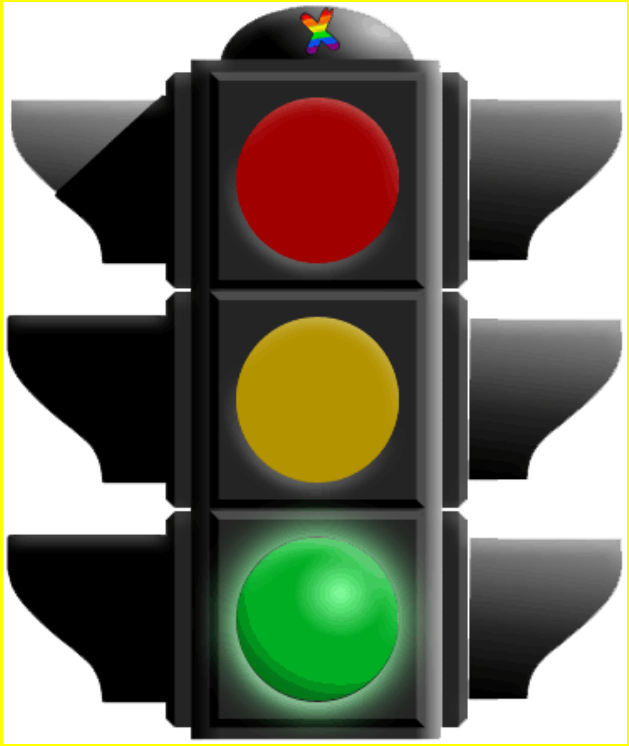
Hormones for Cell Growth and Division

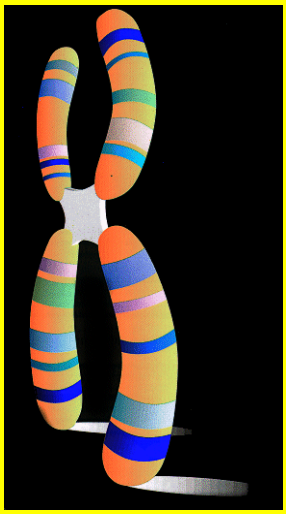
Knowing the factors that either promote or inhibit cell growth and cell division is important.



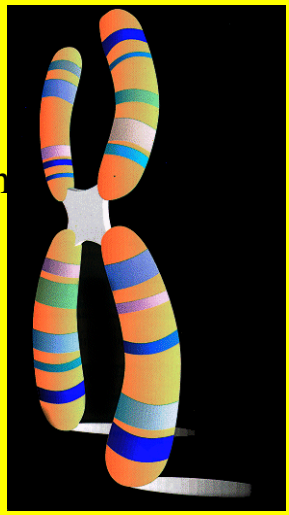
How do cells communicate with each other?

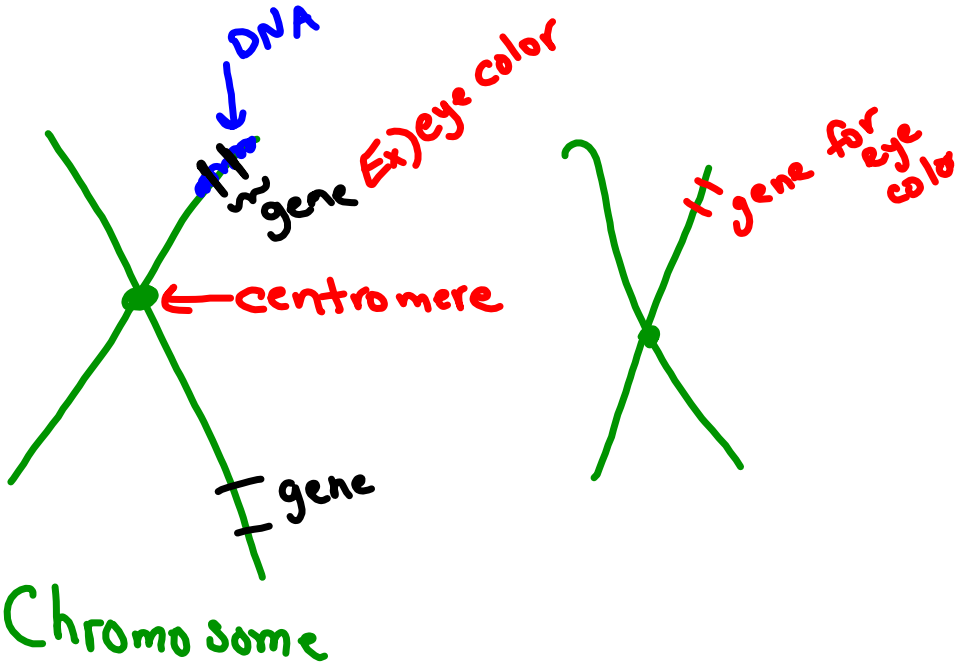
Cells communicate with each other by chemical messengers called hormones.

Why don't all cells relay the same message?Why are some people taller than others?



The answer to this questions rest in our genes. Different genes code for the production of certain hormones and certain Amounts of hormones.




DNA
gene
Ex) eye color
centromere
gene
Chromosome
gene for eye color

What can affect hormone release?

Many factors can affect hormone release.

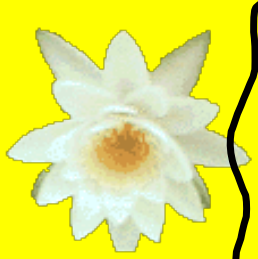
- **The release of plant hormones can be stimulated by light or temperature.**

- The release of human hormones for growth can be stimulated by cell damage.

- other factors include: Stress, high blood pressure, and sunlight, to name just a few.

Plant Growth Hormones

Plants produce a variety of growth hormones. Two examples are:



Auxin- are plant hormones that cause plant cells to elongate (grow taller)

Cytokinins- are plant hormones that promote the growth of buds on the side of a branches on trees, causing the tree to grow wider.

http://www.botanical-online.com/animation8.htm

Animal/Human Growth Hormones

Growth hormones trigger cell division and increase the production of new proteins. New cells require proteins for a new cell membrane and the organelles found within the cytoplasm.

Too Much Growth Hormones?????

High secretions of the growth hormone during childhood can result in gigantism.

One of the most famous giants was a man named Robert Wadlow Robert reached an adult weight of 490 pounds and 8 feet 11 inches in height, He died at age 22

Tallest man

https://www.youtube.com/watch?

26 min

World's shortest man

https://www.youtube.com/watch?v=gjG6qIfoMeI

Today's world tallest man

Big meets small