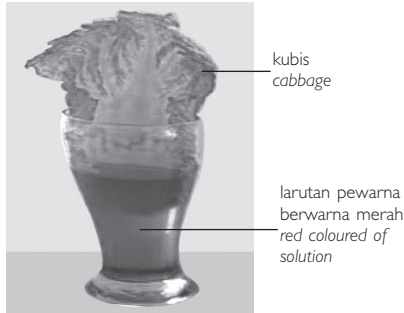


JAWAPAN

Aktiviti Pelibatan Ibu bapa (PIB) m.s. 13



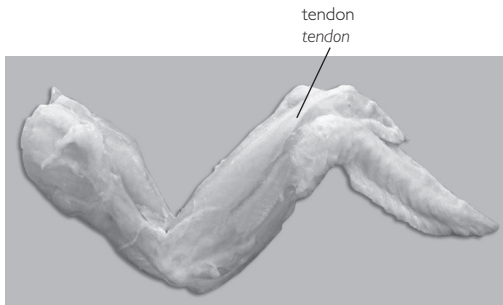
Pemerhatian/Observation:

Warna awal kubis Initial colour of cabbage	Warna kubis selepas satu jam Colour of cabbage after one hour
Putih White	Merah Red

Perbincangan/Discussion:

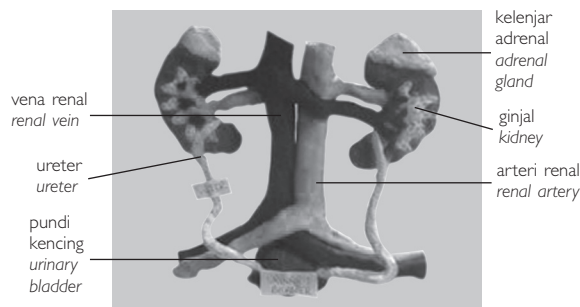
- Akar tumbuhan menyerap air melalui salur xilem secara osmosis.
Roots of plants absorb water through the xylem by osmosis.
- Molekul air akan diangkut melalui tisu xilem ke seluruh bahagian tumbuhan.
Water molecules will be transported through the xylem tissues to all parts of the plants.
- Warna merah pada tumbuhan menunjukkan pergerakan air melalui salur xilem.
The red colour in plants indicates the movement of water molecules through the xylem vessels.

Aktiviti Pelibatkan Ibu Bapa (PIB) m.s. 26



Tendon merupakan tisu perantara yang menghubungkan otot dengan tulang.
The tendon is the connective tissue that connects the muscle to the bone.

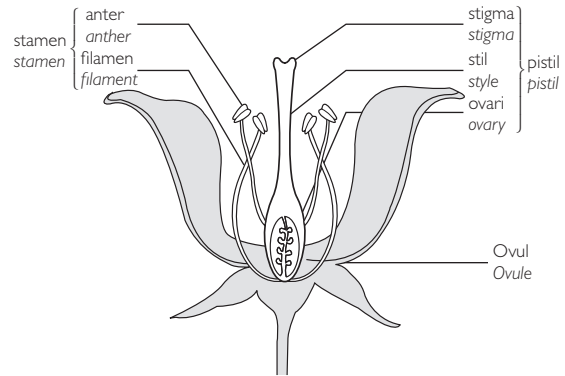
Aktiviti Pelibatan Ibu Bapa (PIB) m.s. 34



Model sistem perkumuhan manusia
A model of the human excretory system

- Tiga salur yang bersambung pada setiap ginjal adalah arteri renal, vena renal dan ureter.
The three ducts connected to each kidney are renal arteries, renal veins and ureter.
- Fungsi arteri renal: Membawa darah beroksigen yang mengandungi nutrien dan bahan kumuh seperti urea dan garam mineral dari aorta ke ginjal.
Function of the renal artery: Bring oxygenated blood containing nutrients and wastes such as urea and mineral salts from the aorta to the kidneys.
Fungsi vena renal: Membawa darah terdeoksigen keluar dari ginjal.
Function of the renal vein: Carries deoxygenated blood away from the kidney.
Fungsi ureter: Membawa air kencing dari ginjal ke pundi kencing.
Function of the ureter: Carries urine from the kidney to the urinary bladder.

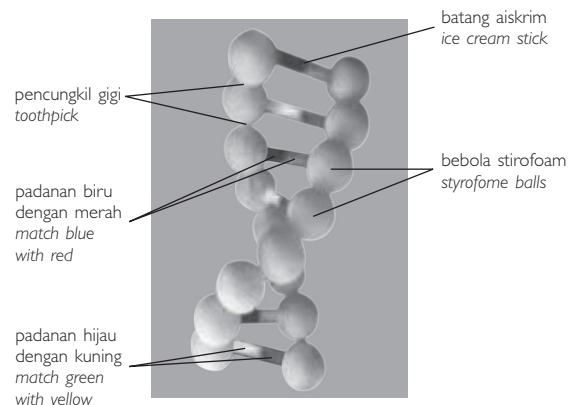
Aktiviti Pelibatan Ibu Bapa (PIB) m.s. 47



Bahagian organ pembiakan seks bunga raya
Part of the sexual reproductive organs of the hibiscus flower

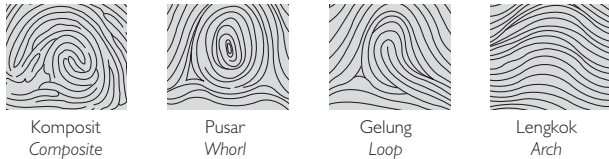
- Struktur pembiakan tumbuhan berbunga terdiri daripada pistil dan stamen.
The sexual reproductive organs of flowering plants consist of pistil and stamen.
- Pistil merupakan struktur pembiakan betina yang terdiri daripada stil, stigma, ovari dan ovul.
Pistil is the female reproductive organ which consist of style, stigma, ovary and ovule.
- Stamen merupakan struktur pembiakan jantan yang terdiri daripada anter dan filamen.
Stamen is the male reproductive organ which consists of the anther and filament.

Aktiviti Pelibatan Ibu Bapa (PIB) m.s. 63



- Molekul DNA terdiri daripada dua rantai polinukleotida yang berpilin di antara satu sama lain untuk membentuk struktur heliks ganda dua.
DNA molecule consists of two polynucleotides that coil together to form a double helix.
- Setiap nukleotida terdiri daripada gula deoksiribosa, kumpulan fosfat dan bes bernitrogen (tiamina (T), adenina (A), sitosina (C) dan guanina (G)).
Each nucleotide contains a phosphate group, a sugar group and a nitrogen base (adenine (A), thymine (T), guanine (G) and cytosine (C)).
- Bes tiamina (T) akan berpadanan dengan adenina (A), manakala bes sitosina (C) akan berpadanan dengan guanina (G).
Thymine (T) is always paired with adenine (A), guanine (G) is always paired with cytosine (C).
- Dua rantaian DNA terikat melalui ikatan hidrogen di antara dua pasangan bes bernitrogen.
The two strands are held together by the hydrogen bonds between two pairs of nitrogen bases.

Aktiviti Pelibatan Ibu Bapa (PIB) m.s. 72



- Cap jari pada setiap ahli keluarga adalah berbeza. Terdapat empat jenis cap jari iaitu lengkok, pusar, komposit dan gelung.
The fingerprint of each family member are different from each other. There are four types of fingerprints, they are arch, whorl, composite and loop.
- Jenis cap jari merupakan salah satu contoh kepada variasi tidak selanjur.
Fingerprints are examples of discontinuous variation.
- Variasi tidak selanjur mempunyai perbezaan ciri yang jelas iaitu diskrit.
Discontinuous variations have discrete characteristics.
- Variasi tidak selanjur dipengaruhi oleh faktor genetik dan tidak dipengaruhi oleh faktor persekitaran.
Discontinuous variation influenced by the genetic factor and are not influenced by environmental factors.

EKSPERIMEN 1: Hubungan antara Saiz Permukaan dengan Nisbah Jumlah Luas Permukaan Per Isi padu (JLP/I)

Hipotesis/Hypothesis

kecil
smaller

Pemboleh ubah/Variables

- Saiz kiub agar
Size of agar cube
- Nisbah jumlah luas permukaan per isi padu (JLP/I)
The total surface area to volume ratio (TSA/V)

Perbincangan/Discussion

- P
 - R
 - rendah
lowest
 - tinggi
highest
- besar, kecil
bigger, smaller
- kecil, peratusan resapan oksigen, rendah, tinggi
smaller, percentage of oxygen diffusion, lower, higher
- JLP/I yang kecil
smaller TSA/V

EKSPERIMEN 2: Xilem ialah Saluran untuk Mengangkut Air dalam Tumbuhan Berbunga

Hipotesis/Hypothesis

air/water

Pemboleh ubah/Variables

- Tisu tumbuhan yang berbeza
Different plant tissues
- Tisu berwarna
Stained tissues
- Jenis tumbuhan
Type of plant

Perbincangan/Discussion

- Ya
Yes
- merah gelap, tidak berwarna, mengangkut air
dark red, colourless, transports water
- sel-sel mati, sitoplasma, berterusan, lignin
dead cells, cytoplasm, continuous, lignin

Kesimpulan/Conclusion

berterusan, air
continuous, water

EKSPERIMEN 3: Floem ialah Saluran untuk Mengangkut Hasil Fotosintesis atau Bahan Organik dalam Tumbuhan

Hipotesis/Hypothesis

hasil fotosintesis, bahan organik
product of photosynthesis, organic material

Pemboleh ubah/Variables

- Bahagian kulit kayu yang digelang
The ringing bark
- Keadaan batang selepas penggelangan
The condition of the stem after ringing
- Jenis pokok
Type of plant

Perbincangan/Discussion

- membengkak
swelled
- tidak dapat diangkut, pembengkakkan, atas
could not be transported, above, swell up
- bengkak, atas, bawah
swelled, upper, lower

Kesimpulan/Conclusion

berterusan, hasil fotosintesis, bahan organik
continuous, product of photosynthesis, organic material

EKSPERIMEN 4: Pergerakan Udara Mempengaruhi Kadar Transpirasi pada Tumbuhan

Hipotesis/Hypothesis

laju, tinggi
faster, higher

Pemboleh ubah/Variables

- Kelajuan udara
Speed of air
- Kadar transpirasi
Rate of transpiration

Pemerhatian/Observations

Pergerakan udara <i>Air movement</i>	Masa yang diambil oleh gelembung udara untuk bergerak sejauh 10 cm (minit) <i>The time taken by the bubble air to move as far as 10 cm (minute)</i>	Kadar transpirasi (cm/min) <i>Rate of transpiration (cm/min)</i>
Udara tetap (kelajuan 0) <i>Still air (speed 0)</i>	32	0.31
Udara bergerak (kipas dipasang) <i>Moving air (switch on the fan)</i>	14	0.71

Perbincangan/Discussion

- lebih tinggi
higher

- 2 menambahkan luas permukaan
increase the surface area
- 3 gelembung udara, salur xilem
air bubble, xylem vessels

Kesimpulan/Conclusion

laju, tinggi, perlahan, rendah, diterima
faster, higher, slower, lower, accepted

EKSPERIMEN 5: Kesan Pengambilan Air terhadap Penghasilan Air Kencing

Hipotesis/Hypothesis

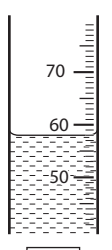
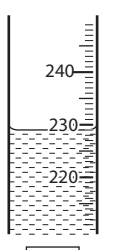
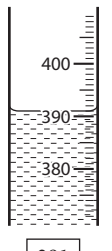
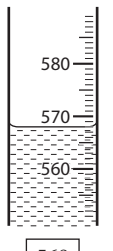
banyak, banyak

higher, higher

Pemboleh ubah/Variables

- (b) Isi padu air kencing yang dihasilkan
The volume of urine produced
- (c) Individu yang sama/Masa yang diambil
Same individual/Time taken

Pemerhatian/Observations

Isi padu air yang diambil (mℓ) <i>The volume of water intake (mℓ)</i>	Isi padu air kencing yang dihasilkan (mℓ) <i>The volume of urine produced (mℓ)</i>	Isi padu air yang diambil (mℓ) <i>The volume of water intake (mℓ)</i>	Isi padu air kencing yang dihasilkan (mℓ) <i>The volume of urine produced (mℓ)</i>
150	 58	300	 229
450	 391	600	 568

Perbincangan/Discussion

- 1 banyak, banyak, dihasilkan
higher, higher, produced
- 2 Hormon ADH
ADH hormone
- 3 kurang, meningkat, hormon ADH, kurang
reduced, increase, ADH hormone, less

Kesimpulan/Conclusion

isi padu, banyak, banyak, diterima
volume, higher, higher, accepted

EKSPERIMEN 6: Percambahan Debunga dalam Kepekatan Sukrosa yang Berbeza

Hipotesis/Hypothesis

tinggi, tinggi

higher, higher

Pemboleh ubah/Variables

- (a) Kepekatan sukrosa
Concentration of sucrose
- (c) Jenis tumbuhan
Type of plant

Pemerhatian/Observations

Slaid kaca berlekuk <i>Cavity slide</i>	Kepekatan larutan sukrosa (%) <i>Concentration of sucrose solution (%)</i>	Bilangan debunga yang bercambah <i>Number of germinated pollen</i>	Peratus percambahan debunga (%) <i>Percentage of pollen germination (%)</i>
A	0.5	7/50	14
B	2.5	30/50	60
C	5.0	50/50	100

Perbincangan/Discussion

- 1 tinggi, tinggi
higher, higher
- 2 melarutkan debunga, percambahan debunga
dissolve the pollens, germination of pollen
- 3 Tiada, sumber tenaga
No, source of energy

Kesimpulan/Conclusion

tinggi, tinggi, Hipotesis diterima.
higher, higher, The hypothesis is accepted

EKSPERIMEN 7: Variasi Selanjar pada Manusia

Hipotesis/Hypothesis

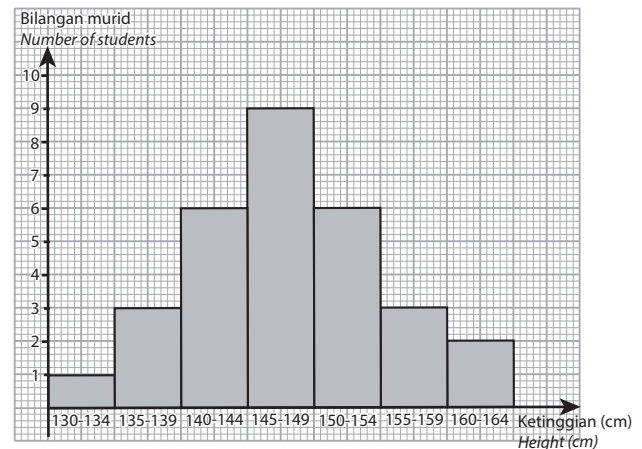
berbeza

different

Pemboleh ubah/Variables

- (a) Bilangan murid
Number of students
- (b) Ketinggian murid
Height of student

Pemerhatian/Observations



Perbincangan/Discussion

- 1 Berbentuk loceng
Bell curve
- 2 Ya
Yes
- 3 Faktor genetik, faktor persekitaran
Genetic, environmental factors

Kesimpulan/Conclusion

berbeza-beza, Hipotesis diterima
varies, The hypothesis is accepted

EKSPERIMEN 8: Variasi Tidak Selanjar pada Manusia

Hipotesis/Hypothesis

berbeza

different

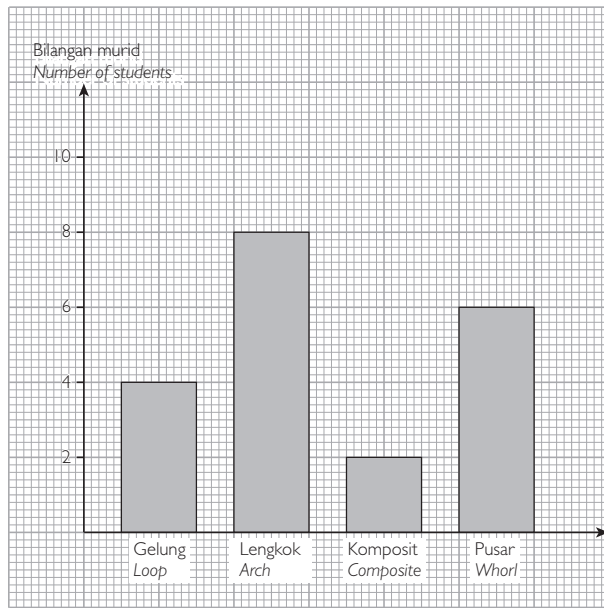
Pemboleh ubah/Variables

- (a) Bilangan murid
Number of students

(b) Jenis cap ibu jari
Type of thumbprint

(c) Umur murid
Age of students

Prosedur/Procedure



Perbincangan/Discussion

- 1 Graf bar
Bar graph
- 2 Faktor genetik
Genetic factors

Kesimpulan/Conclusion

lengkok, tinggi
arch, greater