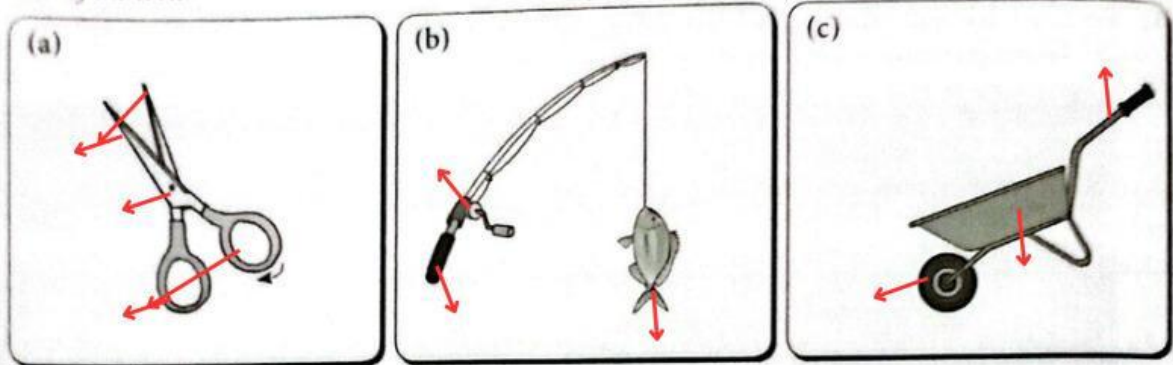


Tuas Lever

2. Rajah 1 menunjukkan tiga alat yang menggunakan prinsip tuas. Nyatakan kedudukan fulkrum, beban dan daya bagi setiap alat tersebut. **(TP 1)**
Diagram 1 shows three tools that using lever principle. State the location of the fulcrum, load and effort for each of the tools.



Rajah 1/ Diagram 1

3. Lengkapkan jadual di bawah tentang jenis-jenis tuas. **(TP 2)**
Complete the table below on the types of levers.

	Tuas kelas pertama First class lever	Tuas kelas kedua Second class lever	Tuas kelas ketiga Third class lever
Kedudukan fulkrum, daya dan beban The location of fulcrum, effort and load	(a)	(c)	(e)
Contoh-contoh Examples	(b)	(d)	(f)

4. Padankan alat ringkas berikut dengan kelas tuas yang betul. **(TP 2)**
Match the following simple tools with the correct class of levers.

(a) Forseps Forceps	(b) Playar Plier	(c) Gunting Scissors	(d) Pemotong kertas Paper cutter	(e) Penyapu Broom
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(i) Tuas kelas pertama
First class lever

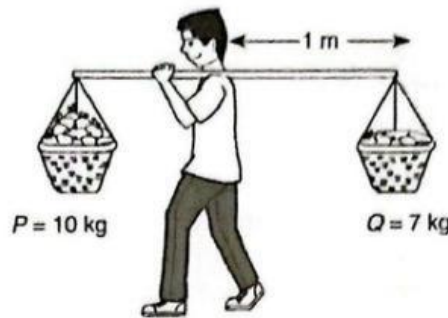
(ii) Tuas kelas kedua
Second class lever

(iii) Tuas kelas ketiga
Third class lever

Momen Daya Moment of Force

5. Rajah 2 menunjukkan Ah Hong mengandar dua buah bakul sayur menggunakan sebatang kayu ke pasar pada setiap pagi.

Diagram 2 shows Ah Hong carries two baskets of vegetables using a pole to the market every morning.

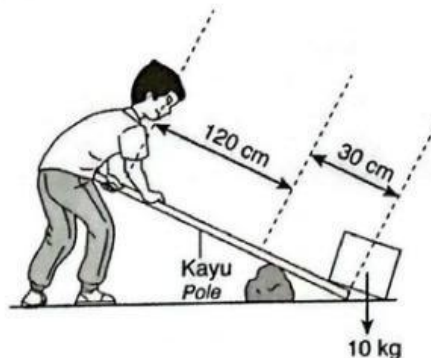


Rajah 2 / Diagram 2

Berapakah jarak bakul P dari bahu Ah Hong supaya kayu kandar dapat diseimbangkan? **TP 3**
What is the distance basket P from Ah Hong's shoulder in order for the pole to stabilise? **KBAT** Mengaplikasi

6. Rajah 3 menunjukkan Fariz menggunakan sebatang kayu dan sebongkah batu untuk mengangkat sebuah kotak seberat 10 kg.

Diagram 3 shows Fariz is using a pole and a rock to lift a box weighing 10 kg.



Rajah 3 / Diagram 3

- (a) Kenal pasti beban, daya dan fulkrum dan labelkan. **TP 2**
Identify and label the load, effort and fulcrum.

- (b) Kenal pasti jenis tuas yang digunakan Fariz. **TP 2**
Identify the type of lever that Fariz is using.

- (c) Hitung daya yang digunakan oleh Fariz untuk mengangkat kotak tersebut. **TP 3**
Calculate the effort put by Fariz to lift the box.

- (d) Di manakah Fariz perlu meletakkan fulkrum untuk lebih memudahkan kerja mengangkat kotak tersebut? **TP 4**
Where does Fariz need to put the fulcrum to make the lifting easier? **KBAT** Menganalisis



7. Nyatakan sama ada pernyataan di bawah BENAR atau PALSU mengenai momen daya. **TP 2**
State whether the statements below are TRUE or FALSE about moment of force.

- (a) Momen daya ialah kesan putaran yang dihasilkan oleh daya.
Moment of a force is the turning effect produced by a force.
- (b) Momen daya bergantung pada kekuatan daya dan jarak tegak dari fulkrum ke daya.
Moment of a force depends on the magnitude of force and the perpendicular distance from the fulcrum to the effort.
- (c) Unit momen daya ialah N m^2 .
The unit for the moment of force is N m^2 .
- (d) Jika daya ialah 30 N, jarak tegak dari fulkrum ke daya ialah 15 cm dan momen daya ialah 4.5 N m.
If effort is 30 N, the distance from fulcrum to effort is 15 cm and the moment of force is 4.5 N m.

Tekanan Pressure

8. Rajah 4 menunjukkan tiga aplikasi tekanan dalam kehidupan seharian.
Diagram 4 shows three application of pressure in daily life.



Rajah 4 / Diagram 4

- (a) Pada pendapat anda, apakah persamaan yang terdapat di antara kaki gajah, traktor dan kereta kebal? **TP 4**

In your opinion, what is the similarity among an elephant feet, a tractor and a main battle tank share?

KBAT Menganalisis

All of them have a _____ base.

- (b) Huraikan jawapan di 8(a). **TP 4**

Elaborate your answer in 8(a).

KBAT Menganalisis

The larger the area of surface, the _____ the magnitude of pressure. Since an elephant, a tractor and a battle tank all have _____ base, the pressure exerted on the surface is _____. This helps them to _____ around on soft or muddy ground.

move

low

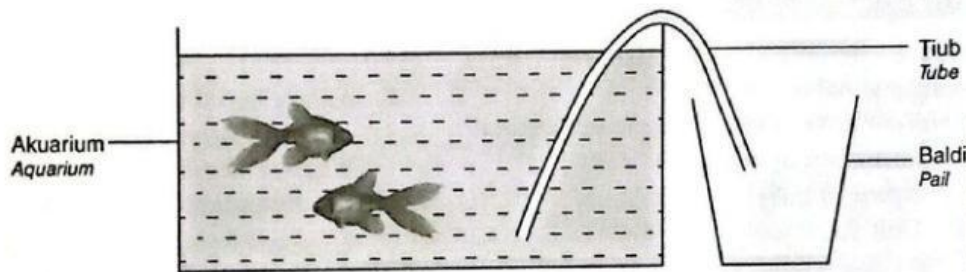
large

smaller

- (c) Helen mahu mengadakan majlis perkahwinannya di tepi pantai. Berdasarkan jawapan anda di 8(b), Pilih dan bulatkan kasut yang paling tepat untuk digayakan. **TP 4**
 Helen wants to have a wedding ceremony at a beach. Based on your answer in 8(b), choose and circle the most appropriate shoes for Helen during her wedding day. **KBAT Mengaplikasi**



9. Rajah 5 menunjukkan Amin cuba mengaplikasi konsep tekanan udara bagi mengeluarkan air dalam akuarium ikannya, tetapi tidak berjaya.
 Diagram 5 shows Amin tried to apply the concept of air pressure to empty the water in his aquarium but failed.



Rajah 5 / Diagram 5

- (a) Pada pendapat anda, apakah kesilapan Amin? Jelaskan jawapan anda. **TP 5**
 In your opinion, what are the mistakes done by Amin? Explain your answer. **KBAT Menalar**

Amin's mistakes are that the tube is not filled with water and the end of the tube in the bucket is located higher than the other end in the aquarium.

- (b) Cadangkan pengubahsuaian yang membolehkan Amin mengeluarkan air daripada akuarium. **TP 6**
 Suggest some modification to help Amin empty the water from aquarium. **KBAT Mencipta**

- Fill up the tube with water
- Use a smaller bucket or a longer tube to ensure that the end of the tube where the water flows out is lower than the other end.

- (c) Senaraikan tiga alat di rumah anda yang menggunakan konsep tekanan udara. **TP 3**
 List three tools at your house that use the concept of air pressure. **KBAT Mengaplikasi**

Washing machine	Vacuum Cleaner	Table fan
Syringe	Plunger	Broom