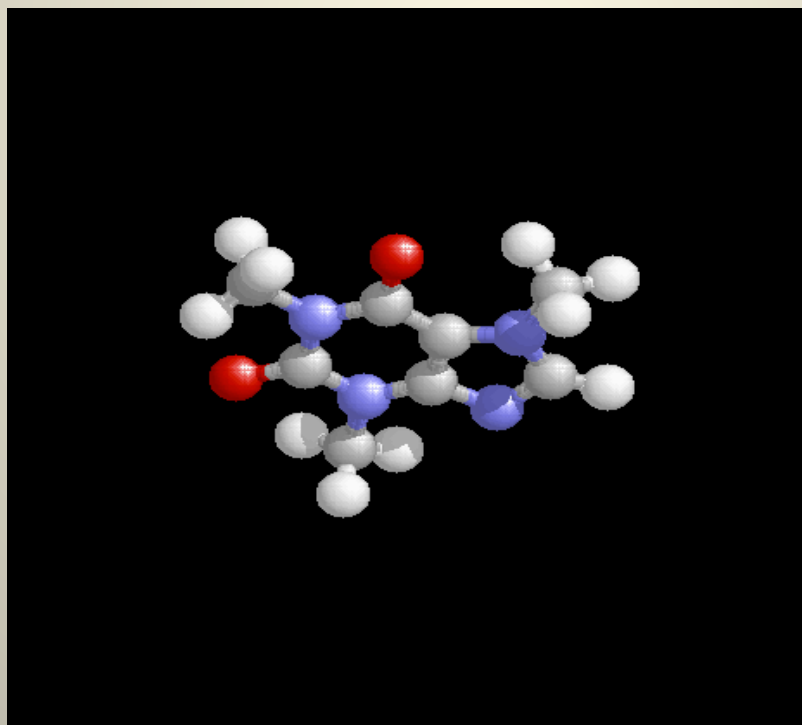


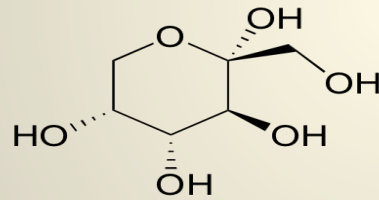
# Ch 2-3: Carbon Compounds

Essential Question:

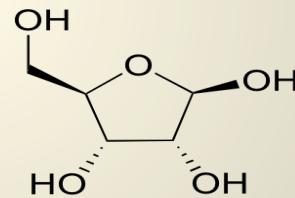
- What are the functions of each group of organic compounds?



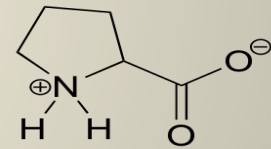
- Macromolecules
  - “giant molecules”
  - Smaller units (*monomers*) join to form larger units (*polymers*)
  - 4 groups of organic compounds are found in living things



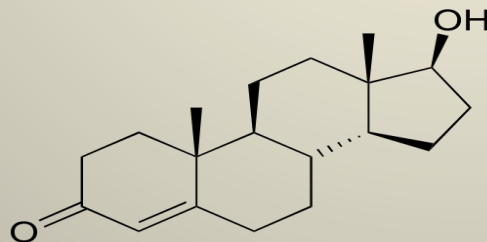
fructose



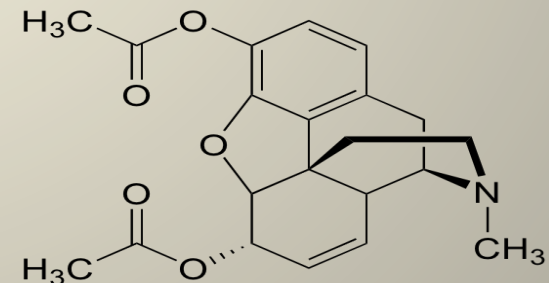
ribose



proline



testosterone



heroin

- Carbohydrates

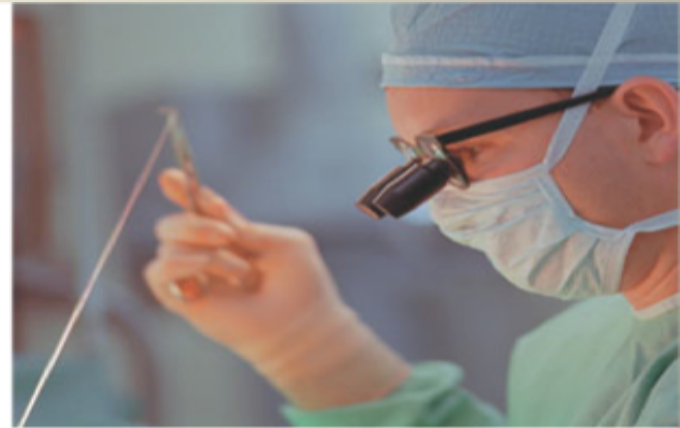
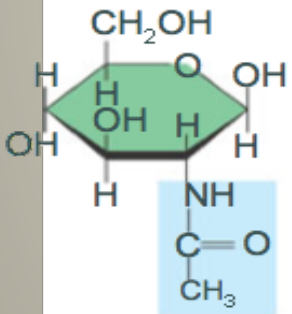
- C, H & O

- Fuel & building material

- Sugars broken for energy

- Glucose chains make glycogen, starch

- Sugar chains make cellulose, chitin (exoskeleton)



**(a)** The structure of the chitin monomer.

**(b)** Chitin forms the exoskeleton of arthropods. This cicada is molting, shedding its old exoskeleton and emerging in adult form.

**(c)** Chitin is used to make a strong and flexible surgical thread that decomposes after the wound or incision heals.

# • Lipids

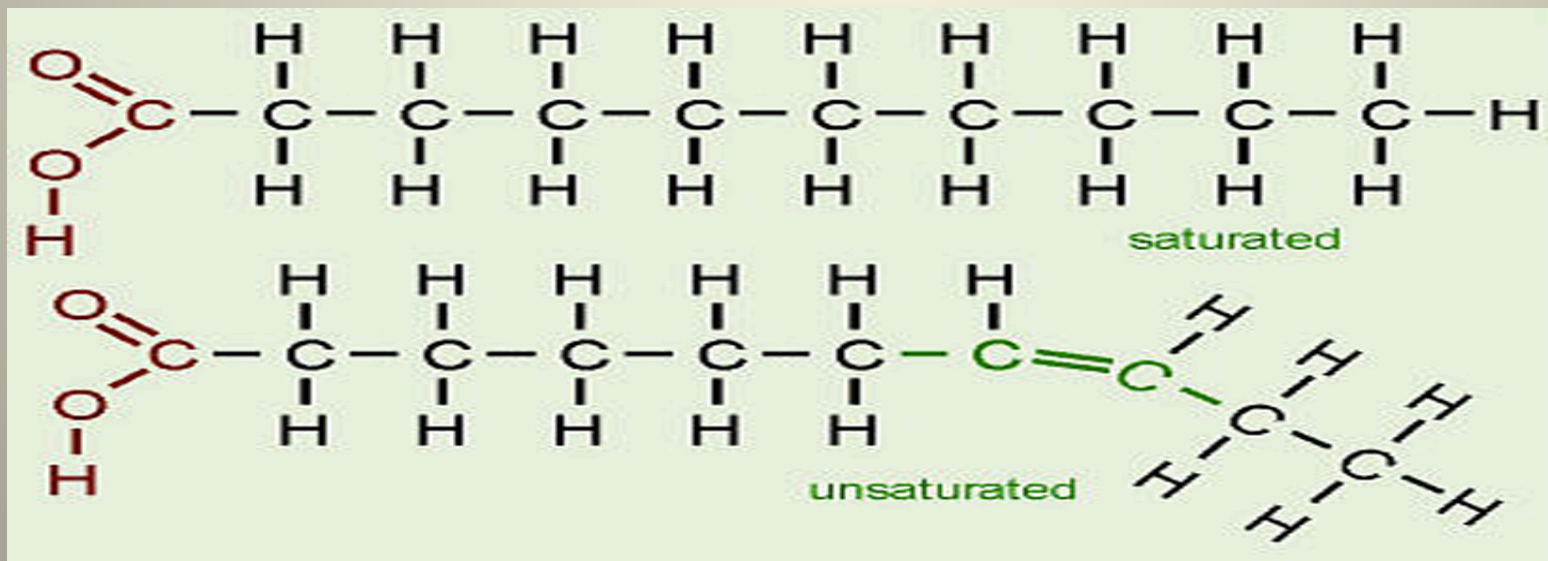
## – Uses:

- Long term energy storage
- Insulation
- Bouyancy

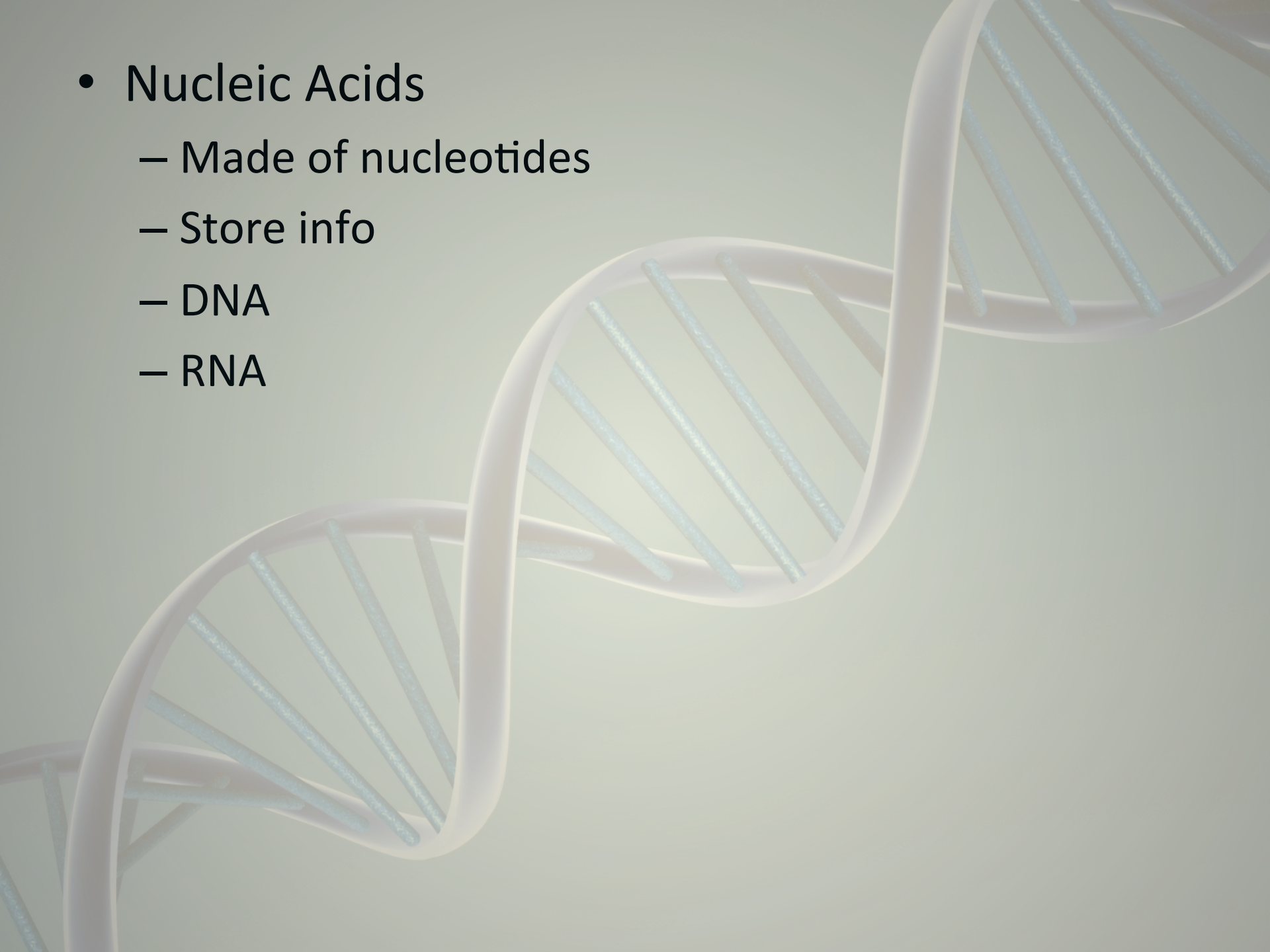
## – Include long hydrocarbon chains

- Hydrophobic

## – Saturated, unsaturated



- Nucleic Acids
  - Made of nucleotides
  - Store info
  - DNA
  - RNA



- Proteins

- Made of amino acids connected by: covalent bond
- 20 different a.a.
- Control rates of reactions
- Regulate cell processes
- Form bones & muscles
- Transport stuff in/out of cells
- Fight disease

