

Tindak Balas Endotermik dan Eksotermik

Isi tempat kosong dengan perkataan yang diberi. **SP5.1.1** TP2

Fill in the blanks with the words provided.

Bahan tindak balas Reactants	Dibebaskan Released	Sejuk Cold
Diserap Absorbed	Tindak balas endotermik Endothermic reaction	Termometer Thermometer
Tindak balas eksotermik Exothermic reaction	Panas Hot	Hasil tindak balas Product of the reaction

- (a) Tindak balas kimia adalah proses yang melibatkan tindak balas yang berlaku antara _____ untuk menghasilkan _____.
A chemical reaction is a process that involves reactions between the _____ to form _____.
- (b) Semasa tindak balas kimia, haba boleh _____ atau _____.
When a reaction happens, heat may be _____ or _____.
- (c) Jika haba dibebaskan, persekitaran tindak balas akan menjadi _____.
If heat is released, the mixture of the reaction will become _____.
- (d) Jika haba diserap, persekitaran tindak balas akan menjadi _____.
If heat is absorbed, the mixture of the reaction will become _____.
- (e) Tindak balas kimia yang membebaskan haba ke persekitaran dikenali sebagai _____.
A chemical reaction that releases heat to the surrounding is called an _____.
- (f) Tindak balas kimia yang menyerap haba dari persekitaran dikenali sebagai _____.
A chemical reaction that absorbs heat to the surrounding is called an _____.
- (g) _____ boleh digunakan untuk mengenal pasti tindak balas endotermik dan tindak balas eksotermik.
A _____ can be used to determine endothermic and exothermic reactions.

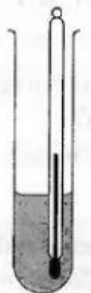
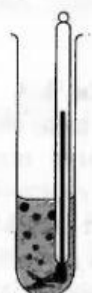
BAHAGIAN B

1 Rajah di bawah menunjukkan bacaan suatu termometer. Lengkapkan ayat-ayat berikut dengan menggunakan perkataan-perkataan yang diberi dalam petak di bawah.

The diagram below shows the reading of a thermometer. Complete the following sentences using the words given in the box below.

meningkat <i>increases</i>	endotermik <i>endothermic</i>	eksotermik <i>exothermic</i>	menurun <i>decreases</i>
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(a)

	
Sebelum tindak balas <i>Before reaction</i>	Selepas tindak balas <i>After reaction</i>

Dalam tindak balas _____, bacaan termometer akan _____.

In the _____ reaction, the reading of the thermometer will _____.

[2 markah]

[2 marks]

(b)

	
Sebelum tindak balas <i>Before reaction</i>	Selepas tindak balas <i>After reaction</i>

Dalam tindak balas _____, bacaan termometer akan _____.

In the _____ reaction, the reading of the thermometer will _____.

[2 markah]

[2 marks]

PT3-Oriented Practice 5

Section A

- What is the name of the chemical reaction in which heat is absorbed?
Apakah nama tindak balas kimia di mana haba diserap?
A exothermic reaction
tindak balas eksotermik
B endothermic reaction
tindak balas endotermik
C reversible reaction
tindak balas berbalik
D substitutive reaction
tindak balas gantian
- Which of the following is the reaction involved in the photosynthesis?
Antara yang berikut, tindak balas manakah yang terlibat dalam fotosintesis?
A condensation reaction
tindak balas kondensasi
B exothermic reaction
tindak balas eksotermik
C reversible reaction
tindak balas berbalik
D endothermic reaction
tindak balas endotermik
- What is the reaction involved when cooking food?
Apakah tindak balas yang terlibat apabila memasak makanan?
A condensation reaction
tindak balas kondensasi
B exothermic reaction
tindak balas eksotermik
C reversible reaction
tindak balas berbalik
D endothermic reaction
tindak balas endotermik
- What is the final energy content of products in an exothermic reactions?
Apakah kandungan tenaga akhir produk bagi tindak balas eksotermik?

- is lower than the energy contents of the reactants
adalah lebih rendah daripada kandungan tenaga bahan tindak balas
- is higher than the energy contents of the reactants
adalah lebih tinggi daripada kandungan tenaga bahan tindak balas
- does not depend upon the energy content of the reactants
tidak bergantung kepada kandungan tenaga bahan tindak balas
- forms highly stable compounds
membentuk sebatian yang sangat stabil

- Diagram 1 shows the setup of an experiment. Which of the following reactions are involved in processes X and Y?
Rajah 1 menunjukkan susunan satu eksperimen. Antara tindak balas berikut yang manakah yang terlibat dalam proses X dan Y?

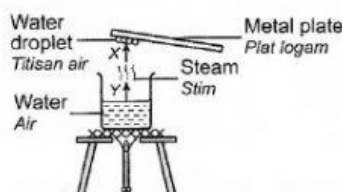


Diagram 1 / Rajah 1

	Process X Proses X	Process Y Proses Y
A	Endothermic Endotermik	Exothermic Eksotermik
B	Endothermic Endotermik	Endothermic Endotermik
C	Exothermic Eksotermik	Endothermic Endotermik
D	Exothermic Eksotermik	Exothermic Eksotermik

- Diagram 2 shows dissolving ammonium chloride in water.
Rajah 2 menunjukkan proses melarutkan ammonia klorida dalam air.

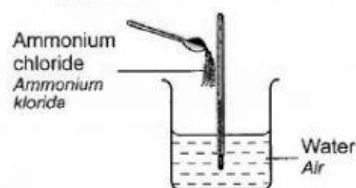


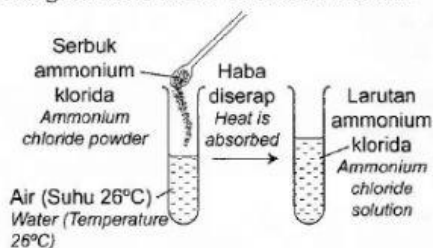
Diagram 2 / Rajah 2

State the types of energy changes that occur in the chemical reaction.
Nyatakan jenis perubahan tenaga yang berlaku dalam tindak balas kimia itu.

	Chemical reaction Tindak balas kimia	Energy changes Perubahan tenaga
A	Heat is absorbed from the surrounding Haba diserap dari persekitaran	Endothermic Endotermik
B	Heat is released into surroundings Haba dibebaskan ke persekitaran	Endothermic Endotermik
C	Heat is absorbed from surroundings Haba diserap dari persekitaran	Exothermic Eksotermik
D	Heat is released into surroundings Haba dibebaskan ke persekitaran	Exothermic Eksotermik

BAHAGIAN A

- Antara yang berikut, yang manakah ciri tindak balas eksotermik?
Which of the following is the characteristic of an exothermic reaction?
 A Haba diserap dari persekitaran.
Heat is absorbed from the surrounding.
 B Suhu persekitaran meningkat.
The surrounding temperature increases.
 C Bekas tindak balas menjadi sejuk.
The container of the reaction becomes cold.
 D Bacaan suhu termometer menurun.
Thermometer reading decreases.
- Pernyataan yang manakah menerangkan tindak balas endotermik?
Which statement describes an endothermic reaction?
 A Tenaga haba dibebaskan.
Heat energy is released.
 B Semua tindak balas adalah berbalik.
All reactions are reversible.
 C Bacaan termometer menurun.
Thermometer reading decreases.
 D Persekitaran mencapai suhu maksimum.
The surrounding reaches the maximum temperature.
- Rajah di bawah menunjukkan satu tindak balas kimia.
The diagram below shows a chemical reaction.



- Apakah kemungkinan suhu larutan ammonium klorida itu?
What is the possible temperature of the ammonium chloride solution?
- 20°C
 - 26°C
 - 30°C
 - 35°C

- Apakah kemungkinan suhu larutan yang terbentuk apabila hablur natrium hidroksida dilarutkan dalam air dengan suhu 26°C?
What is the possible temperature of the solution formed when pellets of sodium hydroxide are dissolved in water with the temperature of 26°C?
 A 20°C C 26°C
 B 25°C D 36°C
- Antara yang berikut, yang manakah contoh tindak balas eksotermik dalam kehidupan harian?
Which of the following is an example of exothermic reaction in everyday life?
 A Penyejatan air
Evaporation of water
 B Kondensasi
Condensation
 C Pendidihan
Boiling
 D Fotosintesis
Photosynthesis
- Antara yang berikut, yang manakah contoh tindak balas endotermik dalam kehidupan harian?
Which of the following is an example of endothermic reaction in everyday life?
 A Letupan bom C Pembekuan
Bomb explosion Freezing
 B Respirasi D Fotosintesis
Respiration Photosynthesis
- Apakah tindak balas yang menyerap haba daripada sekeliling?
What is the reaction that absorbs heat from the surrounding?
 A Tindak balas pengoksidaan
Oxidation reaction
 B Tindak balas endotermik
Endothermic reaction
 C Tindak balas eksotermik
Exothermic reaction
 D Tindak balas penurunan
Reduction reaction