Components of the Human Diet

Nutrients are:

_____ comes from carbohydrates, proteins, and fats

Units for food calories are _____ or _____ (1kcal-4.18kJ)

_____ are polymers of _____ and _____.

They can be _____ or _____

_____ fats are particularly unhealthy

Sodium (salt) Keep it _____.

_____ are polymers of _____ (an energy source)

Absorbed easily into the _____

Dietary fibre (_____) can't be digested (healthy)

_____ are polymers and sources of _____.

They are used to _____.

Average nutrition facts:

serving size 1 Big Mac (214 g)	
total calories 520	
	% daily value*
total fat 27 g	**41%**
saturated fat 9 g	**47%**
trans fat 1 g	
cholesterol 75 mg	**25%**
sodium 1 g	**42%**
total carbohydrates 45 g	**15%**
dietary fiber 3 g	**13%**
sugar 8 g	
protein 26 g	**52%**

vitamin A 8%	vitamin C 1%
calcium 26%	iron 25%
thiamin 26%	riboflavin 27%
niacin 38%	vitamin B12 32%
folate 26%	phosphorus 27%
magnesium 11%	zinc 28%

*percent daily values are based on a 2000 calorie diet

(averaged over different types of McDonald's Big Mac)

_____ are organic compounds that are essential in small amounts

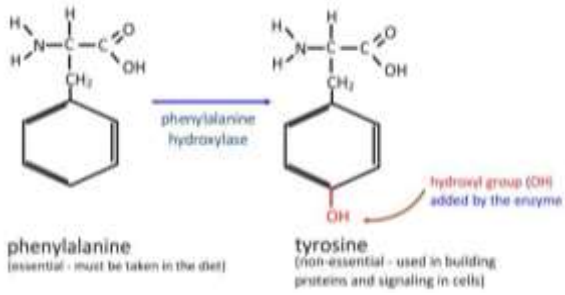
_____ are _____ ions (elements) that are also essential

Essential Nutrients	Non-essential Nutrients

Amino Acids

Number amino acids_____. Number that can't be synthesized_____. These are referred to as _____.

_____ can be produced from others, using _____. All reactions in living things (_____) are controlled by _____. Remember that _____ pathways are chains or cycles of _____ reactions



Nutrient deficiency is a term used to describe a situation in which

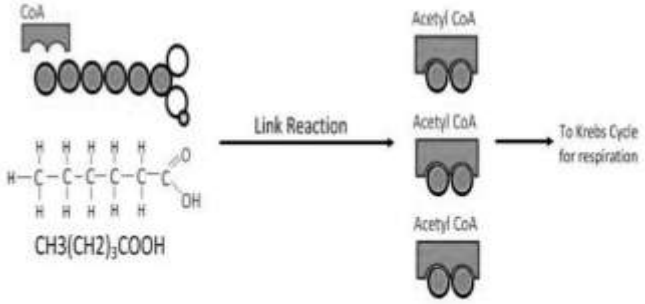
a.

b.

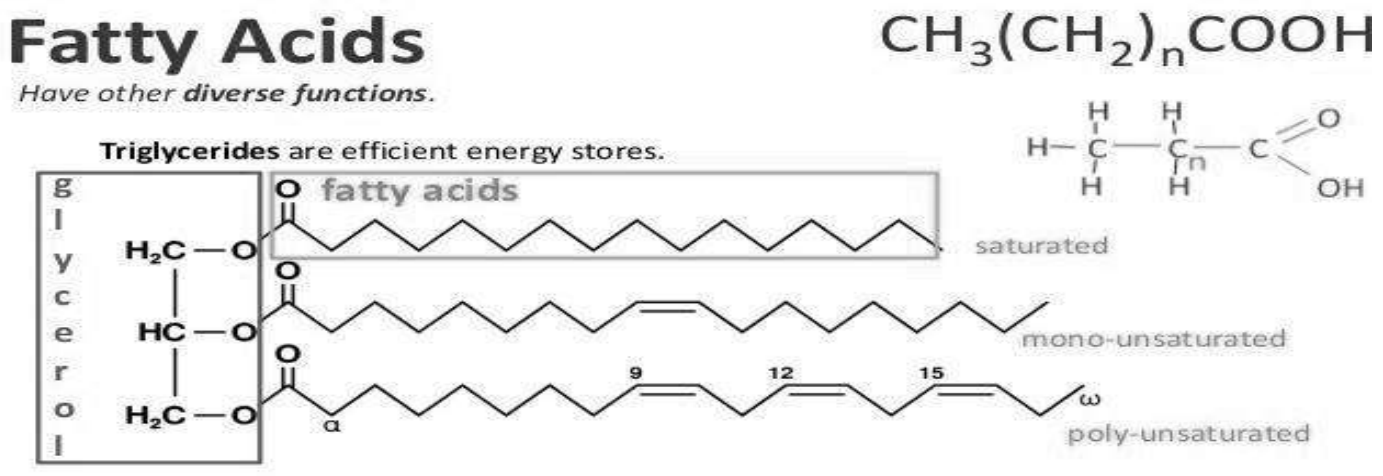
Outline Kwashiorkor and PKU

Fatty Acids

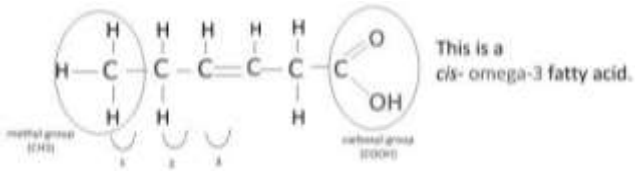
Fatty acids are the monomer of _____. They are made up of a _____, _____, and a _____ chain. The function of fatty acids is a _____. If you remember, the metabolism of fatty acids in cell respiration skips _____. Coenzyme A cuts off carbon atoms in the link reaction and carries them to the _____.



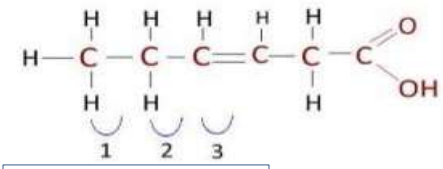
Saturated fatty acid	Unsaturated fatty acid



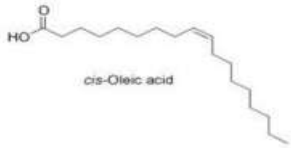
Omega end – the omega-number tells the location of the _____ from the methyl group. These are found in unsaturated fatty acids



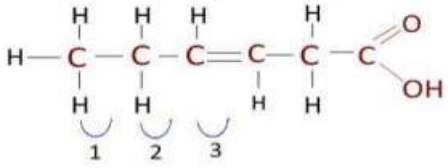
a *cis*- omega 3 fatty acid



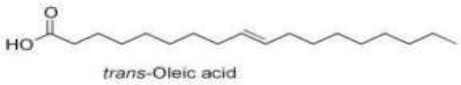
e.g. olive oil



a *trans*- omega 3 fatty acid

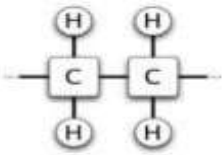


e.g. margarine (hydrogenated vegetable oil)



What are the different types of fatty acids? Complete the diagram here

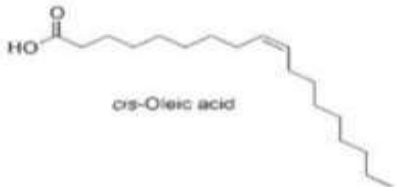
Saturated: no double bond



Unsaturated: double bond

Mono = Poly =

cis

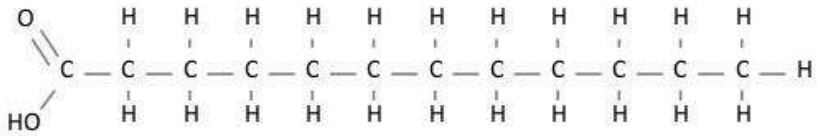


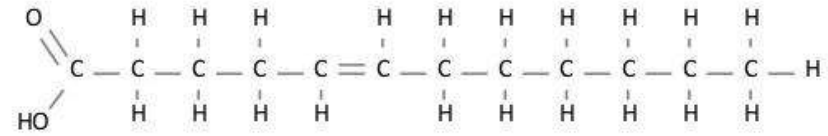
trans

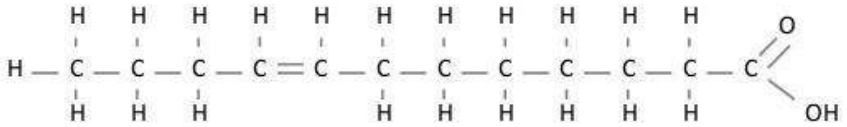
Draw out the key to fat:

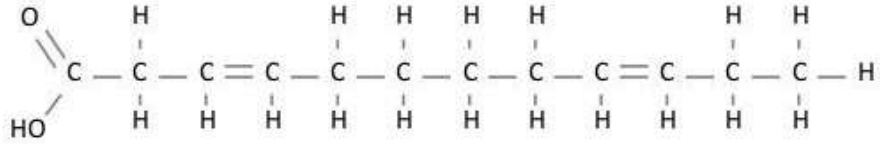
Describe these fatty acids

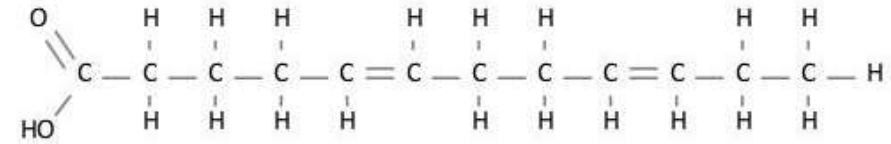
Saturated, mono-unsaturated or poly-unsaturated?
If they're unsaturated, what's their omega-number?
Are the unsaturated fatty acids *cis*- or *trans*-fats?

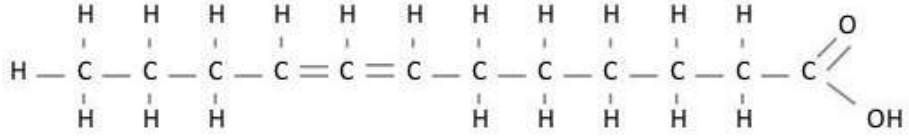












Fibre

Outline the importance of fibre as a component of a balanced diet.

Vitamins and Minerals

Minerals are _____

Vitamins are _____

Complete the table

Vitamin	Function	Source
A		
B		
C		
D		
Iodine		

Outline how the risk of vitamin D deficiency from insufficient exposure to the sunlight can be balanced against the risk of contracting malignant melanoma

Iodine is an avoidable and cheap food supplement. Iodine is used by the _____ gland to produce _____. Iodine deficiency blocks _____ to the _____, resulting in a _____ or severe swelling of the gland. The simplet solution is _____.

Vitamin C is another important vitamin. It will:

RDI is the recommended daily intake of a nutrient set by government health bodies and the W.H.O. To determine how much vitamin C a person needs, there are two main techniques of experimentation. Describe them. Include the RDI for vitamin C

Outline claims that higher intake give protection against upper respiratory track infections and the danger of rebound malnutrition

Artificial dietary supplements are used when _____ does not meet the _____ and _____ demand. Give examples of how this demand is met?

Complete the table from pg 219

Nutrient	Common source	Effect on the body