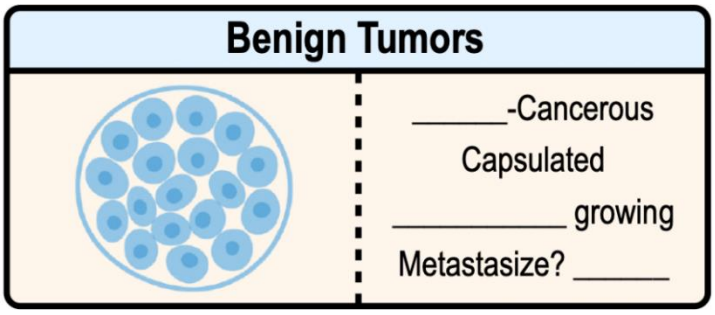
●**Cancer**: a disease characterized by _____ cell division leading to development of *malignant tumors*.

□ **Tumors**: an _____ of cells (an abnormal mass of tissue) that can cause health complications.

1) **Malignant Tumors**: an overgrowth of *cancerous* cells that *migrate* (_____) to other organs.

2) **Benign Tumors**: an overgrowth of cells that do _____ migrate (remain at the same site).





PRACTICE: The difference between benign and malignant tumors is:

a) Malignant tumors do not spread to other sites.

b) Benign tumors have not lost growth control.

c) Benign tumors have not spread to other sites.

d) Malignant tumors have not lost growth or control.

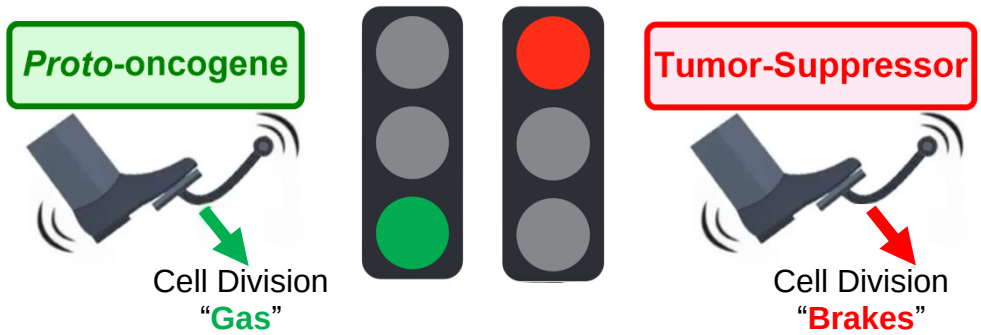
Types of Genes Regulating Cell Growth

●In a healthy, normal cell, _____ types of genes regulate cell growth:

1) _____-*oncogene*: provide signals that promote appropriate cell division (green light for cell division).

2) *Tumor*-_____ *Gene*: provide signals to inhibit cell division (red light for cell division).

□ _____ serves as a tumor-suppressor gene.



●_____ in either of these types of genes can lead to the development of cancer.

□ Though proto-oncogenes are essential, they are susceptible to *mutations* that generate _____.

□ *Oncogene*: _____ gene that promotes unrestrained cell growth (*cancer*).

CONCEPT: CANCER

PRACTICE: Which of the following processes do normal proto-oncogenes typically exhibit?

a) They normally suppress tumor growth.
b) They enhance tumor growth.
c) They stimulate normal cell growth and division.
d) They are underexpressed in cancer cells.

PRACTICE: When activated by signals in the cell, Protein X can stop cells from growing and dividing into new cells. What type of gene codes for Protein X?

a) Oncogene.
b) Tumor-suppressor gene.
c) Protein kinase gene.
d) Protein Vesicle gene.
e) Proto-oncogene.