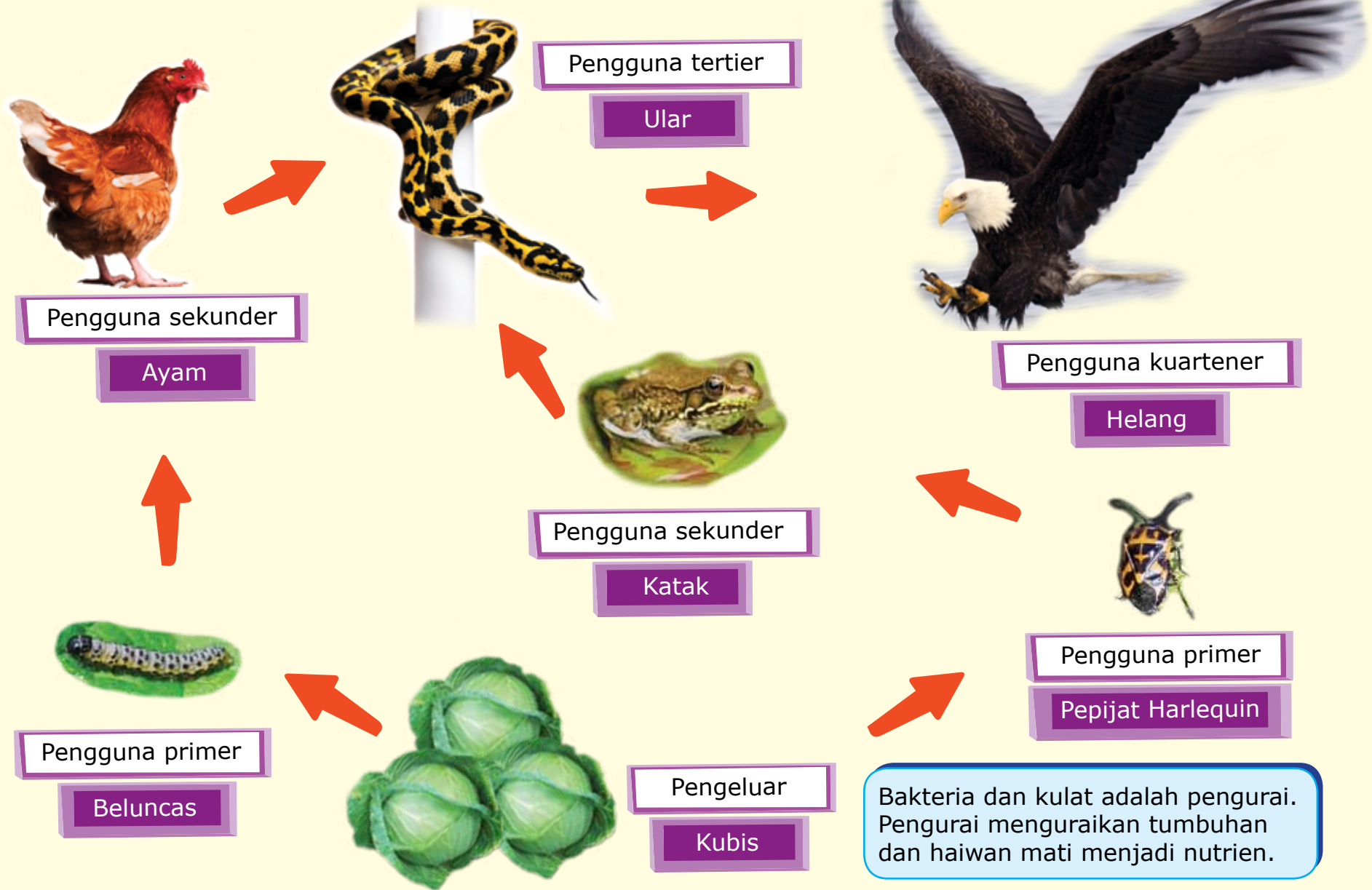
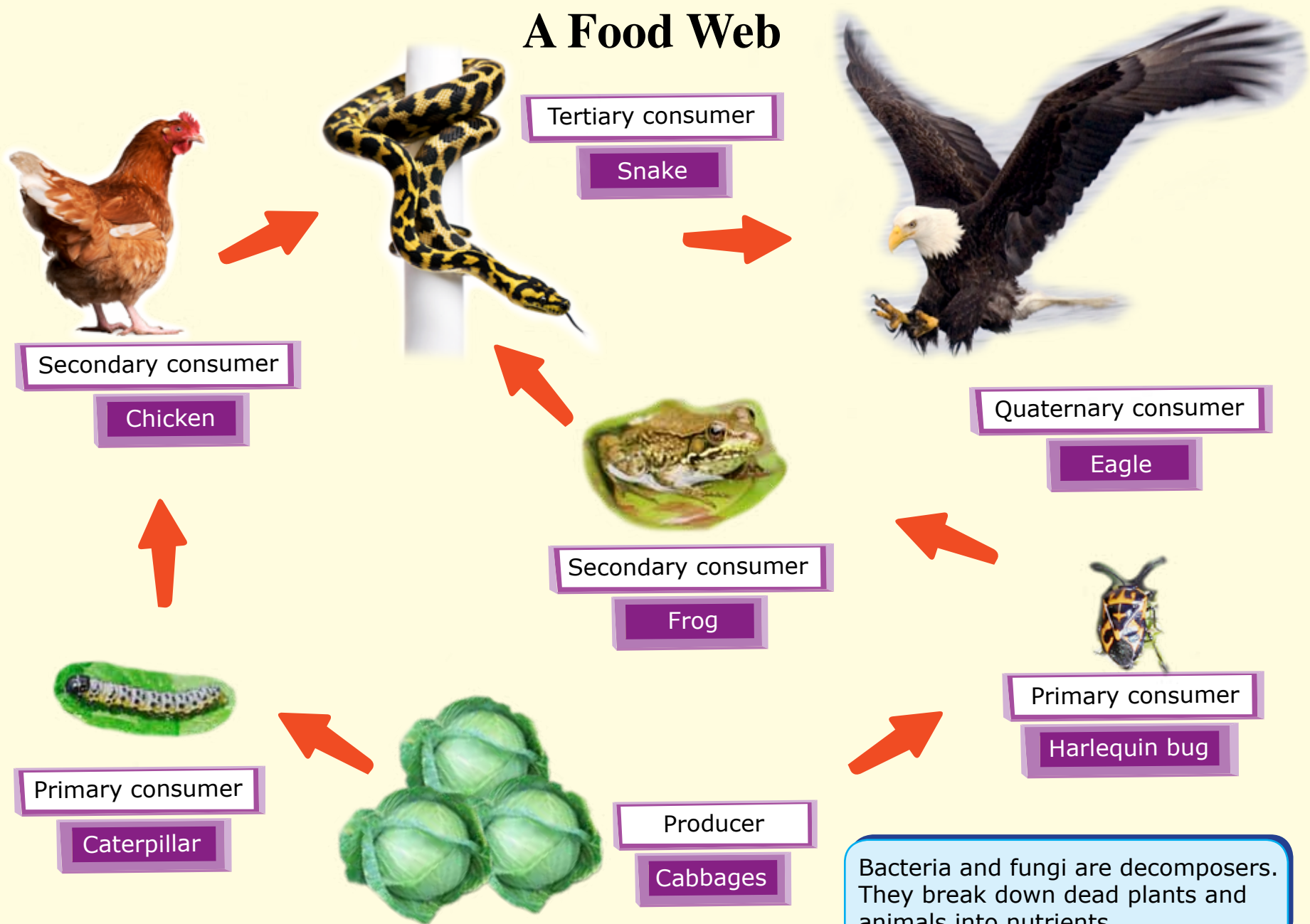


Siratan Makanan



A Food Web



Interaksi antara Organisma

Simbiosis

Mutualisme

Interaksi yang memberi manfaat kepada kedua-dua organisma.



Burung tiung (+)	Kerbau (+)
Mendapat makanan, iaitu kutu di badan kerbau	Bebas daripada kutu



Burung tiung (+)	Kerbau (+)
Mendapat makanan, iaitu kutu di badan kerbau	Bebas daripada kutu

Komensalisme

Interaksi yang memberi manfaat kepada salah satu organisma tetapi tidak memberi kemudahan kepada organisma yang satu lagi.



Paku-pakis langsuir (+)	Pokok (O)
Mendapat cahaya matahari	Tidak mendapat manfaat



Paku-pakis langsuir (+)	Pokok (O)
Mendapat cahaya matahari	Tidak mendapat manfaat

Parasitisme

Interaksi yang menguntungkan satu organisma sahaja dan memudaratkan organisma yang satu lagi.



Bunga pakma (+)	Pokok (-)
Mendapat nutrien daripada pohon berkayu	Kekurangan nutrien



Nyamuk (+)	Manusia (-)
Mendapat makanan, iaitu darah	Darah dihisap dan meninggalkan kesan gatal-gatal

Petunjuk:

- + Mendapat manfaat
- Mendapat kemudahan
- O Tidak mendapat manfaat atau kemudahan

Interaction between Organisms

Symbiosis

Mutualism

An interaction that benefits both organisms.



Mynah (+)

Gets food, i.e. the lice on the buffalo's body

Buffalo (+)

Free of lice



Butterfly (+)

Gets food, i.e. nectar from the flower

Flower (+)

The butterfly helps spread pollen

Commensalism

An interaction that benefits one organism without harming or benefitting the other organism.



Shark (O)

Does not benefit

Remora fish(+)

Gets food from the scraps scattered by the shark



Bird's nest fern (+)

Gets sunlight

Tree (O)

Does not benefit

Parasitism

An interaction that benefits one organism only and harms the other organism.



Rafflesia (+)

Gets nutrients from tree branches

Tree (-)

Loses nutrients



Mosquito (+)

Gets food, i.e. blood

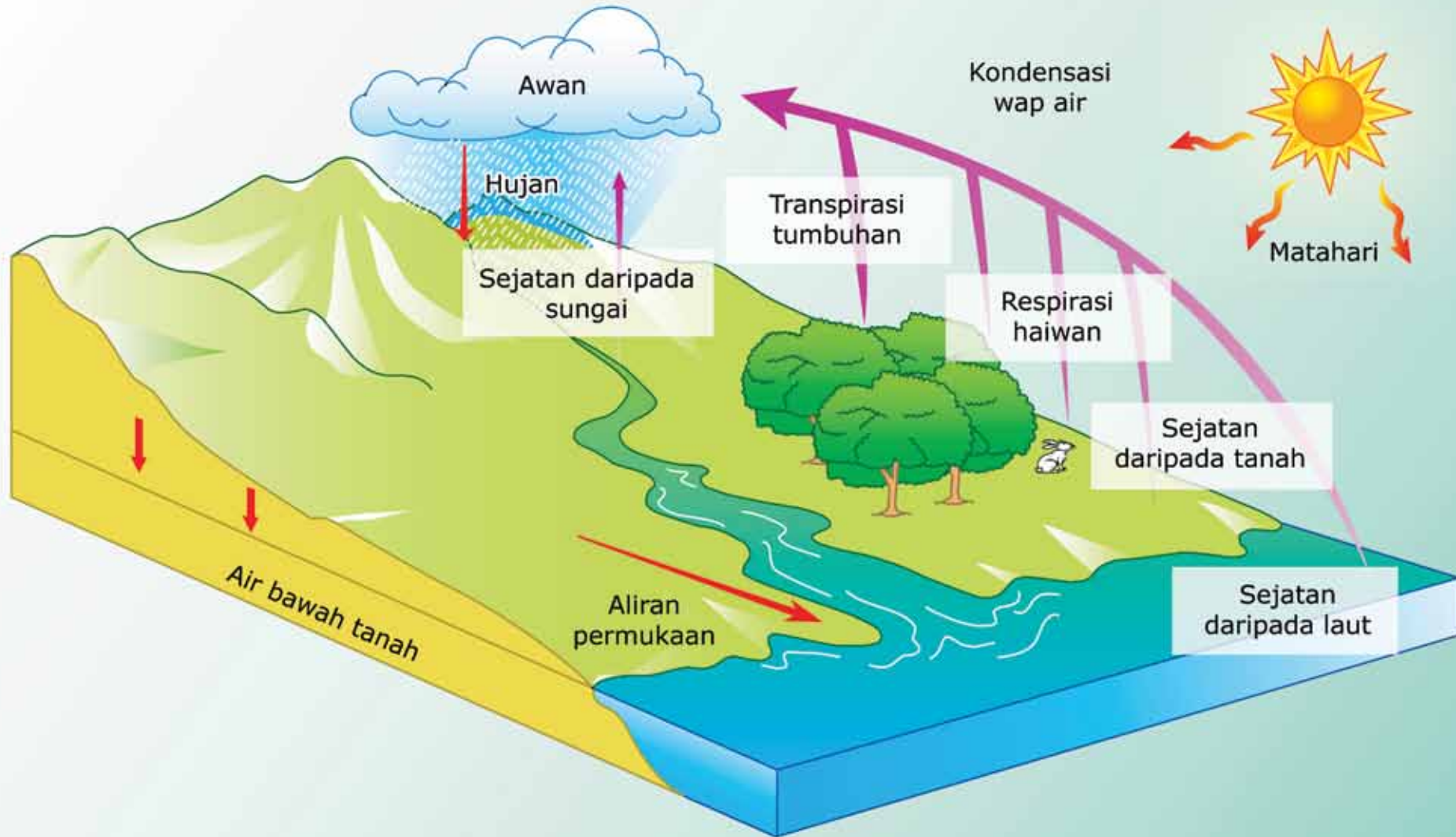
Human (-)

Blood is sucked, leaving an itch

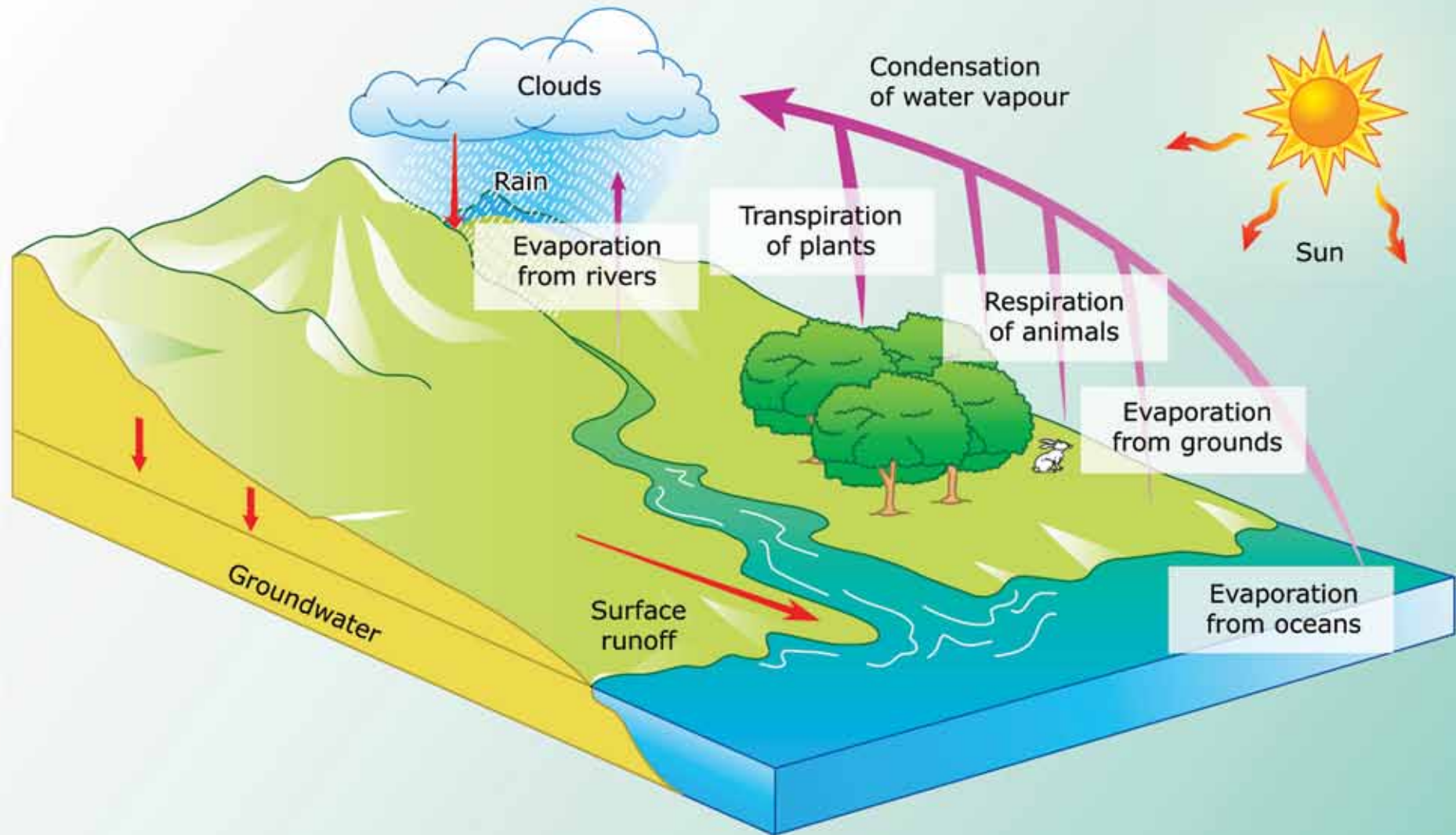
Key:

- + Benefits
- Gets harmed
- O Does not benefit nor gets harmed

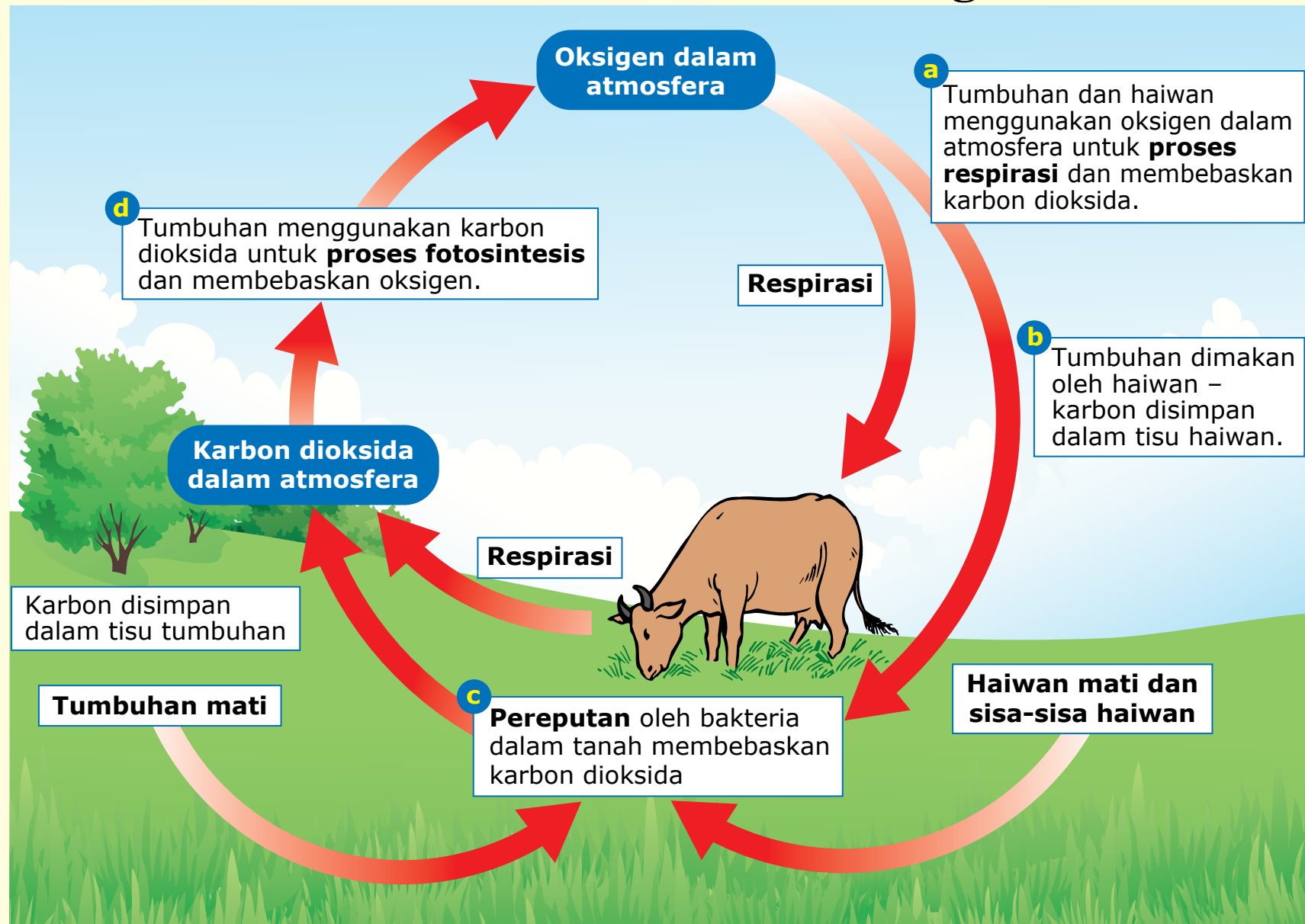
Kitar Air



The Water Cycle



Kitar Karbon dan Kitar Oksigen



Carbon Cycle and Oxygen Cycle

