



National

Chemistry Quizzes

Nature's Chemistry

Quick Quiz 1 - Fires

1. The diagram which shows what is needed to keep a fire going is called

- A the fuel triangle
- B the fire triangle
- C the fire pyramid
- D the fire triad

2. What is needed to keep any flame burning

- A fire oxygen and heat
- B fuel heat and wood
- C fuel oxygen and heat
- D petrol heat and oxygen

Use the following answers

- A removes the heat
- B removes the fuel
- C removes the oxygen

3. Why does water put out a fire?

4. Why does a carbon dioxide put out a fire?

5. Why does sand put out a fire?

6. Why cutting down trees stop a fire from spreading?

Use the following answers

- A sand
- B water
- C carbon dioxide

7. What type of fire extinguisher should not be used on a petrol fire?
8. What type of fire extinguisher would be best to put out an outdoor wood fire?
9. What type of fire extinguisher would be best to put out an outdoor oil/petrol fire?
10. What type of fire extinguisher would be best for an indoor electrical fire?

Quick Quiz 2 - Fires and fuels

Use the following answers for the following questions.

- A the heat is taken away
- B the oxygen supply gets cut off
- C the fuel runs out
- D none of the above

1. A piece of wood in a fire will eventually stop burning because
 2. Covering a fire with a fire blanket puts it out because
 3. Forest fires are prevented from spreading by leaving wide gaps between trees. This works because
 4. Putting a damp towel on a chip pan fire puts it out because
-
5. What percentage of the air is oxygen?
 - A 20%
 - B 79%
 - C 1%
 - D 32%
 6. What percentage of the air is nitrogen?
 - A 20%
 - B 45%
 - C 79%
 - D 1%
 7. What gas in the air is used up when a fuel burns?
 - A nitrogen
 - B carbon dioxide
 - C oxygen
 - D noble gases

Quick Quiz 3 - endothermic and exothermic and fossil fuels

1. A fuel is a substance that
 - A forms toxic gases when it reacts
 - B contains a store of light energy
 - C contains a store of chemical energy
 - D contains a store of heat energy

2. Which natural reaction captures energy from the sun and stores it into chemical bonds?
 - A burning
 - B photosynthesis
 - C neutralisation

Use the following answers

- A endothermic
- B exothermic

3. What type of chemical reaction releases energy?
4. What type of chemical reaction takes in energy?
5. Burning wood is an example of what type of reaction?
6. Photosynthesis is an example of what type of reaction?
7. The combustion of petrol is an example of what type of reaction?

8. Coal was formed millions of years ago from
- A rocks
 - B trees and plants
 - C mud
 - D sea creatures
9. Oil was formed millions of years ago from
- A rocks
 - B trees and plants
 - C mud
 - D sea creatures
10. Why are fossil fuels often called finite resources?
- A They contain an element called finite
 - B They were made from fossils called fines.
 - C Companies can be fined if they burn too much.
 - D They will eventually run out

Quick Quiz 4 – alternative energy sources

Use the following answers for the following questions

- A oil
- B wood
- C methane
- D hydrogen
- E coal
- F ethanol

1. Which letter shows an extremely light and flammable fuel?
2. Which letter shows the main chemical in natural gas?
3. Which letter shows the main chemical in biogas?
4. Which letter shows a black liquid that is made from sea creatures?
5. Which letter shows a fuel that is a black solid?
6. Which letters shows a fuel that can be made from sugar cane?
7. Which letter is the reason why brandy catches fire on a Christmas pudding?
8. What is the correct statement about oil?
 - A it is made from plants thousands of years old
 - B it is made from plants millions of years old
 - C it is made from plants hundreds of years old
 - D none of the above
9. What is the correct statement about coal?
 - A it is made from plants thousands of years old
 - B it is made from plants millions of years old
 - C it is made from plants hundreds of years old

D none of the above

10. Wind is

- A a fuel
- B a non-renewable energy source
- C a renewable energy source
- D always happening

Quick Quiz 5 - burning hydrocarbons low air

1. Crude oil is-:

- A A pure hydrocarbons
- B A carbohydrate
- C A mixture of hydrocarbons
- D A renewable fuel

2. The most correct definition of a hydrocarbon is

- A is a mixture containing hydrogen and carbon
- B is a mixture containing only hydrogen and carbon
- C is a compound containing only hydrogen and carbon
- D is a compound containing hydrogen and carbon

Use the answers below for questions 3-8

- A red
- B blue
- C white
- D yellow
- E black
- F green

3. In a model kit, the carbon atoms are usually

4. In a model kit, the nitrogen atoms are usually

5. In a model kit, the hydrogen atoms are usually

6. In a model kit the oxygen atoms are usually

7. When a hydrocarbon burns in plenty of oxygen

- A only water is made
- B only carbon dioxide is made
- C water and carbon dioxide is made
- D a gas is produced that does not change limewater

8. When a hydrocarbon burns in a low supply of oxygen

- A this is complete combustion and it produces carbon dioxide
- B this is complete combustion and it produces carbon monoxide
- C this is incomplete combustion and it produces carbon dioxide
- D this is incomplete combustion and it produces carbon monoxide

9. Opening the hole of the bunsen increases the temperature of the flame because the concentration of?

- A methane is higher so the reaction speeds up
- B oxygen is higher so the reaction slows down
- C methane is lower so the reaction speeds up
- D oxygen is higher so the reaction speeds up

10. A fuel was burned and only water was produced. The fuel could have been

- A carbon
- B CH_4
- C H_2
- D CH_3OH

Quick Quiz 6 - Natural balance reactions 1

1. What percentage of the air is oxygen?
A 20%
B 79%
C less than 1%
D 32%
2. What percentage of the air is nitrogen?
A 20%
B 45%
C 79%
D less than 1%
3. What percentage of the air is carbon dioxide?
A 20%
B 45%
C 79%
D less than 1%
4. What gas in the air is used up when a fuel burns?
A nitrogen
B carbon dioxide
C oxygen
D noble gases

5. What gas is produced when a hydrocarbon burns completely?
- A nitrogen
 - B carbon dioxide
 - C oxygen
 - D noble gases
6. What gas is produced by respiration?
- A nitrogen
 - B carbon dioxide
 - C oxygen
 - D noble gases
7. What gas is produced by photosynthesis?
- A nitrogen
 - B carbon dioxide
 - C oxygen
 - D noble gases
8. What gas in the air is used up by respiration?
- A nitrogen
 - B carbon dioxide
 - C oxygen
 - D noble gases

9. What gas is used up by photosynthesis?

- A nitrogen
- B carbon dioxide
- C oxygen
- D noble gases

10. More cars on the roads causes?

- A higher atmospheric carbon dioxide due to complete combustion of fossil fuels
- B lower atmospheric carbon dioxide due to complete combustion of fossil fuels
- C higher atmospheric carbon dioxide due to incomplete combustion of fossil fuels
- D lower atmospheric carbon dioxide due to incomplete combustion of fossil fuels

Quick Quiz 7 - Natural balance reactions 2

1. Too much carbon dioxide in the air causes
 - A holes in the ozone layer
 - B the greenhouse effect
 - C the tornado effect
 - D the Bermuda triangle

2. Carbon dioxide is produced during
 - A complete combustion in lots of oxygen
 - B complete combustion when there is low oxygen
 - C incomplete combustion in lots of oxygen
 - D incomplete combustion when there is low oxygen

3. Carbon dioxide gas
 - A turns universal indicator purple
 - B turns universal indicator green
 - C turns universal indicator blue
 - D does none of the above

4. Carbon dioxide is
 - A a neutral gas
 - B an acid gas
 - C an alkali gas
 - D none of the above

5. The air above a city will have

- A less carbon dioxide than the air above a village
- B more carbon dioxide than the air above a village
- C the same carbon dioxide as the air above a village
- D be cleaner than the air above a village

6. Too much carbon dioxide in the air can cause

- A alkali rain
- B acid rain
- C stronger winds
- D none of the above

7. A hydrogen powered car does not cause pollution because when hydrogen burns

- A it makes carbon dioxide which is a neutral gas
- B it makes water which is an alkali liquid
- C it makes water which is an acid
- D none of the above

Use the following answers for questions 8-10

- A increase carbon dioxide in the air and worsen the greenhouse effect
- B increase carbon dioxide in the air and reduce the greenhouse effect
- C decrease carbon dioxide in the air and worsen the greenhouse effect
- D decrease carbon dioxide in the air and reduce the greenhouse effect

8. Cutting down trees will
9. Planting more trees will
10. Driving instead of walking will

Quick Quiz 8 - Separating oil into fractions

1. Coal, oil and natural gas are called fossil fuels because
 - A fossils can grow in them
 - B they were made from ancient living things
 - C they are out of date in the modern world
 - D cavemen used them for their fires.

2. What is the name of the process that can be used to separate different liquids like the ones in crude oil?
 - A filtration
 - B precipitation
 - C fractional distillation
 - D flotation

3. Why can liquids be separated by fractional distillation?
 - A they have different boiling points
 - B they have different colours
 - C they are different densities
 - D they are different thicknesses

4. What changes of state happen in fractional distillation?
 - A melting followed by freezing
 - B condensation followed by evaporation
 - C boiling followed by melting
 - D boiling followed by condensation

5. What is the most common name of the building where fractional distillation of crude oil happens?

- A fractionating factory
- B fractionating tower
- C distillation tower
- D fractionating plant

Use the following answers

- A top
- B middle
- C bottom

6. Where do the smallest fractions come out of the fractionating tower?

7. Where do the largest fractions come out of the fractionating tower?

Use the following answers

- A petrol
- B diesel
- C kerosine/paraffin
- D bitumen

8. Which fraction is used for aircraft fuel?

9. Which fraction is used to make tar for roads?

10. Which fraction is used as a fuel for trains?

Quick Quiz 9 – Properties of the fractions

1. The fractions from crude oil have different sizes of molecules. Which of the following list shows fractions in order of increasing size?

A refinery gas, kerosine, diesel petrol, bitumen
B refinery gas, petrol, kerosine, diesel, bitumen
C kerosine, diesel, refinery gas, petrol, bitumen

Use the following answers

A petrol
B kerosine
C refinery gas
D bitumen

2. Which fraction would contain molecules which have 3 carbon atoms?
3. Which fraction would contain molecules which have 6 carbon atoms?
4. Which fraction would contain molecules which have 50 carbon atoms?
5. Which fraction would contain molecules which have 2 carbon atoms?
6. Which of the following shows the number of carbon atoms the molecules in the gas fraction could have?
- A $C_{12}-C_{20}$
B C_1-C_4
C C_5-C_8
D $C_{30}-C_{40}$

7. Compared with the petrol fraction, the diesel fraction would

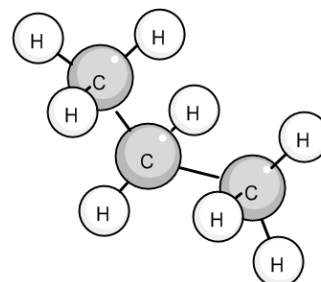
- A evaporate more easily
- B be more flammable
- C be lighter in colour
- D be more viscous

8. The higher the boiling point of the fraction the

- A larger the molecules
- B smaller the molecules
- C more flammable
- D less viscous

9. Which boiling point could this molecule have?

- A around 70°C
- B greater than 300°C
- C around 150°C
- D below 20°C



10. Large molecules have a higher viscosity because?

- A larger molecules have shorter bonds between them
- B smaller molecule have shorter bonds between them
- C larger molecules have stronger bonds between them
- D smaller molecules have stronger bonds between them

Quick Quiz 10 - Number of carbon atoms

Use the answers below for questions 1-10

- A 1 carbon atom
- B 2 carbon atoms
- C 3 carbon atoms
- D 4 carbon atoms
- E 5 carbon atoms
- F 6 carbon atoms
- G 7 carbon atoms
- H 8 carbon atoms
- I 9 carbon atoms
- J 10 carbon atoms

1. What does eth mean?
2. What does hex mean?
3. What does pent mean?
4. What does meth mean?
5. What does but mean?
6. What does prop mean?
7. What does non mean?
8. What does oct mean?
9. What does dec mean?
10. What does hept mean?

Quick Quiz 11 - Names of carbon compounds

Use the answers below for questions 1-10

- A ethane
- B propane
- C nonane
- D butane
- E pentane
- F hexane
- G methane
- H heptane
- I decane
- J octane

1. The molecule with the formula C_4H_{10} could be called
2. The molecule with the formula C_3H_8 could be called
3. The molecule with the formula C_6H_{14} could be called
4. The molecule with the formula C_2H_6 could be called
5. The molecule with the formula C_8H_{18} could be called
6. The molecule with the formula C_7H_{16} could be called
7. The molecule with the formula C_5H_{12} could be called
8. The molecule with the formula $C_{10}H_{22}$ could be called
9. The molecule with the formula CH_4 could be called
10. The molecule with the formula C_9H_{20} could be called

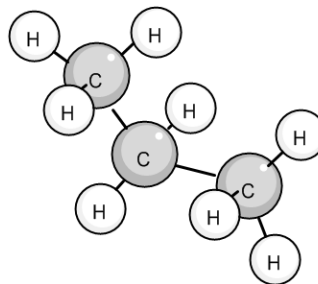
Quiz 12 - alkanes

1. A hydrocarbon is
 - A a compound that contains hydrogen and carbon
 - B a mixture of hydrogen and carbon
 - C a mixture of only hydrogen and carbon
 - D a compound that contains only hydrogen and carbon
2. Which of the following is an example of a hydrocarbon?
 - A C_2H_6
 - B CH_3OH
 - C CO_2
 - D CH_3CH_3Cl
3. Crude oil contains hydrocarbons but what family of hydrocarbons does it contain?
 - A alkanes
 - B alkenes
 - C cycloalkanes
 - D alkynes
4. The bonds between carbon atoms in alkane molecules are always
 - A tight
 - B single
 - C double
 - D loose
5. Which of the following substances is an alkane?
 - A pentene
 - B butane
 - C ethene

D hexene

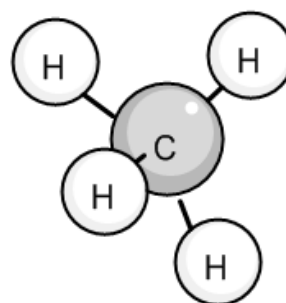
6. What is the name of this alkane?

- A propane
- B pentane
- C butane
- D ethane



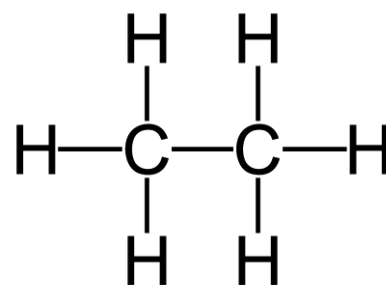
7. What is the name of this alkane?

- A propane
- B pentane
- C methane
- D ethane



8. What is the name of this alkane?

- A propane
- B pentane
- C methane
- D ethane



9. To work out the number of hydrogen atoms in any alkane we

- A count the carbon atoms and add 2
- B double the carbon atoms
- C double the carbon atoms and add 1
- D double the carbon atoms and add 2

10. How many hydrogen atoms are in a molecule of octane?

- A 8
- B 16
- C 18
- D 20

Quick Quiz 13 - naming branched alkanes (N5)

Use the following answers for the following questions

A	6
B	1
C	16
D	8
E	2
F	12
G	5
H	3
I	18
J	7

How many carbon atoms are in

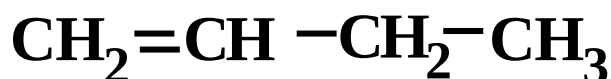
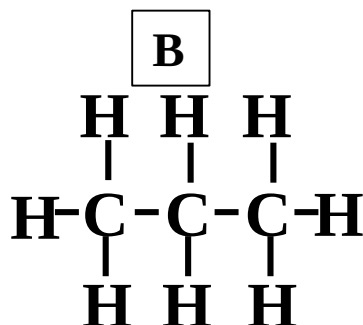
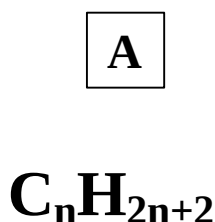
1. an ethyl branch?
2. a methyl branch?
3. a propyl branch?
4. 2-methyl butane?
5. 3-ethyl hexane?
6. 3-methyl pentane?

How many hydrogen atoms are in

7. 2-methyl butane?
8. 3-ethyl pentane?
9. 3-methyl heptane?
10. 2,3-dimethyl pentane?

Quick Quiz 14 - alkenes

1. Which picture shows an alkene?



2. Why can alkenes be called hydrocarbons?

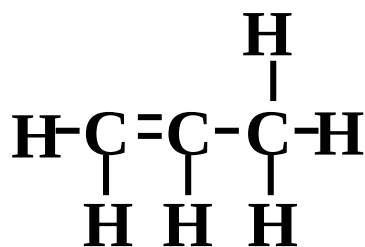
- A they are mixtures of hydrogen and carbon
- B they are similar to alkanes
- C they are compounds that only contain hydrogen and carbon
- D they are compounds that contain hydrogen and carbon

3. Which of the following substances is an alkene?

- A pentene
- B butane
- C ethane
- D hexane

4. What is the name of this molecule?

- A propane
- B pentane
- C butene
- D propene



5. What is the name of the molecule with the formula C₅H₁₀?

- A pentene
- B hexene
- C propene
- D pentane

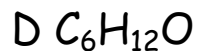
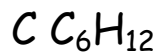
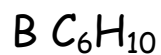
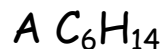
6. What is the name of the third member of the alkene series (be careful)?

- A octane
- B butene
- C propene
- D propane

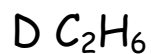
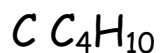
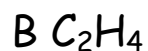
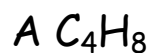
7. What is the general formula for the alkene family?

- A C_nH_{2n+1}
- B C_nH_{2n}
- C C_nH_{2n+2}
- D CH_{2n}

8. What is the molecular formula of the alkene which has 6 carbon atoms?



9. What is the molecular formula for the alkene with 4 hydrogen atoms?



10. What is the name of the alkene with 8 hydrogen atoms

A octene

B butane

C butene

D octane

Quick Quiz 15 - cycloalkanes (N5)

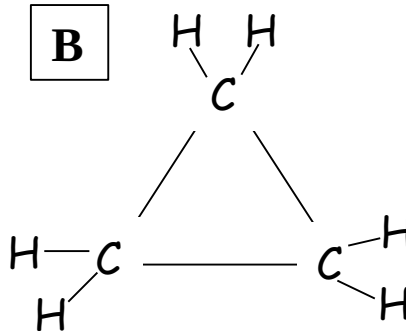
1. Cycloalkanes are a homologous series because they are
- A a family of chemicals with identical properties and the same general formula
 - B a family of chemicals with similar properties and the same molecular formula
 - C a family of chemicals with similar properties and the same general formula
 - D a family of chemicals with identical properties and the same structural formula
2. What does the cyclo part of the name tell us about the cycloalkanes?
- A it tells us the number of atoms in the molecule
 - B the hydrogen atoms joined together in a ring structure
 - C there are single bonds between carbon atoms
 - D the carbon atoms are joined together in a ring structure

3. Which of the following is a cycloalkane?

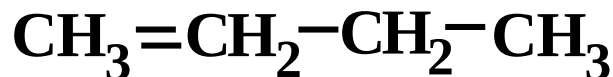
A



B

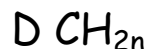
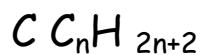
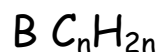
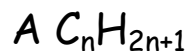


C

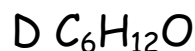
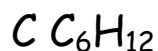
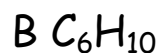


D

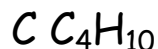
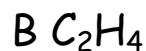
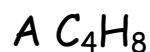
4. What is the general formula for the cycloalkane family?



5. The molecular formula of the cycloalkane with has 6 carbon atoms is



6. The molecular formula for the cycloalkane with 4 hydrogen atoms is



D none of the above

7. What is the name of the alkene that has the same molecular formula as cyclopentane?

A pentane

B pentene

C propane

D propene

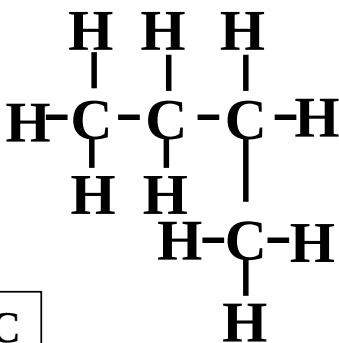
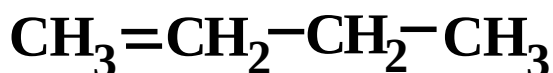
8. What is the name of the alkene that has the same molecular formula as the cycloalkane with 3 carbon atoms?
- A pentane
 - B pentene
 - C propane
 - D propene
9. What is the name of the alkene that has the same molecular formula as the cycloalkane with 8 hydrogen atoms?
- A butane
 - B butene
 - C octane
 - D octene
10. What is the name of the cycloalkane that has 2 carbon atoms atoms?
- A cyclomethane
 - B cycloethane
 - C cyclopropane
 - D none of the above

Quick Quiz 16 - isomers (N5)

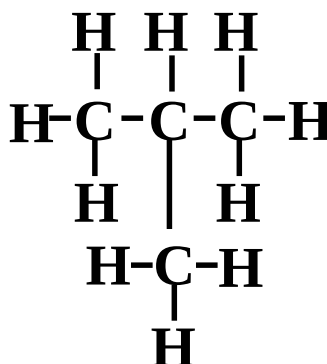
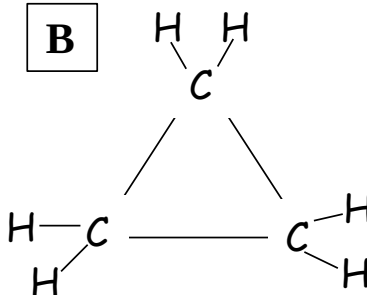
1. Isomers are compounds that have
 - A the same molecular formula and the same structure
 - B a different molecular formula and a different structure
 - C a different molecular formula and the same structure
 - D the same molecular formula and a different structure
2. What homologous series contains isomers of cycloalkanes?
 - A alkanes
 - B cycloalkenes
 - C alkenes

For the following questions use the answers shown below.

A

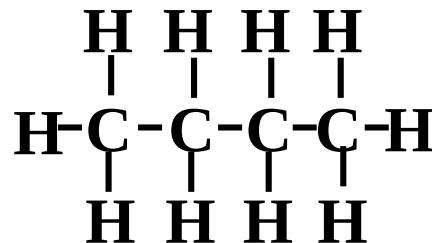


B



D

3. Which molecule is an isomer of butane?
4. Which molecule is the same as this one?
5. Which molecule is an isomer of propene?



6. Which molecule is an isomer of pentene
- A pentane
 - B cyclopentene
 - C cyclopentane
 - D cyclobutane
7. Which molecule is an isomer of cyclohexane
- A cyclohexene
 - B hexene
 - C hexane
 - D none of the above
8. What is the name of the isomer of cyclobutane?
- A butane
 - B butene
 - C cyclohexane
 - D cyclohexene
9. What is the name of the isomer of hexene?
- A hexane
 - B heptane
 - C cyclohexane
 - D cyclohexene
10. Which molecule is an isomer of 2-ethyl hexane
- A 2-ethyl pentane
 - B 2-ethyl hexene
 - C octane
 - D hexane

Quick Quiz 17 - combustion of hydrocarbons

1. What is the test for water?

- A it is a colourless, clear liquid
- B it does not taste of anything
- C it boils at 0°C and melts at 100°C
- D it boils at 100°C and melts at 0°C

Use the following answers for the following questions

- A it burns with a pop
- B it turns limewater cloudy
- C it puts out a burning splint
- D it relights a glowing splint

2. What is the test for carbon dioxide?

3. What is the test for hydrogen?

4. What is the test for oxygen?

5. What is the correct equation for the complete combustion of butane?

- A butene + oxygen $\rightarrow$ carbon dioxide + water
- B butane $\rightarrow$ carbon dioxide + water
- C butane + oxygen $\rightarrow$ carbon dioxide + water
- D butane + oxygen $\rightarrow$ carbon + water

6. What is the correct equation for the complete combustion of butene?

- A butene + oxygen → carbon dioxide + water
- B butane → carbon dioxide + water
- C butane + oxygen → carbon dioxide + water
- D butane + oxygen → carbon + water

7. What is the correct equation for the complete combustion of pentane?

- A pentene + oxygen → carbon dioxide + water
- B pentane → carbon dioxide + water
- C pentane + oxygen → carbon dioxide + water
- D pentane + oxygen → carbon + water

8. Cycloalkanes are hydrocarbons. What is the correct word equation for the complete combustion of cyclobutane?

- A cyclobutane + oxygen → carbon monoxide + water
- B cyclobutane → carbon dioxide + water
- C cyclobutane + oxygen → carbon dioxide + water
- D cyclobutane + oxygen → carbon + water

9. Cycloalkenes are hydrocarbons. What is the correct word equation for the complete combustion of cyclobutene?

- A cyclobutane + oxygen → carbon dioxide + water
- B cyclobutane → carbon dioxide + water
- C cyclobutene + oxygen → carbon dioxide + water
- D cyclobutene + oxygen → carbon + water

10. A fuel was burned and produced only water. The fuel **must** contain

A hydrogen and carbon

B hydrogen and oxygen

C hydrogen

D oxygen

Quick Quiz 18 - saturated and unsaturated hydrocarbons

Use the answers for the following questions

A saturated

B unsaturated

Decide whether the following are saturated or unsaturated

1. pentane
2. methane
3. butene
4. ethane
5. pentene
6. propane

Use the answers for the following questions

A decolourises

B does not decolourise

Decide whether the following will decolourise bromine

7. pentene
8. ethane
9. butene
10. butane

Quick Quiz 19 - addition reactions (N5)

Use the answers for the following questions

A will do addition reactions

B won't do addition reactions

Decide whether the following will or won't do addition reactions

1. pentene
2. methane
3. butene
4. cyclobutane
5. pentene
6. cyclopropene

Use the answers for the following questions

A alkane

B alkene

C alcohol

D none of the above

Decide which type of molecule will be produced

7. when propene reacts in an addition reaction with hydrogen
8. when propene reacts in an addition reaction with water
9. when butene reacts in an addition reaction with hydrogen
10. when butane reacts in an addition reaction with water

Quick Quiz 20 - carbohydrates

Use the answers below for the following questions

- A glucose
- B maltose
- C fructose
- D lactose
- E sucrose
- F starch

1. The chemical name for the sugar we put in our tea is
2. The main carbohydrate in bread is
3. The main carbohydrate in rice is
4. The main carbohydrate in milk is
5. The main carbohydrate in energy drinks is

Use the answers below for the following questions

- A photosynthesis
- B respiration

6. Which process produces glucose and oxygen?
7. Which process uses up energy?
8. Which process produces energy?
9. Which process is endothermic?
10. Which process needs chlorophyll?

Quick Quiz 21 - testing carbohydrates

1. Why is it difficult to tell starch and sugars apart?
 - A they are all sweet
 - B they are all white solids
 - C they are all soluble
 - D they all conduct electricity

2. What chemical can be used to tell the difference between starch and sugars?
 - A iodine solution
 - B bromine solution
 - C hydrochloric acid
 - D universal indicator

Use the answers below for the following questions

- A will turn iodine blue/black
- B won't turn iodine blue/black

3. glucose
4. sucrose
5. starch
6. lactose
7. fructose

8. Two samples of white solids labelled X and Y were tested with iodine. X caused the iodine to turn blue-black; Y did not change it. What conclusion can be reached?

- A X must be a sugar and Y must be starch
- B Neither X or Y are carbohydrates
- C Y must be sugar and X must be starch
- D Y could be sugar and X must be starch

9. Glucose and fructose were added to benedict's solution and warmed up. What will be observed?

- A the benedict's solution will stay blue
- B the benedict's solution will turn orange-red
- C the benedict's solution will go colourless
- D the benedict's solution will go purple

10. Which sugar does not turn heated benedict's solution orange?

- A glucose
- B sucrose
- C maltose
- D lactose

Quick Quiz 22 - alcohol and fermentation

1. What is the name of the living fungus that can turn sugar into alcohol?

- A mushroom
- B toadstool
- C yeast
- D chlorophyll

2. What type of substance does this fungus contain that allows it to turn sugar into alcohol?

- A salts
- B enzymes
- C acids
- D distillates

3. What carbohydrate is turned into alcohol by this fungus?

- A glucose
- B maltose
- C starch
- D lactose

4. What is the chemical name for the alcohol that is in alcoholic drinks?

- A methanol
- B propanol
- C ethanol
- D pentanol

5. What is the type of reaction that turns sugar into alcohol?
- A distillation
 - B fermentation
 - C neutralisation
 - D cracking
6. What is the correct formula for ethanol?
- A C_3H_6OH
 - B C_3H_6O
 - C C_2H_5O
 - D C_2H_5OH
7. A fermentation reaction was set up and the gas made was bubbled through limewater. What will be observed?
- A the limewater will go cloudy because carbon monoxide is made at the same time as ethanol.
 - B the limewater will stay the same because carbon monoxide is made at the same time as ethanol.
 - C the limewater will go cloudy because carbon dioxide is made at the same time as ethanol.
 - D the limewater will stay the same because oxygen is made at the same time as ethanol.
8. Why is it only possible to achieve ethanol concentrations of around 12-14% using the fermentation reaction?
- A all of the sugar gets used up
 - B the yeast gets drunk
 - C ethanol is toxic to the yeast
 - D the yeast can't walk straight any more

9. What processes would be used to make whisky?
- A fermentation of grapes followed by distillation
 - B fermentation of grain followed by distillation
 - C distillation of apples followed by fermentation
 - D fermentation of apples followed by distillation

10. Jamie was attempting to make his own home brew. He knows that chemical reactions go faster at higher temperatures so he chopped up some apples and boiled them with the yeast before he left them to ferment. He use the home brew at a party and drank 4 pints. How drunk would he be?



- A extremely - can't see, can't talk, can't walk, being sick
- B very - can just about see, taking rubbish, staggering
- C a bit - vision and speech nearly normal but a bit louder
- D not at all

Quick Quiz 23 – units of alcohol in drinks

Use the answers for the following questions

A 1

B 2

How many units of alcohol are in

1. A pub measure of whisky?
2. A small glass of wine?
3. A pint of lager?
4. Two glasses of wine?
5. A pub measure of vodka?
6. A half pint of beer?
7. A pub measure of brandy?
8. A pint of beer?

9. Which organ destroys alcohol?

A brain

B liver

C bladder

D heart

10. How long does it take on average for a healthy liver to destroy 2 units of alcohol?

A 30 minutes

B 1 hour

C 2 hours

D 24 hours

Quick Quiz 24 - naming alcohols (N5)

Use the following answers for the following questions

- A 1
- B 2
- C 3
- D 4
- E 5
- F 0

How many carbon atoms are in

1. Propan-1-ol?
2. Ethanol?
3. Pentan-3-ol?
4. 2-methyl butan-2-ol?
5. 2-methyl propan-1-ol?
6. An isomer of propan-2-ol?
7. An isomer of 2-methyl propan-1-ol?

How many oxygen atoms are in

8. 2-methyl butan-1-ol?
9. 3-ethyl pentane?

10. What is the name of the functional group in an alcohol

- A hydroxide
- B hydroxyl
- C carbonate
- D carboxyl

Quick Quiz 25 - naming/properties of carboxylic acids (N5)

Use the following answers for the following questions

- A 1
- B 2
- C 3
- D 4
- E 5
- F 6

How many carbon atoms are in

1. Butanoic acid?
2. 2-methyl propanoic acid?
3. Ethanoic acid ?
4. An isomer of 2-methyl pentanoic acid?

5. What is the name of the functional group in an carboxylic acid

- A hydroxide
- B hydroxyl
- C carbonate
- D carboxyl

6. What colour could ethanoic acid turn universal indicator

- A blue
- B green
- C orange
- D purple

7. What pH could butanoic acid have

- A 3
- B 7
- C 8
- D 12

8. What happens to the concentrations of H^+ and OH^- in water when a carboxylic acid is dissolved in the water?

- A the concentration of hydrogen ions increases and hydroxide ions decreases.
- B the concentration of hydrogen ions decreases and hydroxide ions increases.
- C the concentration of hydrogen ions increases and hydroxide ions increases.
- D the concentration of hydrogen ions decreases and hydroxide ions decreases.

Use the following answers

- A oxygen
- B hydrogen
- C carbon dioxide

9. What gas is produced when magnesium reacts with ethanoic acid?

10. What gas is produced when copper carbonate reacts with propanoic acid?

Quick Quiz 26 - naming/properties of esters (N5)

Use the following answers for the following questions

- A 1
- B 2
- C 3
- D 4
- E 5
- F 6
- D 0

How many carbon atoms are in

1. Methyl ethanoate?
2. Ethyl methanoate?
3. Propyl methanoate?
4. Methyl methanoate?
5. An isomer of butyl ethanoate?
6. An isomer of methyl propanoate?

7. An ester is made by reacting an

- A alkane and alkene
- B alcohol with an alkane
- C alcohol with a carboxylic acid
- D cycloalkane with an alkene

8. Esters

A are soluble and smell sweet

B are insoluble and do not smell sweet

C are soluble and do not smell sweet

D are insoluble and smell sweet

9. Esters are often used in

A flavourings, perfumes and solvents

B flavourings, perfumes and fuels

C plastics and fibres

D manufacture of petrol

10. If an ester is burned in a plentiful supply of air it will produce

A only water

B only carbon dioxide

C water and carbon monoxide

D water and carbon dioxide