Bell Work

The stomach is located between the esophagus and the small intestine. The stomach secretes digestive enzymes and strong acids to aid in the digestion of food, playing an important role in the process of digestion. That stomach is comprised of epithelial tissue, fibrous connective tissue, and smooth muscle tissue. Which of the following best describes the stomach?

a. cell
b. organ
c. tissue
d. organ system

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a. is wrong because cells are made of organelles, not tissues

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c. tissue
d. organ system

c. is wrong because tissues are made of cells, not tissues

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a. cell
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c. tissue
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b. is right because organs are made of tissues

DNA!

Ms. Harry

Instructions

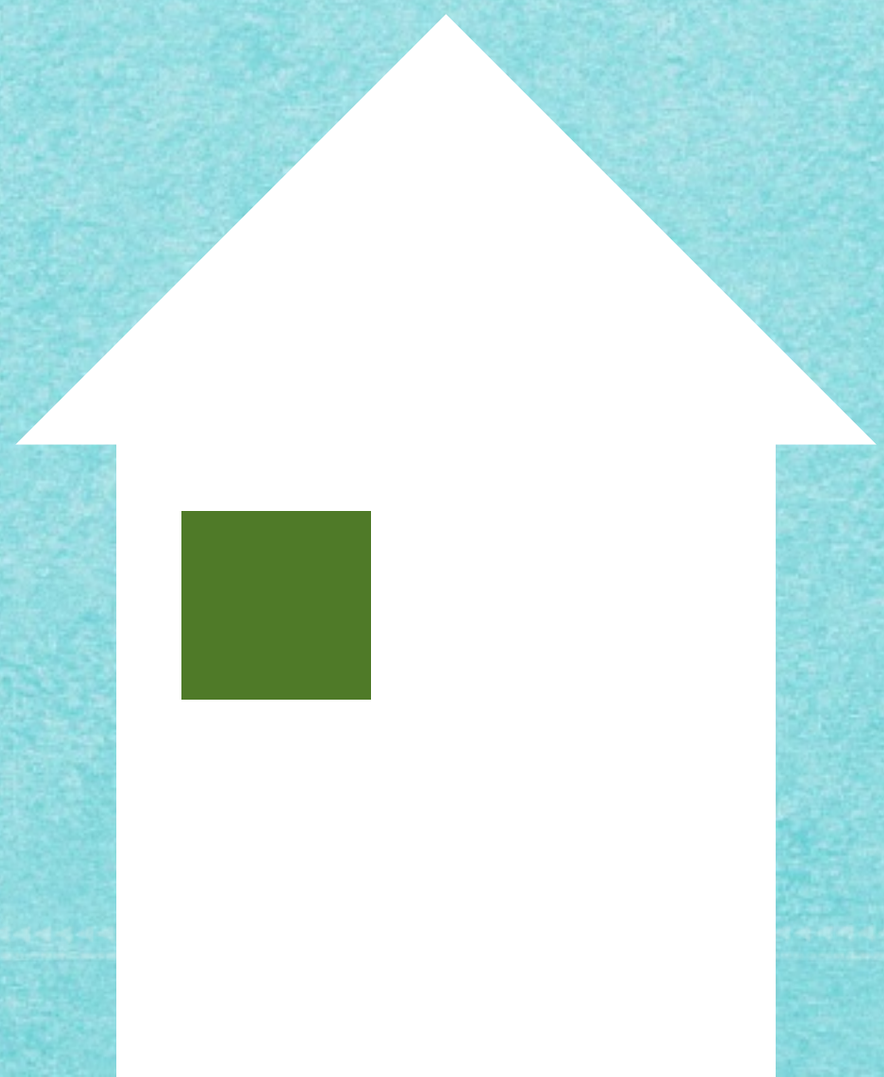
draw a square

Instructions

draw a triangle on top of the square, and make sure they are connected

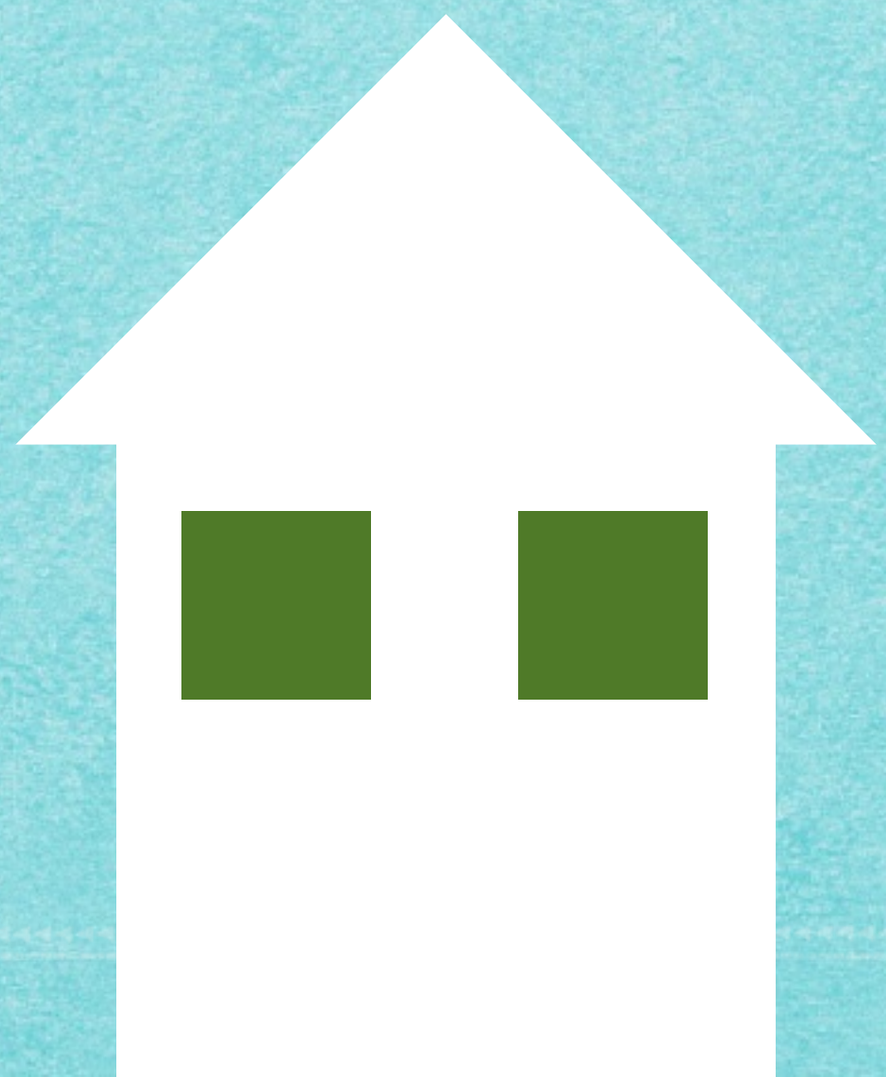
Instructions

draw a small square in the top left corner of the larger square, and make sure that it does not touch the edges



Instructions

draw a small square in the top right corner of the larger square, and make sure that it does not touch the edges

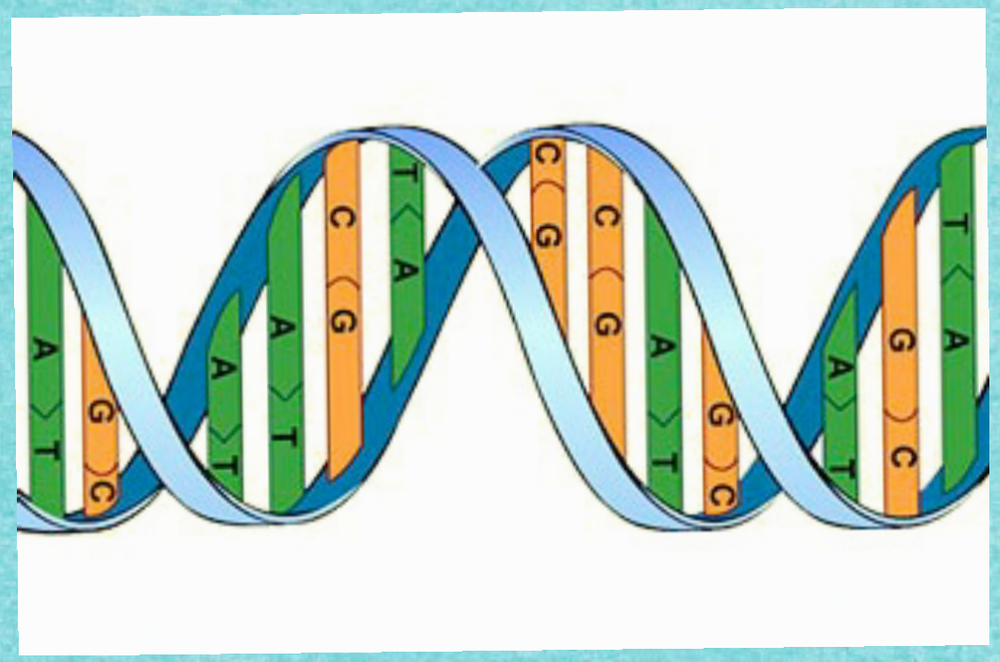


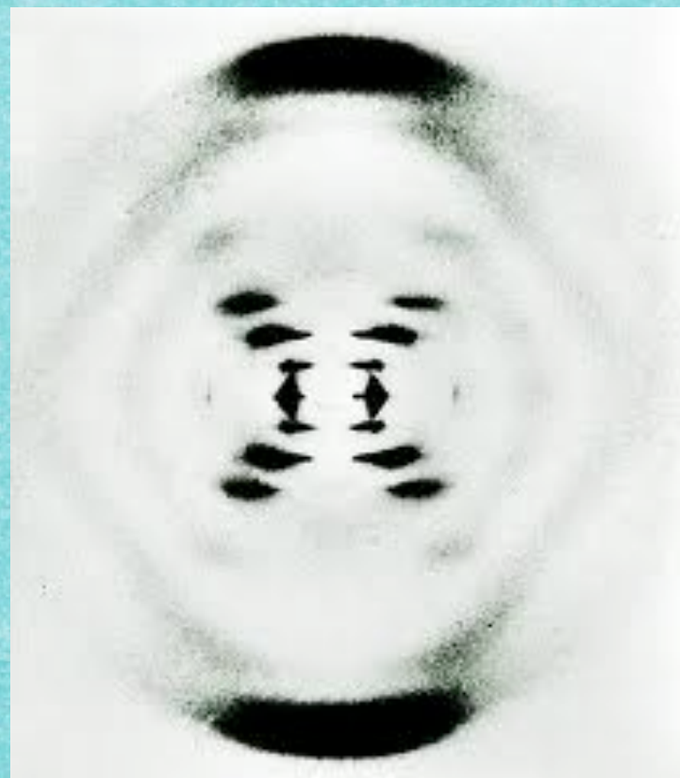
Instructions

draw a vertical rectangle (a rectangle standing up), and make sure that it touches the bottom edge of the larger square

History of DNA

- **DNA**: deoxyribonucleic acid
- ★1953: Watson & Crick discover the shape of DNA using Rosalind Franklin's picture
- two chains joined together and twisted
- double helix (twisted ladder)





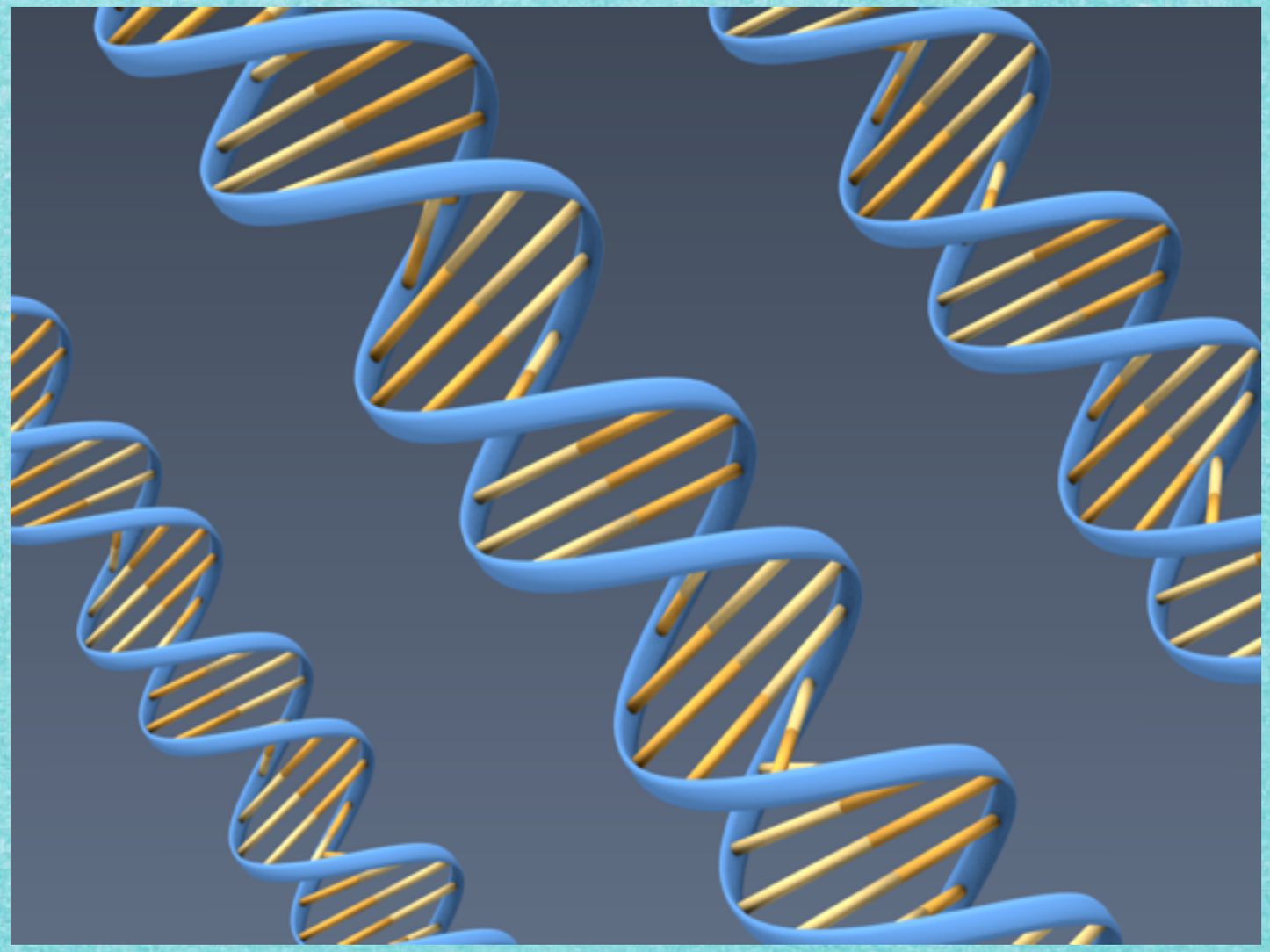
Structure of DNA

- DNA is a macromolecule
- DNA is a nucleic acid made of many nucleotides

Macromolecule Review

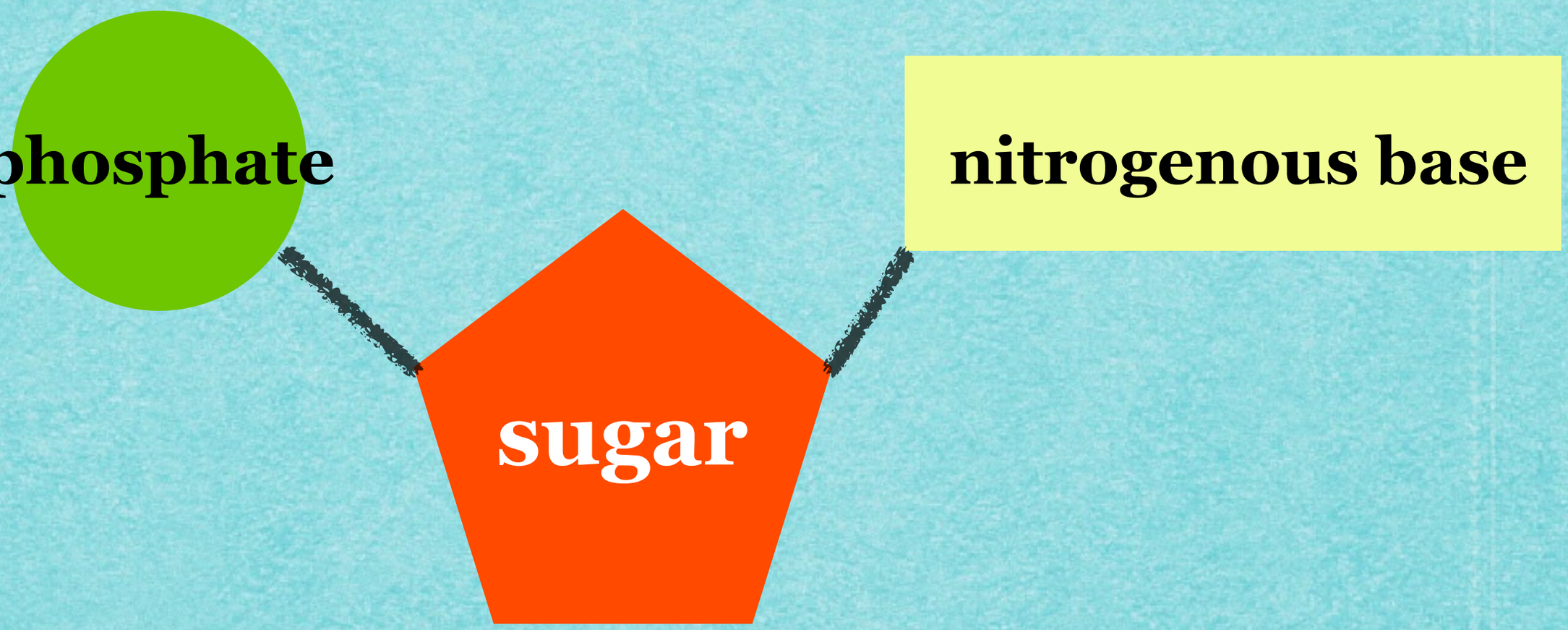
macromolecule: a large molecule made of smaller molecules

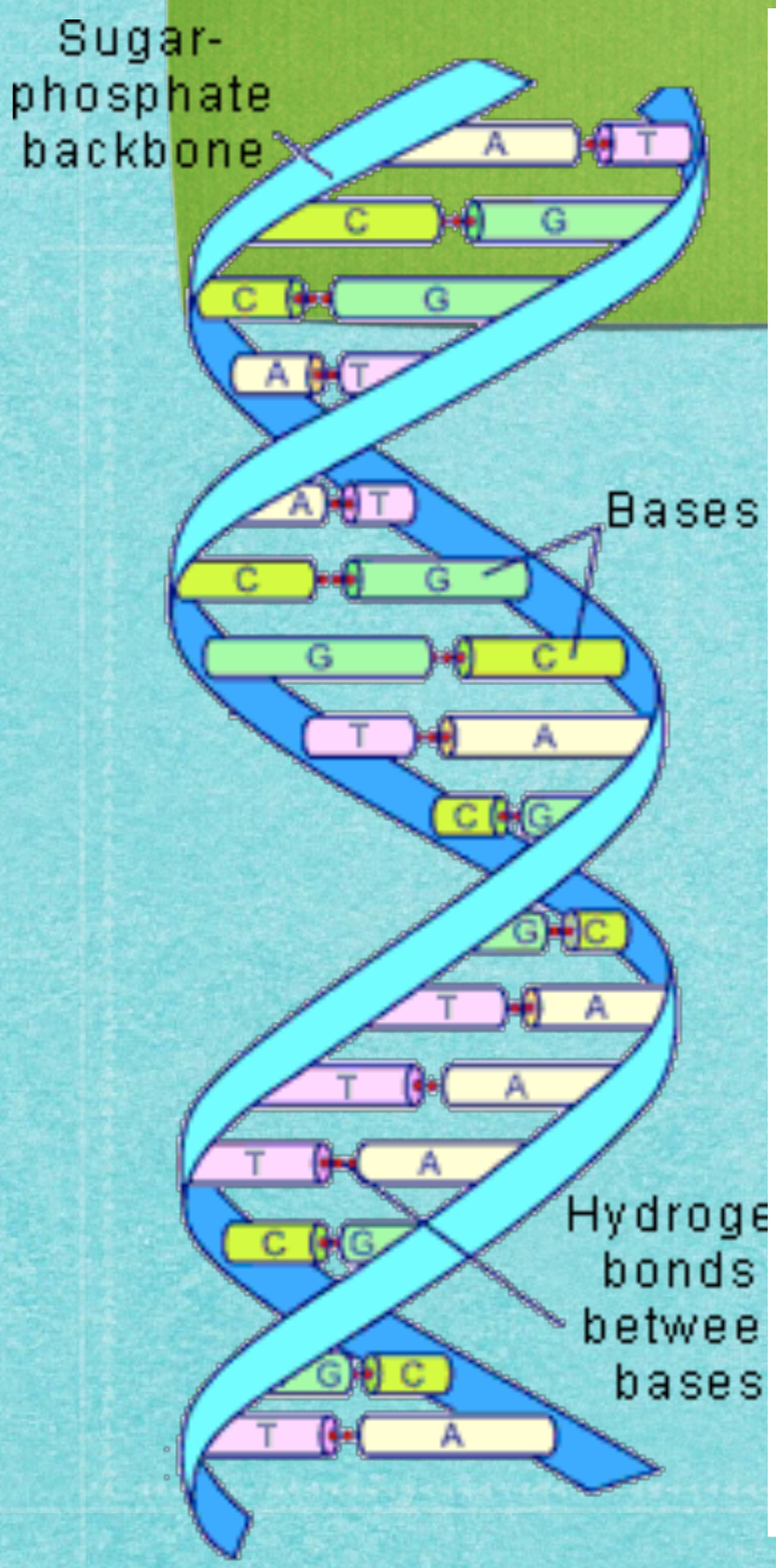
monomer: one building block or unit of a macromolecule

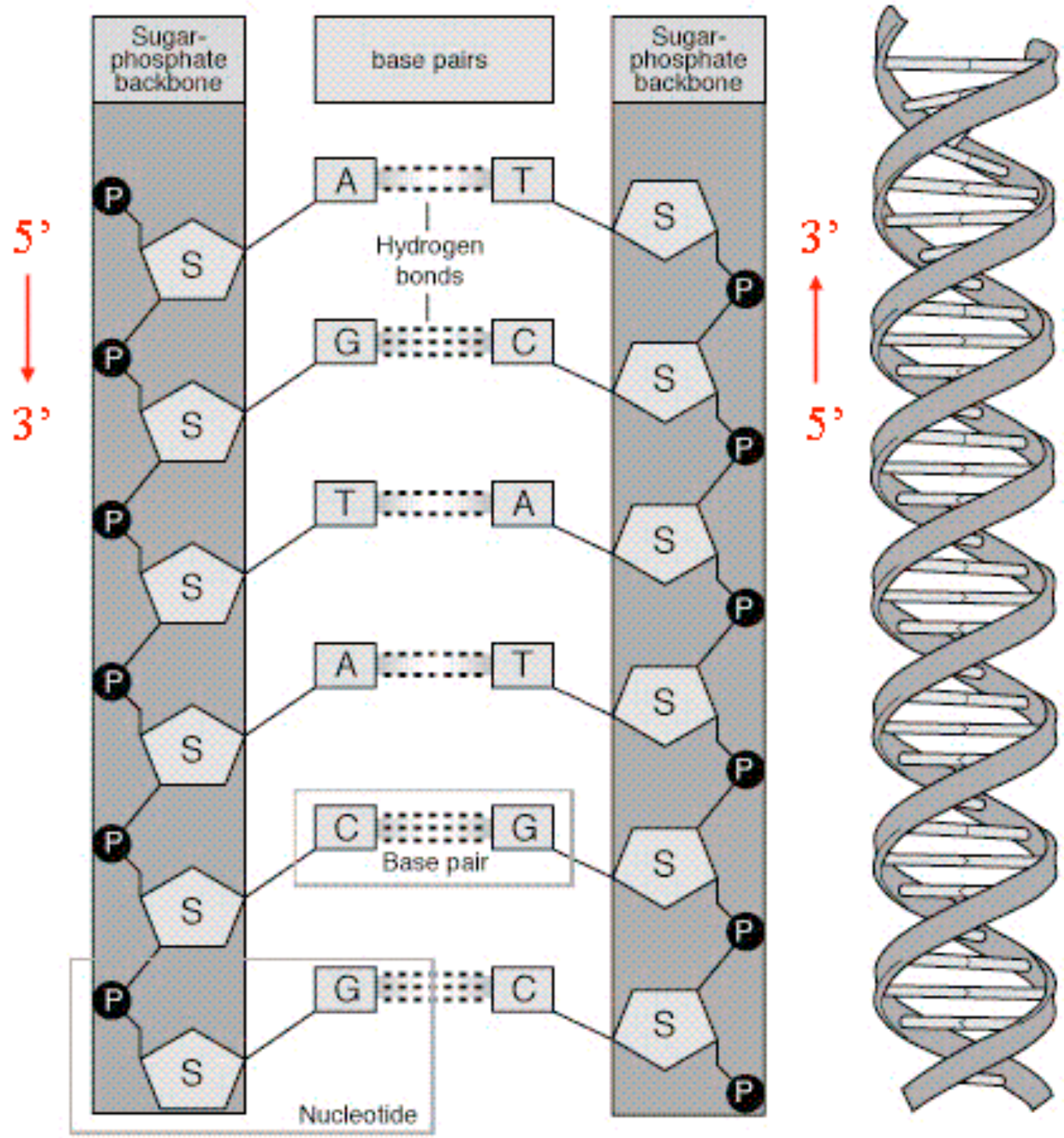


Structure of DNA

- each nucleotide has three parts





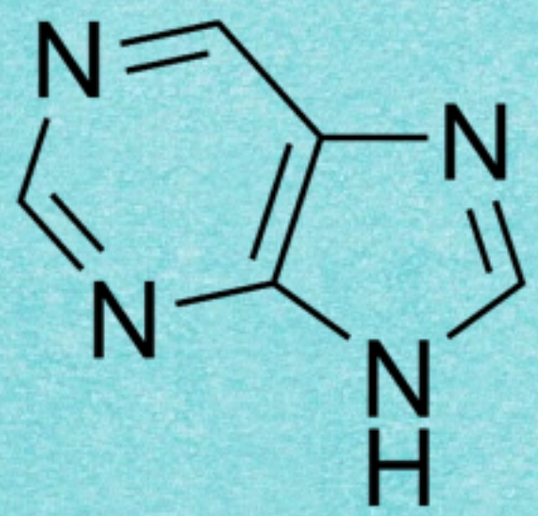


Antiparallel strands

Structure of DNA

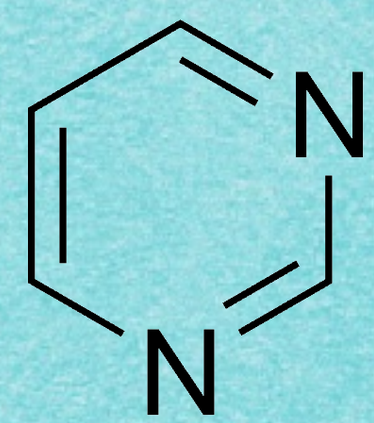
- four different nitrogenous bases:

<u>Purines</u>
- Adenine
- Guanine



double ring

<u>Pyrimidines</u>
- Thymine
- Cytosine



single ring

- A purine always pairs with a pyrimidine
  - **AT & GC**

Structure of DNA

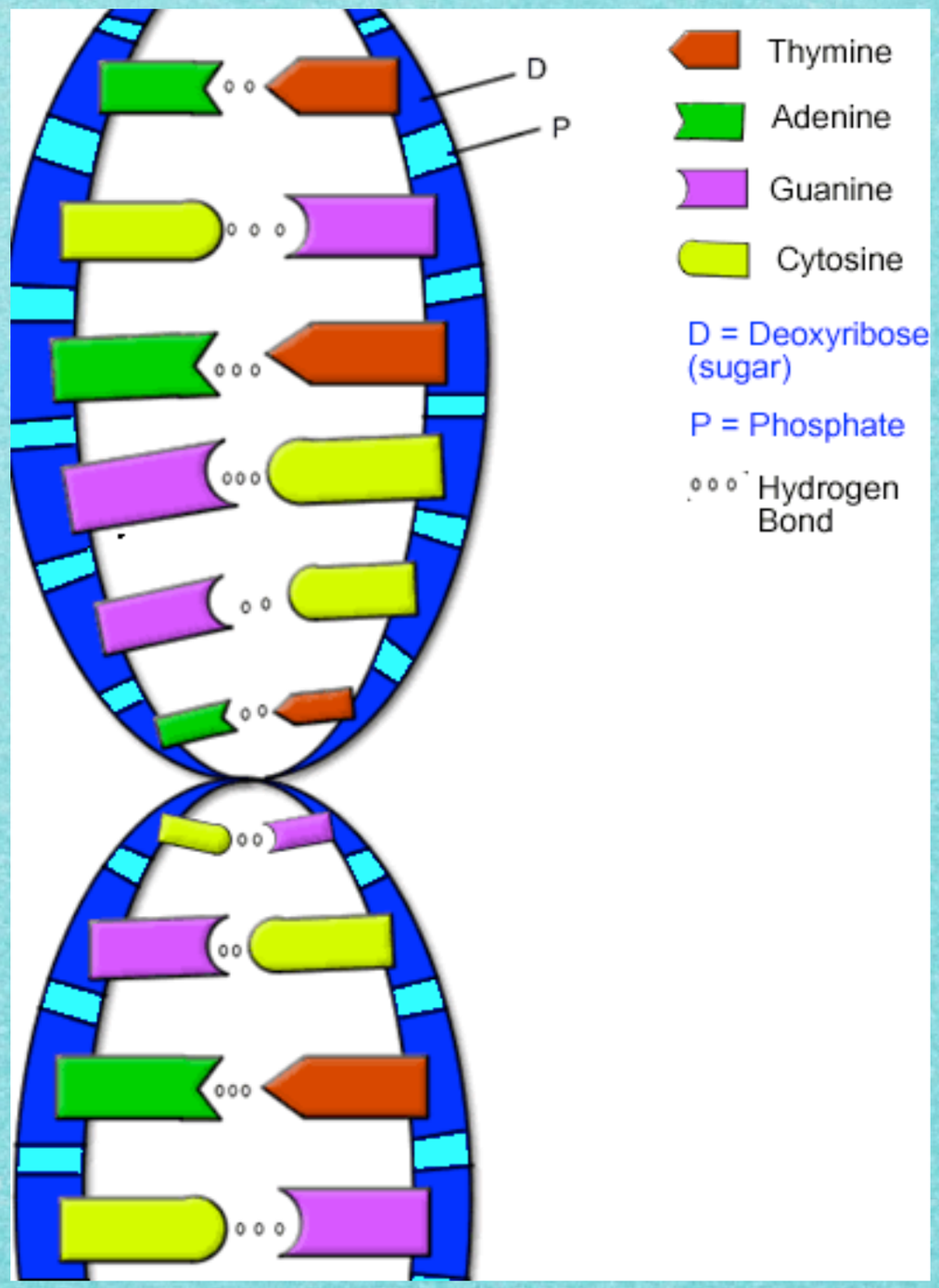
- 2 complementary strands are bonded together to form DNA

ACAGG TCCAG

TGTCC AGGTC

GATAC CGATC

CTATG GCTAG



Function of DNA

- DNA **codes** and **transmits** genetic information
- nucleotide sequences from genes code for traits and proteins
- DNA is copied and transmitted to new cells

Review Questions

1. What does DNA stand for?
2. Who discovered the shape of DNA?
3. What term is used to describe the shape of DNA?
4. What macromolecule is DNA an example of?
5. What is the monomer of DNA?
6. What are the three parts of this monomer?
7. What are the four different nitrogenous bases?
8. What nitrogenous bases always pair together?
9. Why must a purine always pair with a pyrimidine?
10. What is the complementary strand of ATGCCGAATA?
11. What is the complementary strand of? GCGTCATGAA?
11. What is the function of DNA?
12. What do the nucleotide sequences code for?
13. What must happen before DNA is transmitted to a new cell?