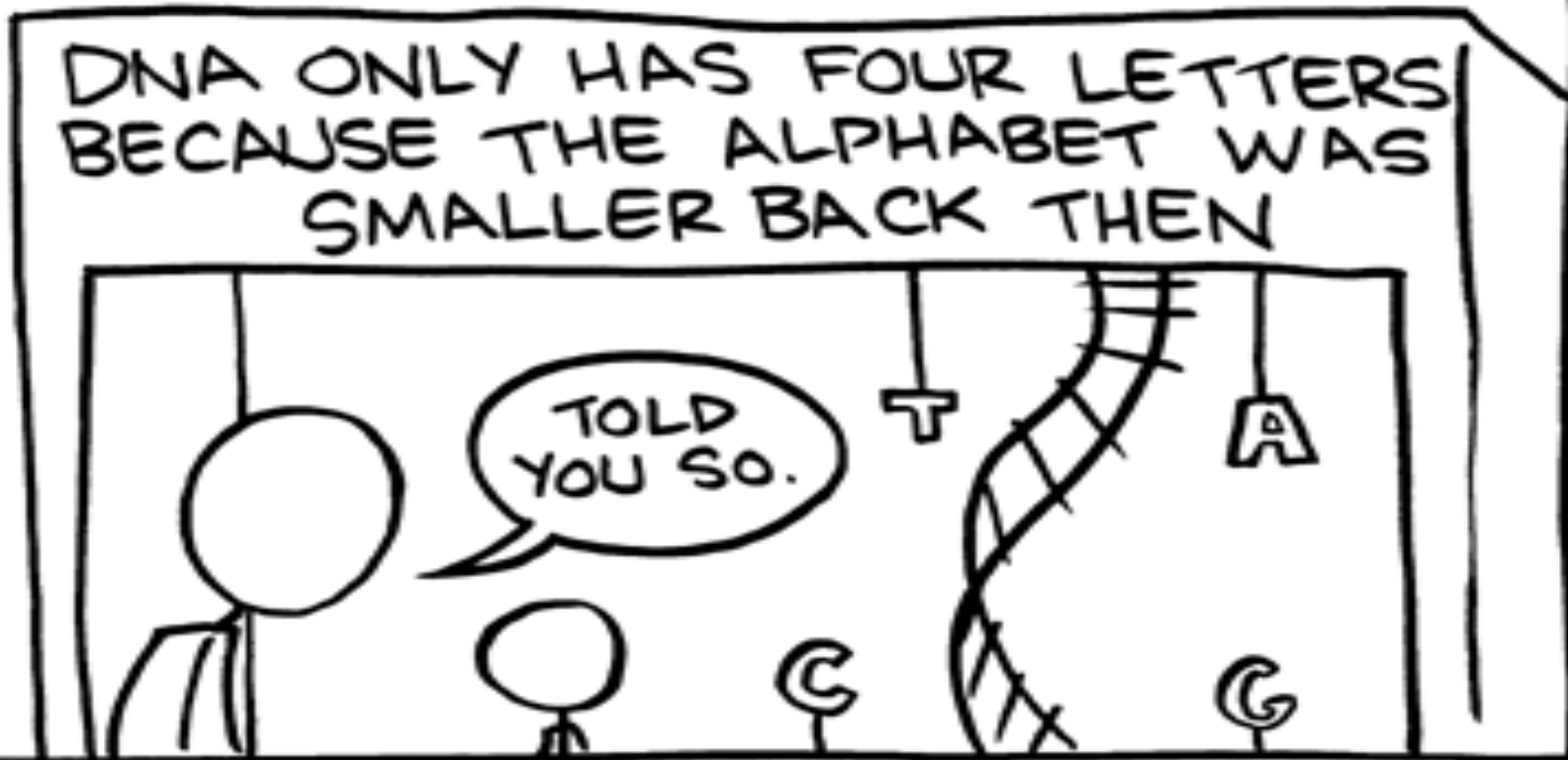


D N A



I can explain the relationship among genes, chromosomes, and inherited traits.

I can investigate the relationship among DNA, genes, and chromosomes.

What Mastery Looks Like

Performance Indicator: 0707.4.3 Describe the relationship among genes, chromosomes, and inherited traits.

- 19** What structures contain genetic information that is passed from one generation to the next?
- A** hormones
 - B** enzymes
 - C** chromosomes
 - D** carbohydrates

WHAT YOU'LL LEARN

- Identify the parts of a DNA molecule and its structure.
- Explain how DNA copies itself.

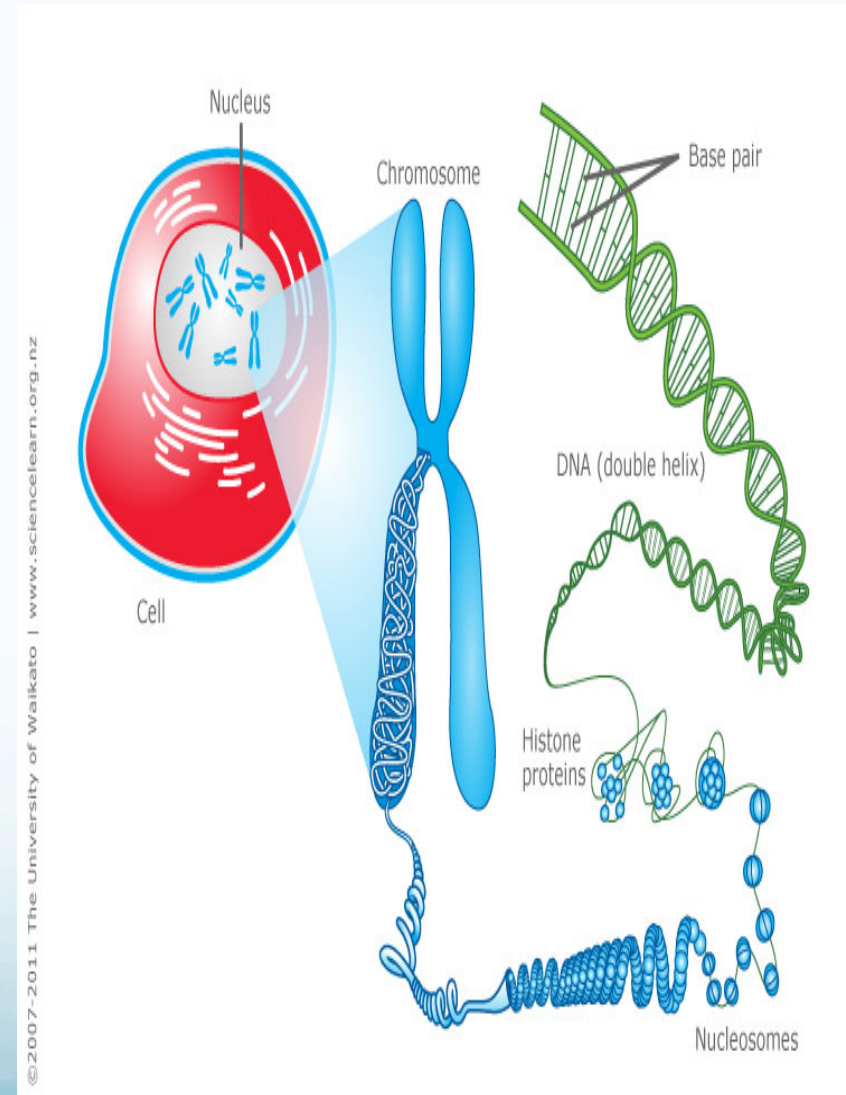
WHY IT'S IMPORTANT!

- DNA helps determine nearly everything your body is and does.

What is DNA?

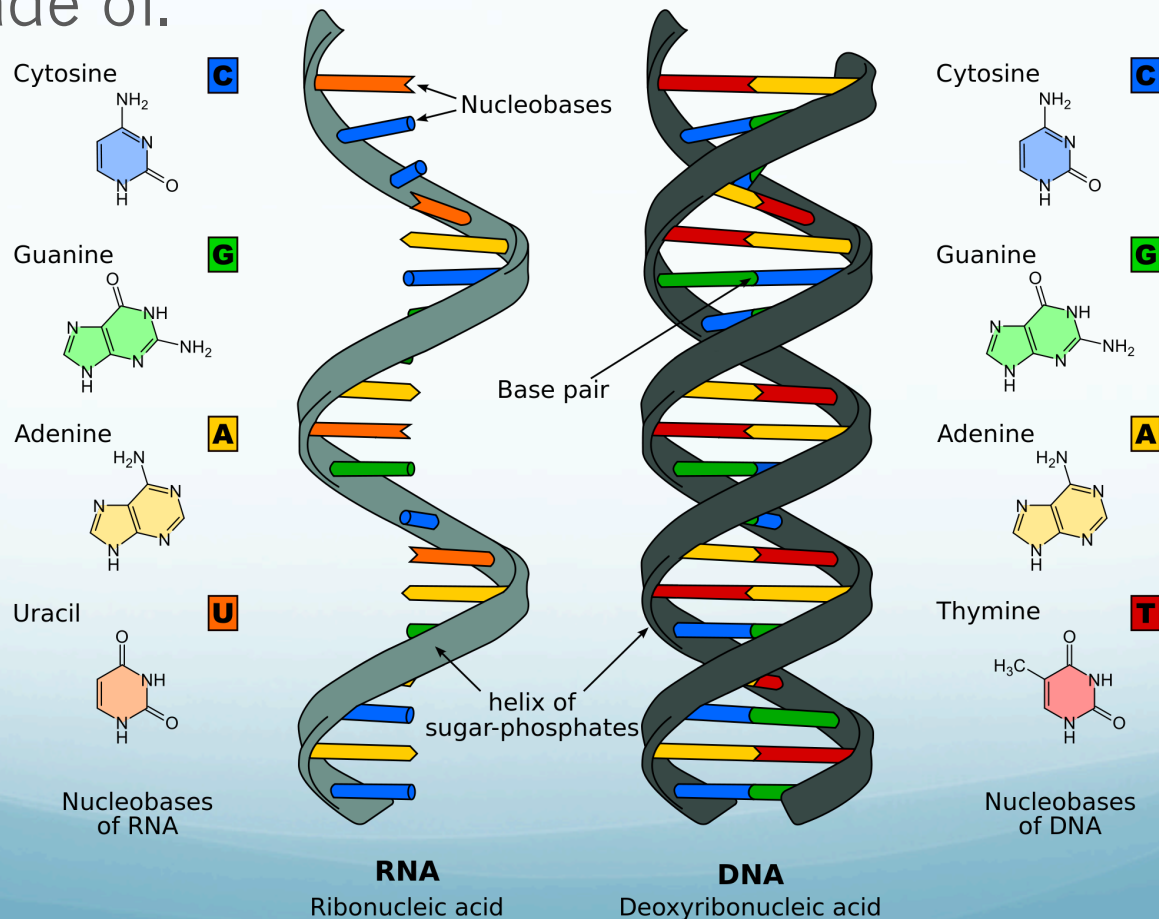
Discuss with your group.

- code that is stored in a cells hereditary material.
- a chemical called deoxyribonucleic acid.
- Contains information for an organism's growth and function.
- After a cell divides, the exact DNA is _____ and _____ to new cells.



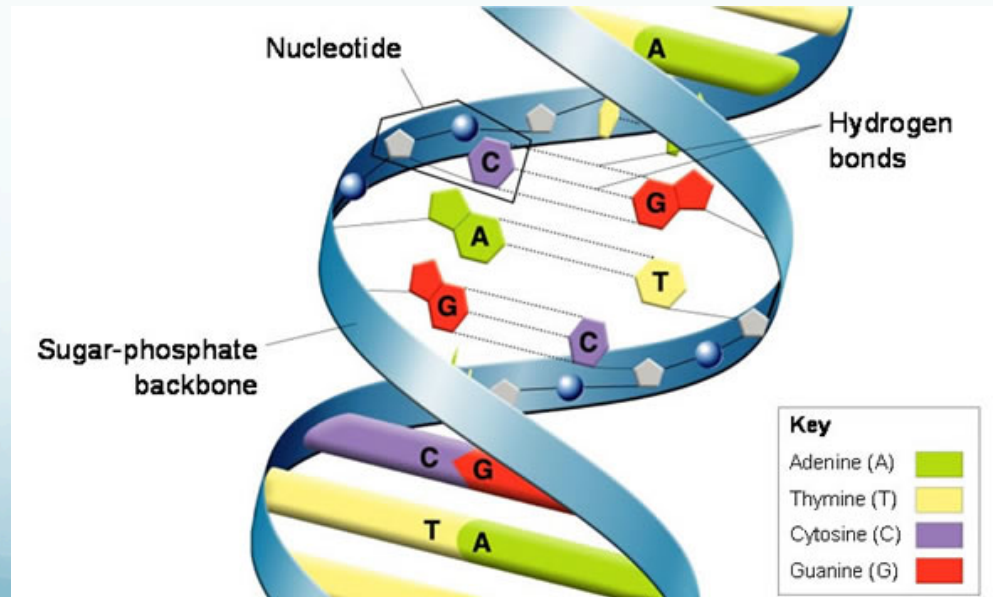
Discovering DNA

- Since mid-1800s, scientists knew that nuclei of cells contain large molecules called nucleic acids.
- By 1950, chemists learned what the nucleic acid DNA was made of.



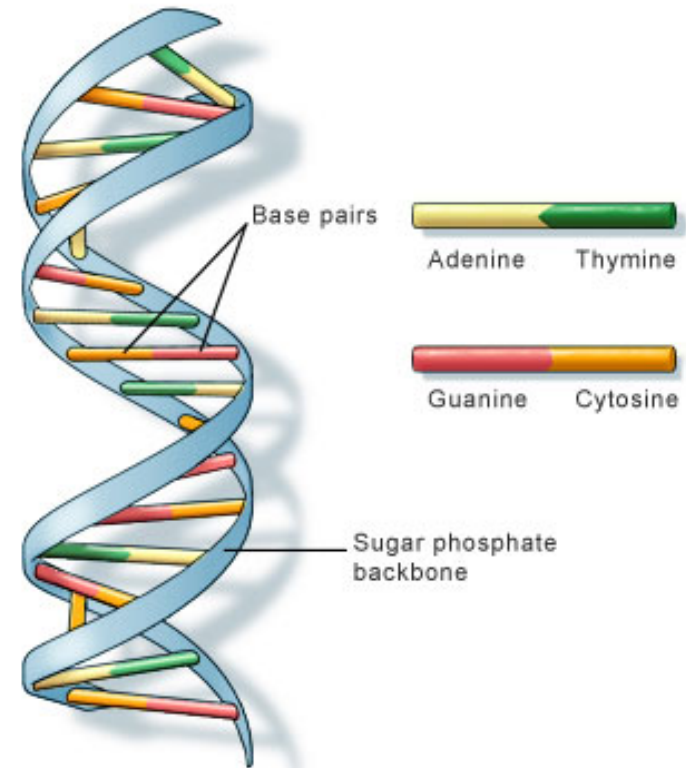
DNA's Structure

- Rosalind Franklin, a scientist, discovered that DNA is two chains of molecules in a spiral form.
- Similar to a twisted ladder



DNA Model

- What does it look like?
 - According to Watson and Crick DNA model...
 - Each side of the ladder is sugar-phosphate molecules
 - Each rung is nitrogen base
 - DNA has four kinds of nitrogen bases:
 - adenine, thymine
(both always equal to each other)
 - guanine, cytosine
(both always equal to each other)

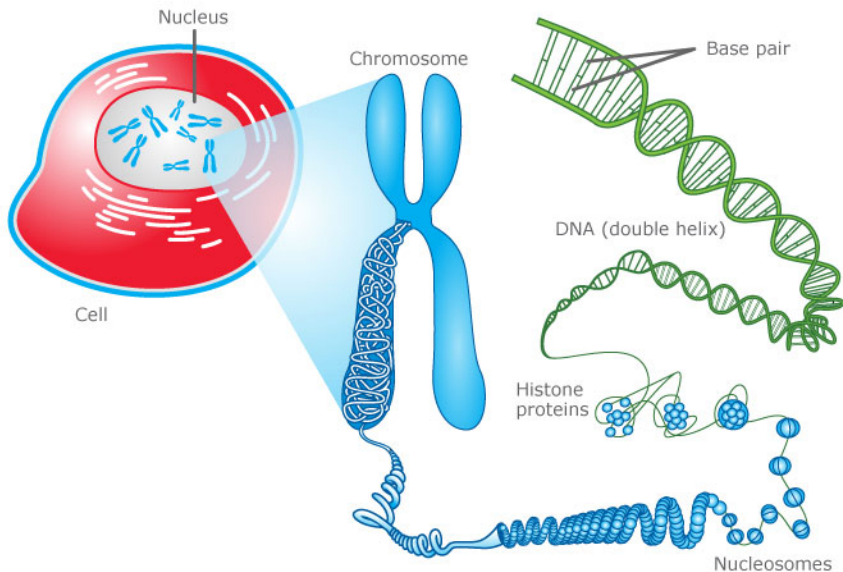


U.S. National Library of Medicine

Reading Time

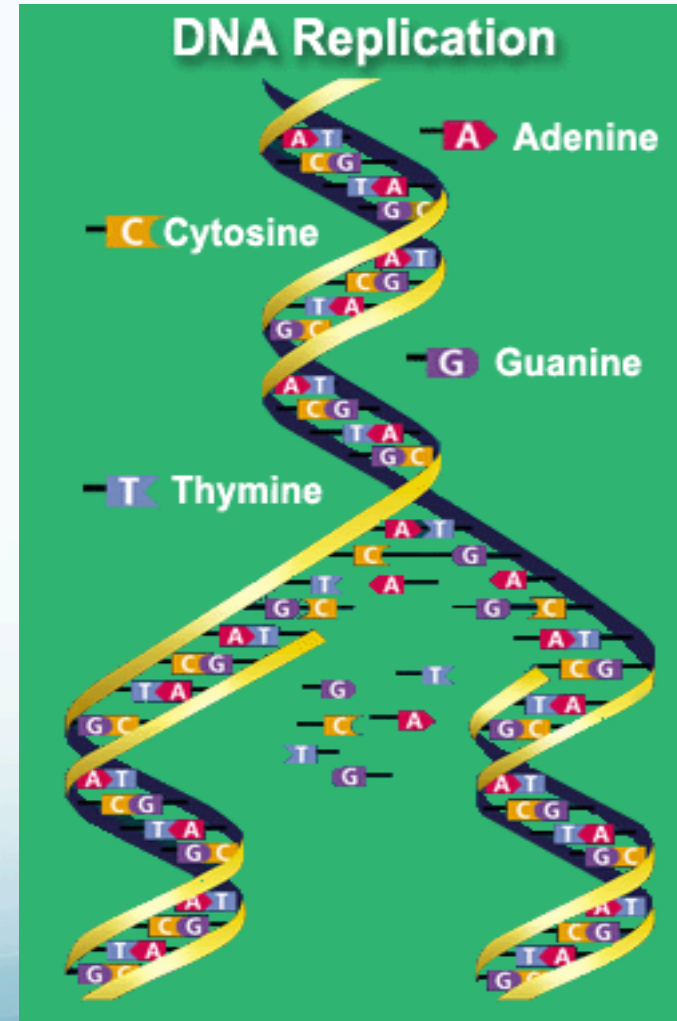
- Read all of 188-189.
- Answer the following questions in your notes.
 - What are the nitrogen base pairs in a DNA molecule?
 - Where do I find DNA?

ALL TIGERS CAN GROWL!!!



Copying DNA

- Before mitosis/meiosis, the amount of DNA in the nucleus is doubled.
- Two sides of DNA unwind and separate.
- The new and old DNA bases are identical and in same order.

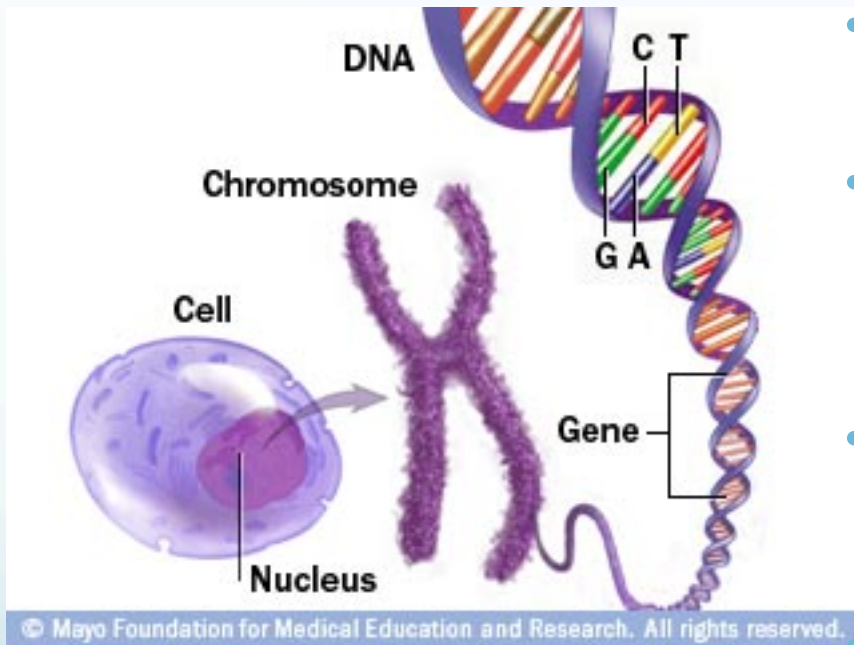


Review Quiz

- <http://www.brainpop.com/science/cellularlifeandgenetics/dna/>
- You will need a white board, marker and eraser. Use it to present answers.

Genes

- Different kinds of proteins determine color of hair, height, and how things taste.
- Protein builds cells and tissues or work as enzymes.
- The instructions for making a specific proteins are found in the **genes** (section of DNA on a chromosomes.)
- **Proteins are made of** chains of hundreds or thousands of **amino acids**.
- **Changing the order** of amino acids makes different **protein**.



Do you now know?

Performance Indicator: 0707.4.3 Describe the relationship among genes, chromosomes, and inherited traits.

- 19** What structures contain genetic information that is passed from one generation to the next?
- A** hormones
 - B** enzymes
 - C** chromosomes
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Exit Ticket

- Write a short summary explaining how DNA copies itself.