

3.1 Sel - Struktur, Fungsi dan Organisasi / Cell - Structure, Function and Organisation

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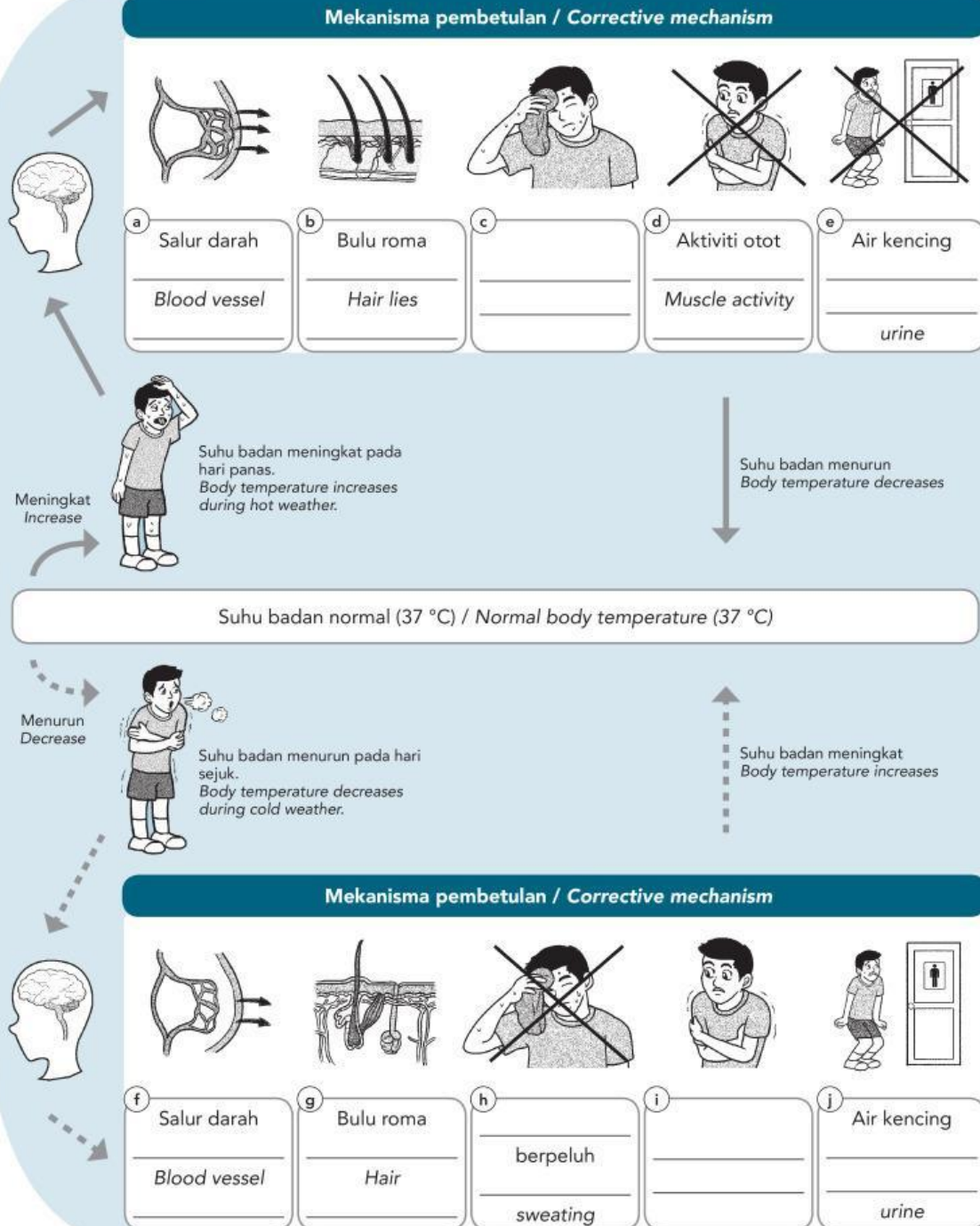
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-
- Meningkat
Increase
- Mekanisma pembetulan
Corrective
mechanism
- Menurun
Decrease
- Tahap normal**
Normal level
- Mekanisma pembetulan
Corrective
mechanism
- Menurun
Decrease
- Meningkat
Increase

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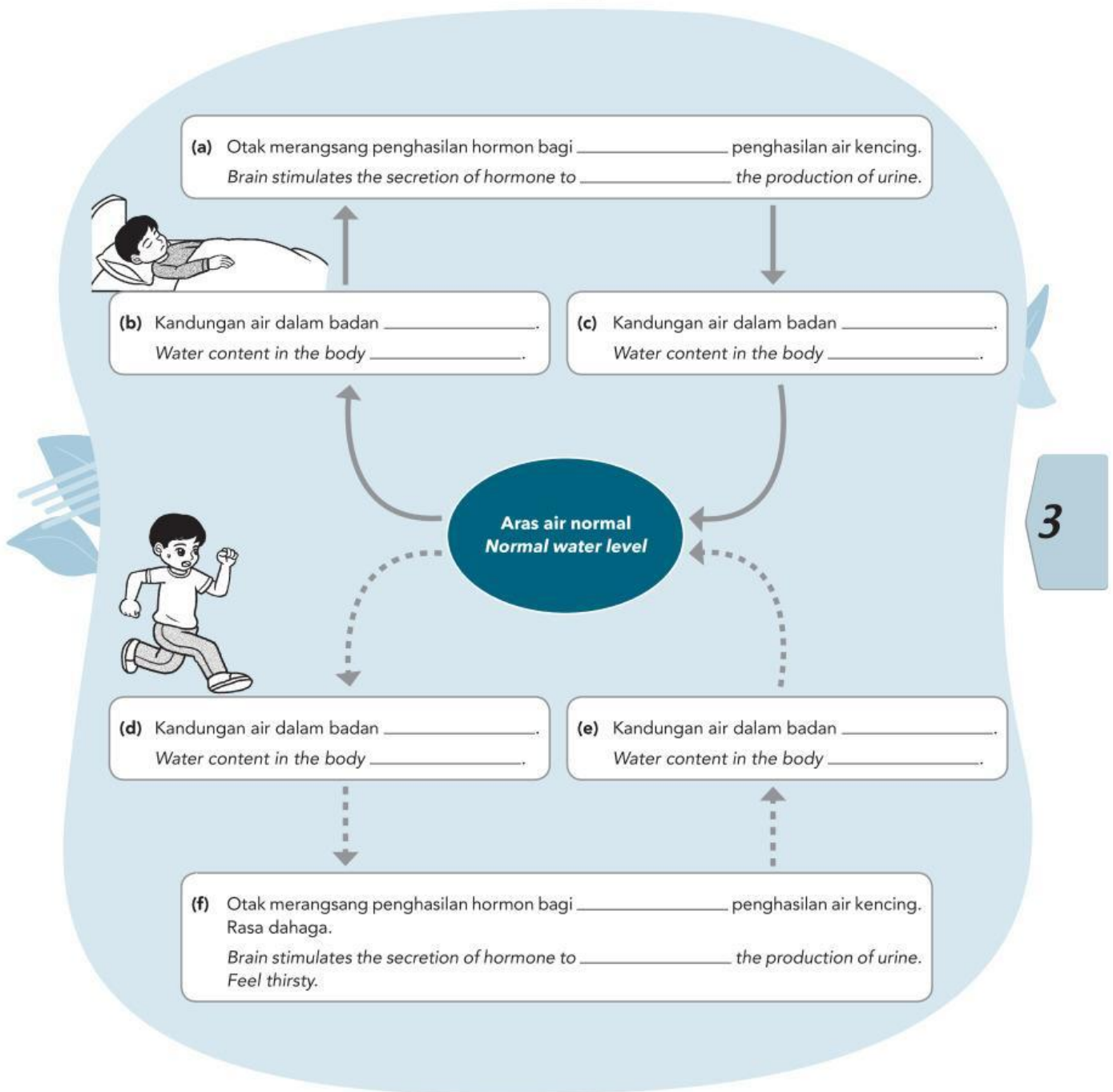
- 1 Contoh-contoh proses homeostasis dalam badan manusia: / Examples of homeostasis process in human body:
- (i) Mengekalkan suhu badan normal pada 37 °C. / Maintained the normal body temperature at 37 °C.
 - (ii) Mengawal pH badan. / To control the pH of the body.
 - (iii) Mengawal kandungan _____ dalam badan.
To control the content of _____ in the body.
 - (iv) Mengawal isi padu _____ dalam badan.
To control the volume of _____ in the body.
 - (v) Mengawal kepekatan _____ dalam badan.
To control the concentration of _____ in the body.

2 Kawal atur suhu badan / Regulation of body temperature TP4



- 2
- a mengembang / dilate
 - b sedikit / Less
 - c Mengigil / Shivering
 - d condong / flat
 - e mengacut / constrict
 - f banyak / More
 - g Berpeluh / sweating
 - h mengejak / erect
 - i berkurangan / reduced
 - j Kurang / Less

3 Kawal atur kandungan air / Regulation of water content TP4



Kuiz / Quiz



(b) meningkat / increases
(d) menurun / decreases
(f) mengurangkan / decrease

(a) meningkatkan / increase
(c) menurun / decreases
(e) meningkat / increases

C. Homeostasis dalam Haiwan / Homeostasis in Animal

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- 1 Proses homeostasis juga berlaku dalam haiwan. Contoh-contoh homeostasis dalam haiwan:
Homeostasis also occur in animals. Examples of homeostasis in animals:



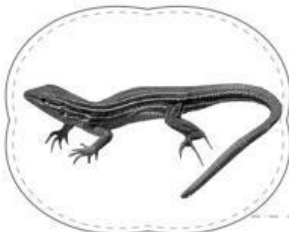
- (a) Bulu kucing berdiri semasa sejuk untuk memerangkap _____.
Cat fur stands erect during cold to traps _____.

- (b) Anjing menjelirkan lidah untuk _____ suhu badan.
Dog hang tongue to _____ body temperature.



- (c) Ular menggunakan cahaya matahari untuk _____ badannya.
Snakes use the Sun's rays to _____ their bodies.

- (d) Siput mencari tempat lembap untuk mengelakkan _____ air.
Snails looks for humid places to reduce water _____.



- (e) Degupan jantung cicak _____ semasa panas.
Lizard's heart beat _____ in hot surroundings.

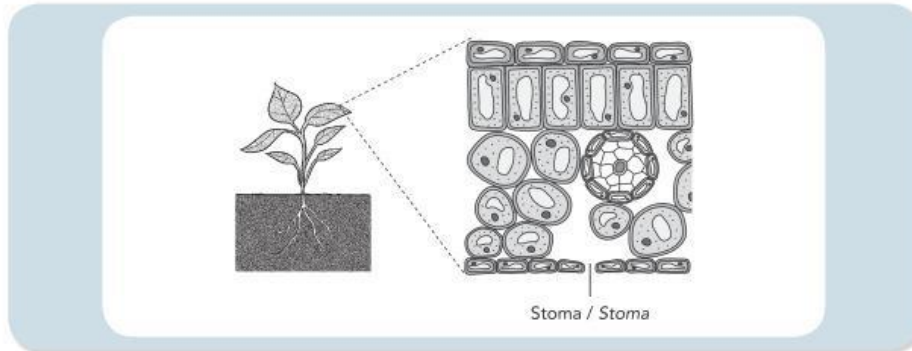
- (f) Lebah menutup spirakel antara dua gerakan pernafasannya untuk _____ kehilangan air.
Bee closes spiracles between two breathing movements to _____ water loss.



(a) haba / heat (b) mengurangkan / reduce (c) memanaskan / warm (d) kehilangan / loss (e) meningkat / increases (f) mengurangkan / reduce

D. Homeostasis dalam Tumbuhan / Homeostasis in PlantsBuku teks muka surat 80
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- 1 Homeostasis dalam tumbuhan berlaku melalui proses _____.
Homeostasis in plants happen through the _____ process. (TP2)
- 2 Transpirasi _____ tumbuhan pada hari yang panas, dengan cara yang sama, perpeluhan menyejukkan badan manusia.
Transpiration _____ a plant on a hot day, the same way, sweating cools a human.
- 3 Transpirasi ialah proses kehilangan _____ dalam bentuk wap air melalui _____.
Transpiration is the process of losing _____ in the form of water vapour through the _____.



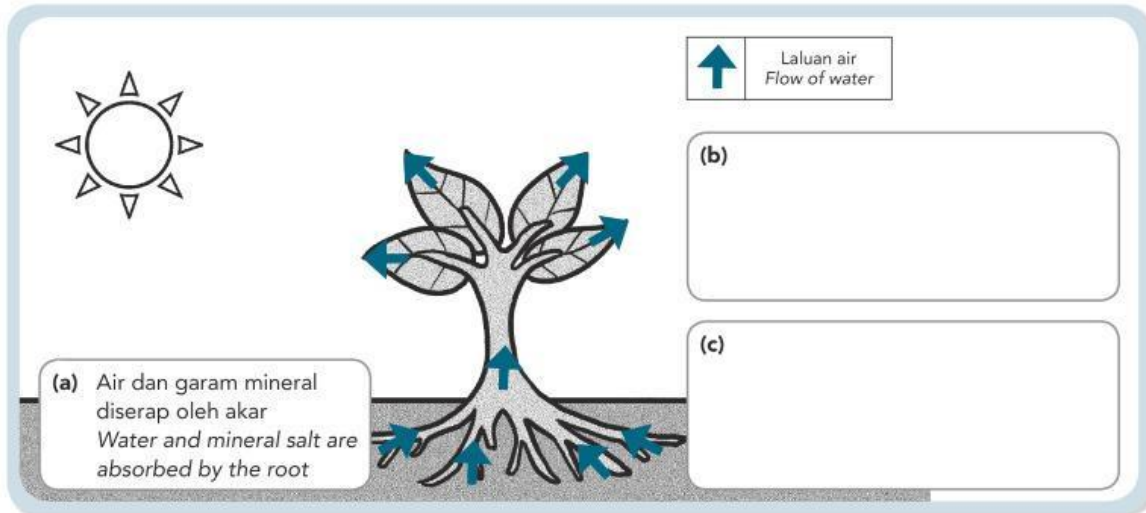
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- 4 Saiz stoma berubah bergantung kepada _____.
The changes of the size of the stoma depends on _____.

Pada waktu siang Daytime	Pada suhu yang terlalu tinggi When temperature is too high
Sel pengawal / Guard cells Stoma / Stoma (a) Stoma _____. Stoma _____. (b) _____ kehilangan air melalui transpirasi. _____ water loss through transpiration.	Sel pengawal / Guard cells Stoma / Stoma (c) Stoma _____. Stoma _____. (d) _____ kehilangan air melalui transpirasi. _____ water loss through transpiration.

(b) Banyak / More
(d) Kurang / Less(a) terbuka / opens
(c) tertutup / closesD. 1 Transpirasi / Transpiration
2 menyejukkan / cools
3 air / stoma / water / stomata

- 5 Transpirasi juga membantu dalam pengangkutan _____ dan _____ dari akar ke daun.
Transpiration also helps in transporting _____ and _____ from roots to leaves.

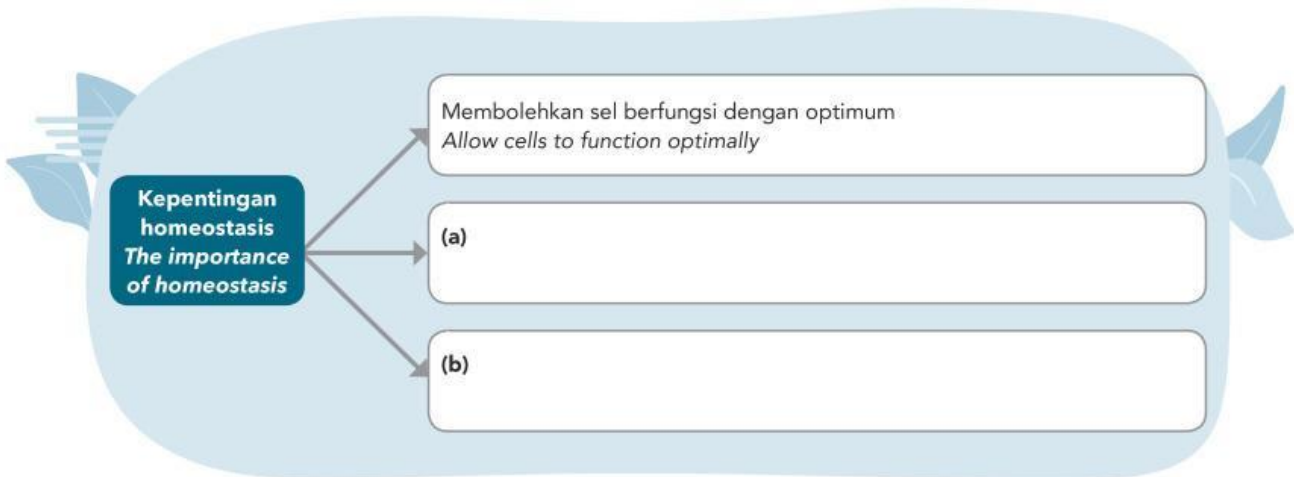


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E. Kepentingan Homeostasis kepada Manusia dan Benda Hidup
Importance of Homeostasis to Human and Living Things

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Isi tempat kosong di ruang yang disediakan.
Fill in the blank at provided space.



Refleksi Murid Student's Reflection	Sila tandakan (✓) Please tick (✓)	Faham / Understand ()	Kurang faham / Less understand ()	Tidak faham / Do not understand ()
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! THINK (c) Air dan garam mineral diangkut melalui batang / Water and mineral salt are transported through stem (b) Air tersejat melalui daun / Water is evaporated through leaves (a) Membolehkan organisma mengawal kadar metabolisme / Allow organisms to control metabolisme rate (b) Membolehkan organisma hidup dalam habitat yang berbeza-beza / Allow organisms to live in different habitats	
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LATIHAN PENGUKUHAN / ENRICHMENT EXERCISE

Soalan Objektif / Objective Questions

- Antara berikut, yang manakah **tidak** benar tentang homeostasis kepada manusia?
Which of the following is **not** true about homeostasis to human?
 A Mengawal aras suhu badan
Control the body temperature level
 B Mengawal atur kandungan air
Regulate the water content
 C Mengawal atur tekanan darah
Regulate the blood pressure
 D Mengawal emosi / Control the emotion
- Sistem apakah yang terlibat semasa proses kawal atur suhu badan?
Which system is involve during the process of regulation of body temperature?
 A Sistem respirasi dan sistem perkumuhan
Respiration system and excretion system
 B Sistem perkumuhan dan sistem endokrin
Excretion system and endocrine system
 C Sistem respirasi dan sistem endokrin
Respiration system and endocrine system
 D Sistem perkumuhan dan sistem peredaran darah
Excretion system and blood circulation system
- Apakah yang akan berlaku kepada seekor lebah dalam persekitaran yang sejuk?
What will happen to a bee in a cold environment?
 A Terbang dengan pantas / Fly faster
 B Kadar metabolisme meningkat
Metabolism rate increases
 C Kehilangan wap air melalui spirakel
Loses the water vapour through spiracle
 D Menutup spirakel antara dua gerakan pernafasannya / Close the spiracle between the movement of its breathing
- Selepas bersukan, Safia mendapati kandungan air kencingnya sedikit. Mengapakah ini berlaku?
After exercising, Safia realize her urine is less than normal. Why did this happen?
 A Kurang hormon yang dirembeskan.
Less hormone are secreted.
 B Kelenjar peluh Safia mengeluarkan banyak peluh.
Safia's sweat gland produce more sweat.
 C Salur darah Safia mengembang dan membebaskan lebih banyak haba. / Safia's blood vessels dilate and released more heat.
 D Safia minum sedikit air sebelum bersukan.
Safia drank less water before exercising.

3

Soalan Struktur / Structured Questions

- Rajah di bawah menunjukkan perubahan keadaan satu pokok pada waktu yang berbeza dalam satu hari.
The diagram below shows the condition change of a plant at different times in one day.



- Nyatakan waktu pada hari itu yang menyebabkan perubahan keadaan dalam rajah di atas.
State the time of day that causes the condition change in the diagram above.

[1 markah/mark]

- Terangkan keadaan di jawapan (a) dengan mengaitkan kepada transpirasi.
Explain the condition in answer (a) by relating it to transpiration.

[1 markah/mark]

Ekstra: / Extra:

