Tarikh:

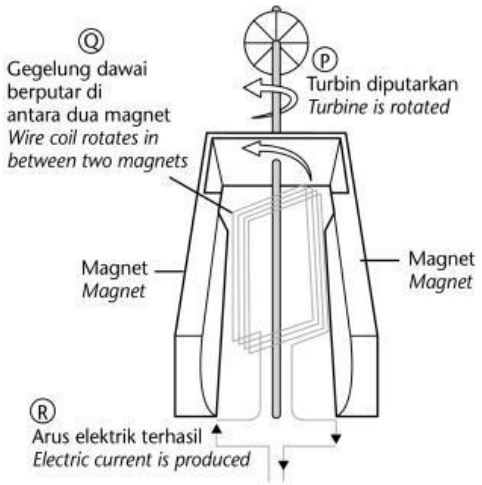
6.3 AKTIVITI PERBINCANGAN

Penjanaan tenaga elektrik
The generation of electrical energy

PBD STM

HEBAT Sains Modul 22 Buku teks m/s 166 – 168

1 Pada amnya, semua penjana tenaga elektrik menggunakan prinsip penjanaan yang sama. Berdasarkan maklumat yang diberikan, lengkapkan ruang di bawah. TP2
Generally, all electrical energy generators use the same principle of generation. Based on the given information, complete the spaces below.



Penjanaan elektrik/*Generation of electricity*

P: _____ diputarkan./_____ *is rotated*

↓

Q: Turbin memutarkan _____ yang terletak di antara magnet dan memotong _____. / *The turbine turns the* _____ *placed in between a magnet and cut across the* _____.

↓

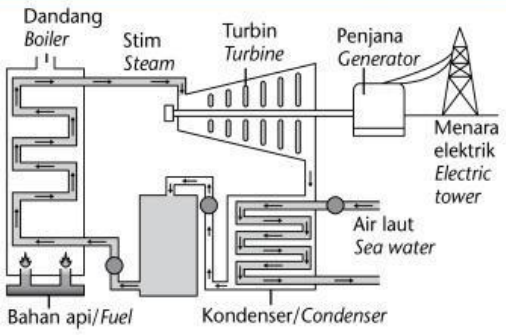
R: _____ terhasil.
_____ *is produced.*

2 Kenal pasti pelbagai jenis stesen jana kuasa. Kemudian, nyatakan perubahan tenaga yang berlaku.
Identify the various types of power stations. Then, state the energy changes that take place. TP2

Tenaga ombak *Wave*	Tenaga angin *Wind*	Tenaga solar *Solar energy*	Hidroelektrik *Hydroelectric*
Biojisim *Biomass*	Tenaga nuklear *Nuclear energy*	Terma *Thermal*	

BAB 6

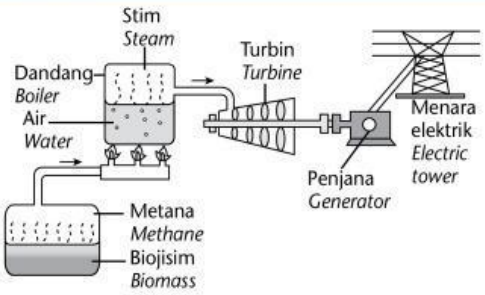
(a)



Stesen jana kuasa _____
_____ *power station*

Bahan api seperti petroleum, diesel, arang batu atau gas asli dibakar untuk mendidihkan air bagi menghasilkan stim untuk memutarkan turbin. Putaran turbin menggerakkan penjana yang menghasilkan tenaga elektrik.
Fuel such as petroleum, diesel, coal or natural gas is burnt to boil water to produce steam which rotates the turbine. The turbine rotates the generators to produce electrical energy.

(b)



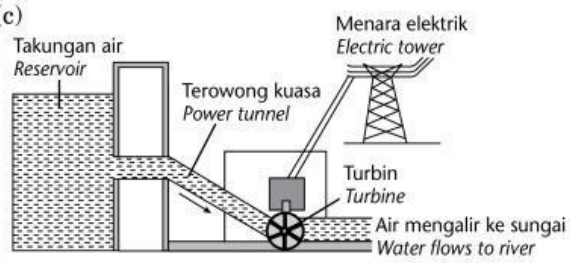
Stesen jana kuasa _____
_____ *power station*

Biojisim menghasilkan metana yang mendidihkan air menjadi stim untuk memutarkan turbin. Putaran turbin menggerakkan penjana untuk menghasilkan tenaga elektrik.
The biomass produces methane that boils water into steam to rotate the turbine. The turbine rotates the generators to produce electricity.

Tenaga _____ ⟶ tenaga _____ ⟶ tenaga _____ ⟶ tenaga _____.
_____ *energy* ⟶ _____ *energy* ⟶ _____ *energy* ⟶ _____ *energy.*

LIVEWORKSHEETS

(c)



Stesen jana kuasa _____

_____ *power station*

Air dari empangan memutarkan turbin. Putaran turbin menggerakkan penjana untuk menjana tenaga elektrik.
Water from a dam rotates a turbine. The turbin rotates the generators to produce electrical energy.

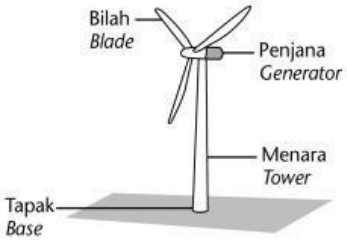
Tenaga _____ ⟶ tenaga _____

⟶ tenaga _____.

_____ *energy* ⟶ _____ *energy*

⟶ _____ *energy.*

(d)



Stesen jana kuasa _____

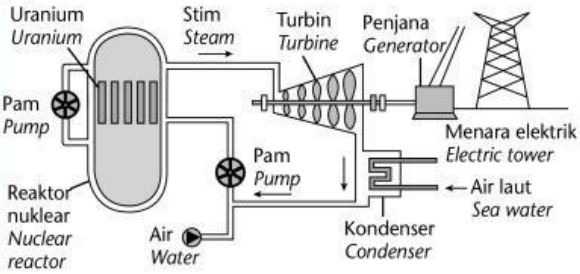
_____ *power station*

Udara yang bergerak atau angin menggerakkan bilah. Bilah memutarkan turbin. Putaran turbin menggerakkan penjana untuk menjana tenaga elektrik.
The moving air or the wind moves the blade. The blade rotates the turbine. The turbine rotates the generator to produce electrical energy.

Tenaga _____ ⟶ tenaga _____.

_____ *energy* ⟶ _____ *energy.*

(e)



Stesen jana kuasa _____

_____ *power station*

Pembelahan (tindak balas) nukleus uranium dalam reaktor nuklear digunakan untuk mendidihkan air bagi menghasilkan stim yang memutarkan turbin. Putaran turbin menggerakkan penjana untuk menjana tenaga elektrik./*The nuclear fission (reaction) of uranium in a nuclear reactor is used to boil water to produce steam which rotates the turbine. The turbine rotates the generators to produce electrical energy.*

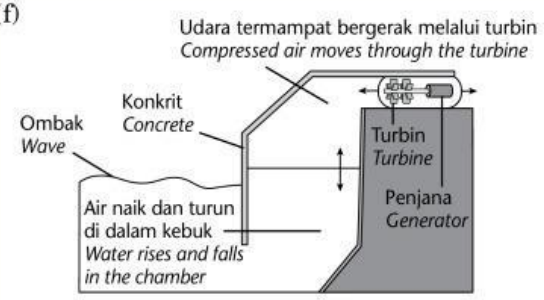
Tenaga _____ ⟶ tenaga _____

⟶ tenaga _____ ⟶ tenaga elektrik.

_____ *energy* ⟶ _____ *energy*

⟶ _____ *energy* ⟶ *electrical energy.*

(f)



Stesen jana kuasa _____

_____ *power station*

Ombak menyebabkan aras laut naik dan memampatkan udara. Pengembangan udara yang termampat memutarkan turbin. Putaran turbin menggerakkan penjana untuk menjana tenaga elektrik.
The waves cause the sea level to rise and compress the air. The expansion of compressed air rotates the turbine. The turbine rotates the generators to produce electrical energy.

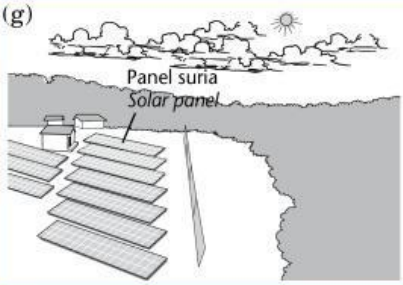
Tenaga _____ ⟶ tenaga _____

⟶ tenaga _____ ⟶ tenaga elektrik.

_____ *energy* ⟶ _____ *energy*

⟶ _____ *energy* ⟶ *electrical energy.*

(g)



Stesen jana kuasa _____

_____ *power station*

Panel suria menyerap tenaga cahaya secara langsung daripada Matahari dan menukarkannya menjadi tenaga elektrik./*The solar panel absorbs light energy directly from the Sun and converts it into electrical energy.*

Tenaga solar ⟶ tenaga _____.

Solar energy ⟶ _____ *energy.*

BAB 6

LIVEWORKSHEETS