Bab 5 Sebatian Karbon
Carbon Compounds

Tema 2 Penerokaan Unsur dalam Alam

5.1 Pengenalan Sebatian Karbon
Introduction to Carbon Compounds

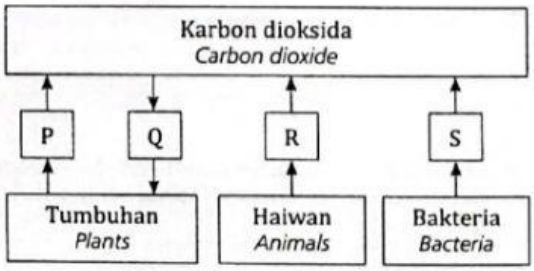
Buku Teks M/s 142 – 144

S.P: 5.1.1 – 5.1.2

1 Padankan sebatian karbon berikut dengan contohnya. TP2
Match the following carbon compounds with their examples.

Sebatian karbon organik *Organic carbon compounds*	Gula *Sugar*
	Karbon dioksida *Carbon dioxide*
	Etanol *Ethanol*
Sebatian karbon bukan organik *Inorganic carbon compounds*	Kalsium karbonat *Calcium carbonate*
	Minyak sawit *Palm oil*
	Hidrogen karbonat *Hydrogen carbonate*
	Arang batu *Coal*
	Karbon monoksida *Carbon monoxide*
	Kain kapas *Cotton cloth*
	Zink karbonat *Zinc carbonate*

2 Rajah berikut menunjukkan kitar karbon. TP2
The following diagram shows the carbon cycle.



PAK-21

Nyatakan proses P, Q, R dan S. TP2
State the processes P, Q, R and S.

P: _____ R: _____

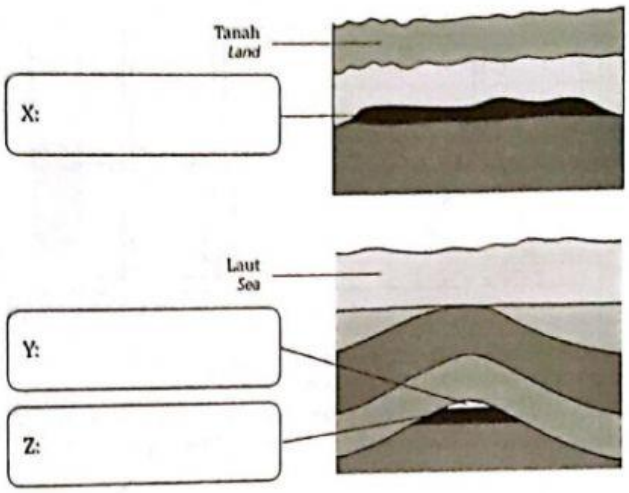
Q: _____ S: _____

5.2 Hidrokarbon
Hydrocarbons

Buku Teks M/s 145 – 150

S.P: 5.2.1 – 5.2.3

1 (a) Rajah berikut menunjukkan pembentukan sebatian hidrokarbon. Labelkan hidrokarbon X, Y dan Z.
The following diagram shows the formation of hydrocarbon compounds. Label hydrocarbons X, Y and Z. TP1



(b) Gariskan jawapan yang betul bagi pernyataan berikut. TP1
Underline the correct answer for the following statements.

(i) Sebatian karbon tepu mempunyai ikatan kovalen (tunggal , ganda dua) di antara dua atom karbon manakala sebatian karbon tak tepu mempunyai ikatan kovalen (tunggal , ganda dua) di antara dua atom karbon.
Saturated carbon compounds have (single , double) covalent bonds between two carbon atoms while unsaturated carbon compounds have (single , double) covalent bonds between two carbon atoms.

(ii) Alkana ialah sebatian hidrokarbon (tepu , tak tepu) manakala alkena ialah sebatian hidrokarbon (tepu , tak tepu).
Alkanes are (saturated , unsaturated) hydrocarbon compounds while alkenes are (saturated , unsaturated) hydrocarbon compounds.

(iii) Propana merupakan salah satu ahli (alkana , alkena) manakala propena merupakan salah satu ahli (alkana , alkena).
Propane is one of the members of (alkane , alkene) while propene is one of the members of (alkane , alkene).

(iv) Bilangan karbon dalam heksana ialah (lima , enam) manakala bilangan karbon dalam pentana ialah (lima , enam).
The number of carbons in hexane is (five , six) while the number of carbons in pentane is (five , six).

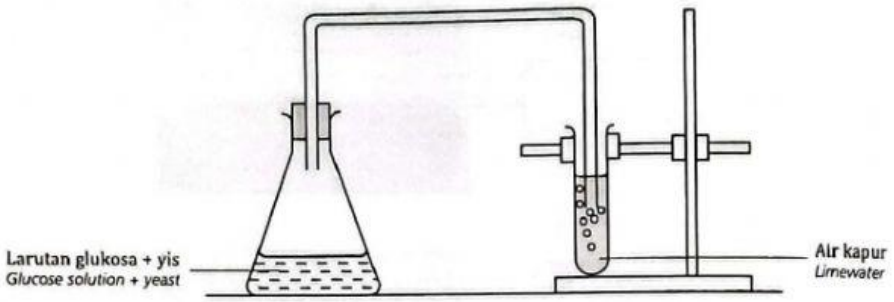
(v) Sumber tenaga alternatif ialah sumber tenaga yang (tidak boleh baharu, tidak mudah habis).
Alternative energy sources are energy sources that (are non-renewable, will not deplete easily).

5.3 Alkohol *Alcohol*

Buku Teks M/s 150 – 157

S.P: 5.3.1 – 5.3.4

1 Rajah berikut menunjukkan satu eksperimen yang dijalankan di makmal sains.
The following diagram shows an experiment conducted in a science laboratory.



Berdasarkan rajah di atas, gariskan jawapan yang betul. TP1
Based on the above diagram, underline the correct answer.

(*a*) Proses yang berlaku di dalam kelalang kon ialah (penyulingan , penapaian).
The process that takes place in the conical flask is (distillation , fermentation).

(*b*) Yis telah menukarkan larutan glukosa kepada (etanol , ester).
Yeast has converted the glucose solution to (ethanol , ester).

(*c*) Enzim yang telah dihasilkan oleh yis adalah enzim (amylase , zimase).
The enzymes that have been produced by yeast are (amylase, zymase) enzymes.

(*d*) Tindakan yis terhadap glukosa membebaskan gas (hidrogen , karbon dioksida).
The action of yeast on glucose releases (hydrogen , carbon dioxide) gas.

(*e*) Gas yang dibebaskan akibat tindakan yis menyebabkan air kapur di dalam tabung uji menjadi (keruh , jernih).
The gas released due to the action of yeast causes the limewater in the test tube to turn (cloudy, clear).

(*f*) Larutan di dalam kelalang kon perlu menjalani satu proses yang akan menyebabkan hasil tindak balas dalam kelalang itu dipisahkan dan dikumpulkan. Proses ini dikenali sebagai (penurasan , penyulingan).
The solution in the conical flask needs to undergo a process that will cause the product in the flask to be separated and collected. This process is known as (filtration , distillation).