

Cut along solid lines
Fold along dotted lines

Macromolecules

This is the inside of the
foldable

Lipids

Cut along solid lines
Fold along dotted lines

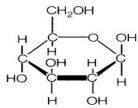
Nucleic acids

Carbohydrates

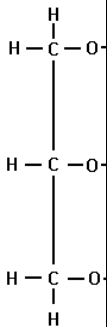
This is the outside of the
foldable

Proteins

Elements: Carbon, Hydrogen, Oxygen (carbon & water)

	Name	Structure	How used in organism
Monosaccharides	Simple Sugars Glucose fructose galactose	All can be carbon chains or rings, $C_6H_{12}O_6$ 	cellular energy
	Disaccharides Sucrose Lactose Maltose	<i>Formed by condensation</i> 	Broken down into single units to for energy
	Polysaccharides Starch Glycogen Cellulose & Chitin	Long chains of glucose & branched chains of glucose Densely branched chains of glucose Long straight chain of glucose, chitin has branches of nitrogen	Energy storage for plants Energy storage for animal & fungi Structural-cell walls, fiber, wood

Elements: Carbon, Hydrogen and much less Oxygen

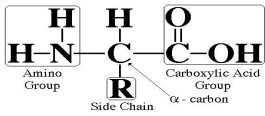
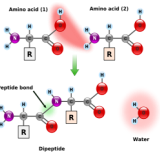
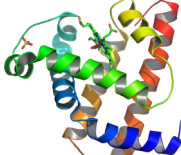
TRIGLYCERIDE (would contain only one type of fatty acid)		How used in organism
Glycerol (Polar head)	Fatty Acids (Non-Polar tails)	Lipids include oils, waxes and sterols Insulation, hormones, protective coverings, long-term energy storage
	Saturated Fat No double bonds Animal fat, Coconut oil Solid at room temp.	
	Unsaturated Fat One double bond Most plant oils Liquid at room temp.	
	Polyunsaturated Fat More than one double bond Plant Oils-walnut, corn sunflower	

Sample

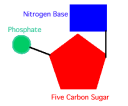
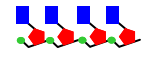
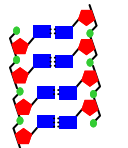
Macromolecules

This is the inside of the foldable

Elements: Carbon, Hydrogen, Oxygen and Nitrogen

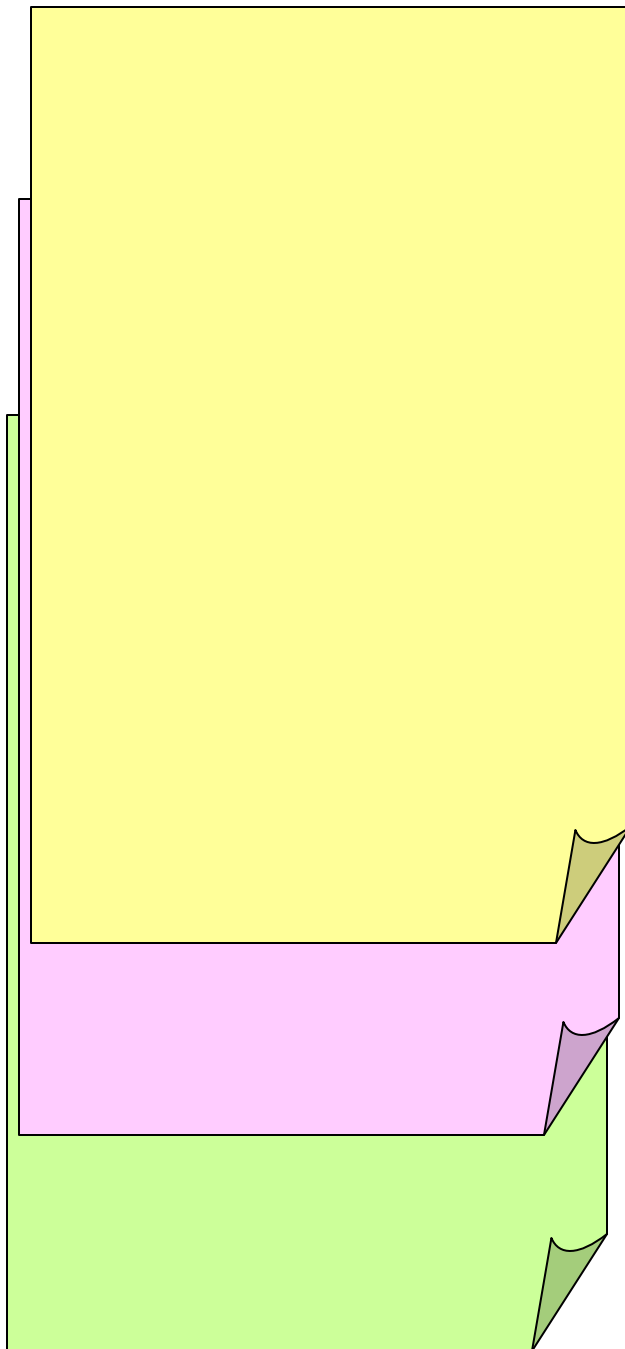
	Name	Structure	How used in organism
monomer	Amino acids There are 22 naturally occurring amino acids	http://www.hcc.mnscu.edu/chem/Y.27/page_id_17100.html 	Building block of proteins
	Polypeptide Chain (amino acid sequence)	 Peptide bonds join 2 amino acids through condensation. Polypeptide chains twist because of hydrogen bonds. http://en.wikipedia.org/wiki/Amino_acid#Standard_amino_acids	Support/Structural-cartilage, skin, ligaments Movement-muscles Enzymes-biological catalysts Defense-pigments, antibodies
	Protein Structure	More than one polypeptide chain, twisted and folded together. http://upload.wikimedia.org/wikipedia/commons/6/60/Mvoglobin.png 	

Elements: Carbon, Hydrogen, Oxygen, Nitrogen and Phosphorus

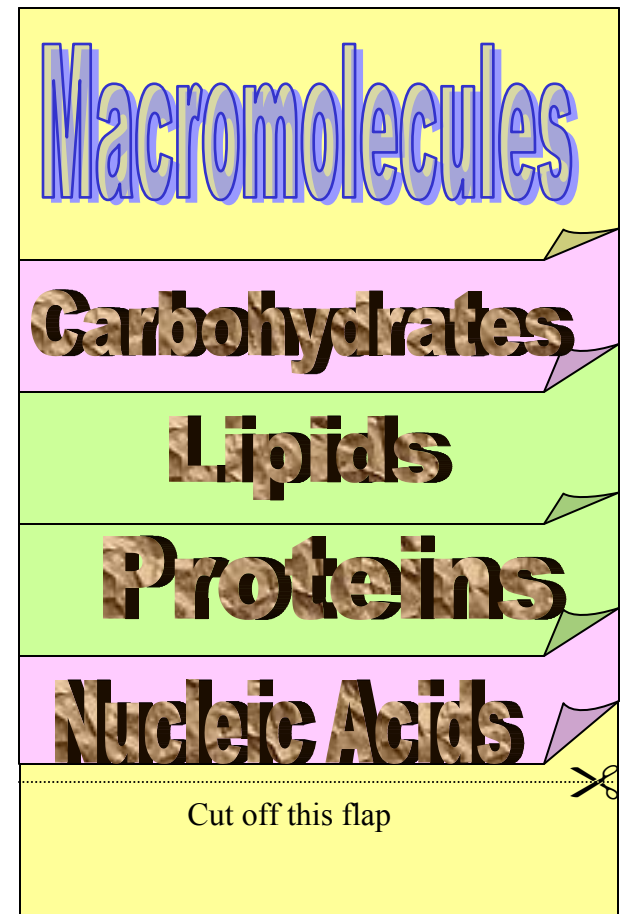
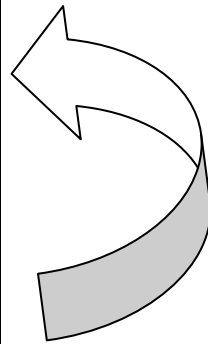
	Name	Structure	How used in organism
Monomer	Nucleotides	 Contains a five carbon sugar, a phosphate group and a nitrogenous base http://staff.jccc.edu/bdlesell/biochemistry/nucleotides.html	Building block of nucleic acids (found in the nucleus of cells)
	RNA 5-carbon sugar is ribose	 A single nucleotide chain	Translates the genetic codes into proteins
	DNA 5-carbon sugar is deoxyribose	 Two nucleotide chains form the Double Helix - Backbone consists of the phosphorus & ribose group - Hydrogen bonds hold the nitrogen bases to form the "rungs" of the ladder	Found in the nucleus Genetic code Regulates the activities of the cell

Alternative to Foldable

If you prefer to have more space for the students to draw. Try a Layered tent fold with 3 sheets of paper.



Fold down to create 6 layers
Have students label the macro-
molecules and write information
under the flap.



Cut off this flap