Hemingway Name:

Diversity of Living Things

What connects all Living things?

- Organisms live in almost every imaginable habitat in, on and above the Earth's surface.
- The human body is home to _____ of microbes
- The thread that binds all living things and is responsible for the unity and diversity for life is _____

What makes you different from each other? From a flower? From a starfish?

DNA is the foundation of unity and diversity of Living Things

- The _____ in living things we see around us is due to DNA.
- DNA is made of many _____ linked together in a specific order.
- DNA exists in _____, which contain thousands of genes.
- The structure of DNA is important to _____ on information.
- The different genetic make-up of organisms is reflected in the _____ of living things.

What do all of these pictures have in common?

- In groups of 3, try to identify at least 3 things that all of these pictures have in common
    1.
    2.
    3.

Characteristics of Living Things

- Made up of _____
- Use/obtain _____
- _____
- _____

Hemingway Name:

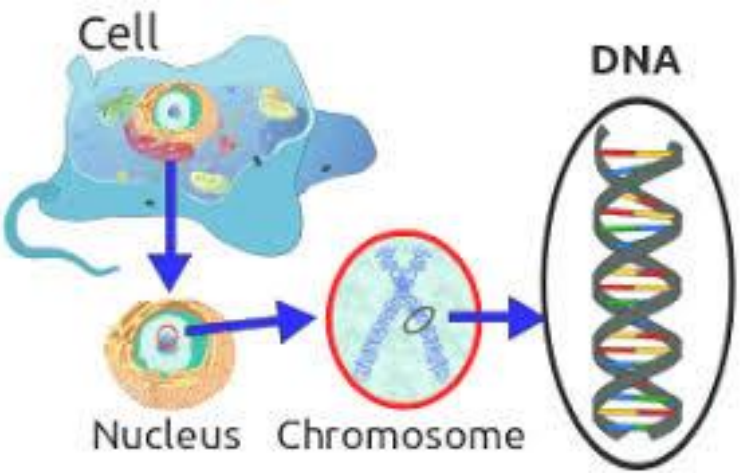
- _____to Stimuli
- _____ over time
- Have a universal_____ code

The variation we see in life is due to DNA

- All _____things have DNA.
- _____ among all organisms are due to DNA.

DNA

- **DNA:** _____
- Genetic material
- _____ genetic information
- Influences _____ and life _____
- _____ in DNA result in variations in characteristics and allow organisms to exist in diverse aquatic and terrestrial ecosystems.



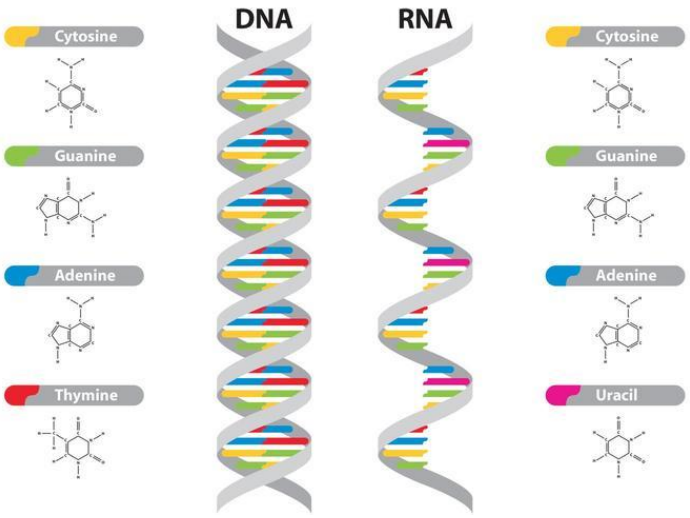
Why is Variation Important?

- A _____ecosystem is one where there is lots of different types of species and lots of variation among species.
- With a partner, discuss why this is, and why variation is important.

Hemingway Name:

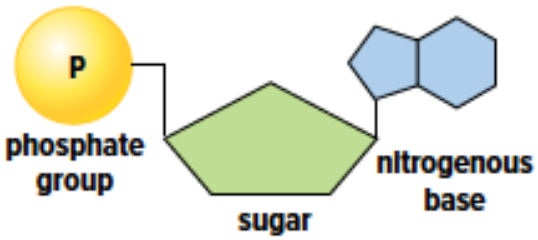
DNA is made of many nucleotides linked together in a specific order

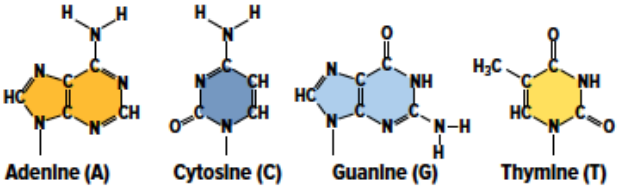
- _____ are the basic building blocks of nucleic acids.
- There are two types of nucleic acids:
  - _____ (deoxyribonucleic acid)
  - _____ (ribonucleic acid)



The Structure of DNA

- **Nucleotides** consists of _____components:
  - a _____ group
  - a _____
  - a nitrogenous _____



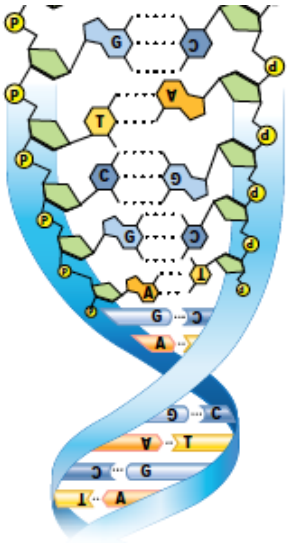


Nitrogenous bases in DNA include:

- _____(A)
- _____ (C)
- _____(G)
- _____(T)

Complementary Base Pairing

- Nitrogenous bases that pair together are_____ **bases:**
- _____
- _____



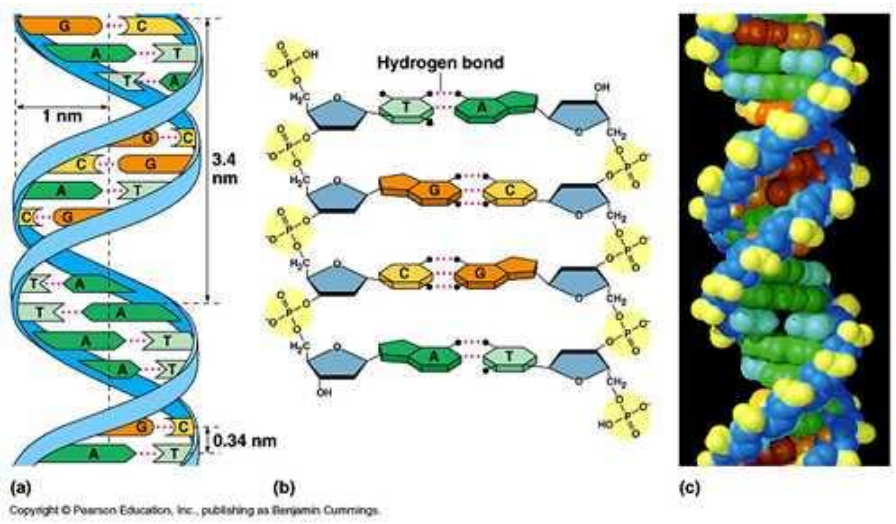
Question!

If the bases on one strand of DNA are ATGGGCTA, what is the sequence of complementary bases on the other strand of DNA?

Hemingway Name:

Characteristics of the DNA molecule:

- _____ strands of nucleotides
- Twisted ladder (_____) structure
- _____ of ladder made up of sugar and phosphate groups
- _____ of ladder is made of two nitrogenous bases held together by _____ (weaker than covalent/ionic bonds)



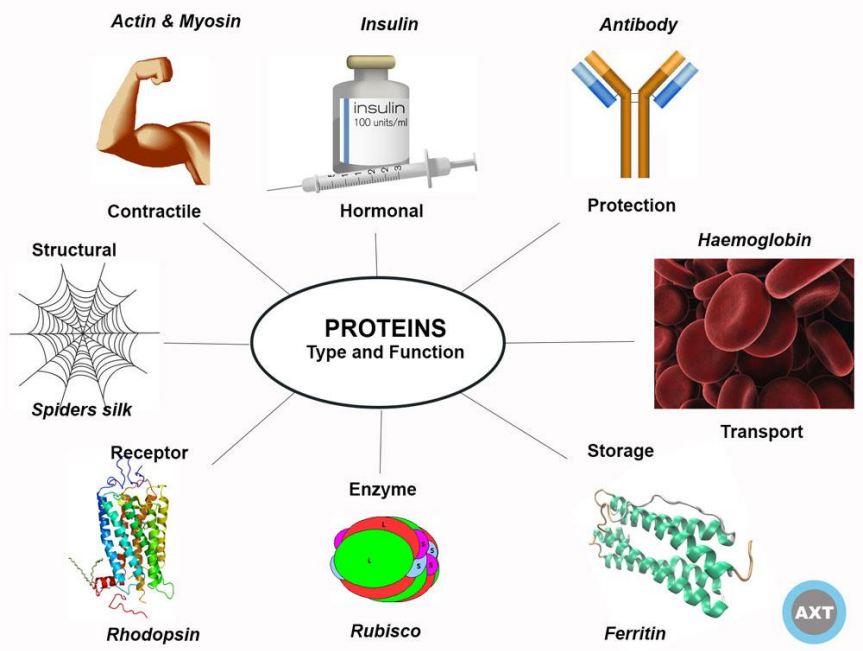
- Colour/Identify the Following:
  - DNA MOLECULE
  - Nucleotides
  - Complementary Base Pairing

Function of DNA

- DNA stores genetic information.
- Parents pass their DNA on to their_____

What DNA Codes for

- DNA tells each cell which _____ to make and how to make them
- **Proteins** are essential for _____



  - Make up much of the_____ of cells in all organisms
  - Make up_____ in plants and animals
- Various proteins control how a cell is _____and how it_____
- Instructions provided by DNA are responsible for the _____ of an organism

Genome

- A _____ of DNA is called a **genome**
- Human Genome consists of over _____ base pairs
- Found in the _____ in almost every cell in the human body.