


Earth and Space Review – Applied Science and Technology (AST)

This summary provides a quick overview of all the concepts about the Earth and Space that can be assessed during the AST ministry exam. To explore a topic in more detail, scan its QR code.

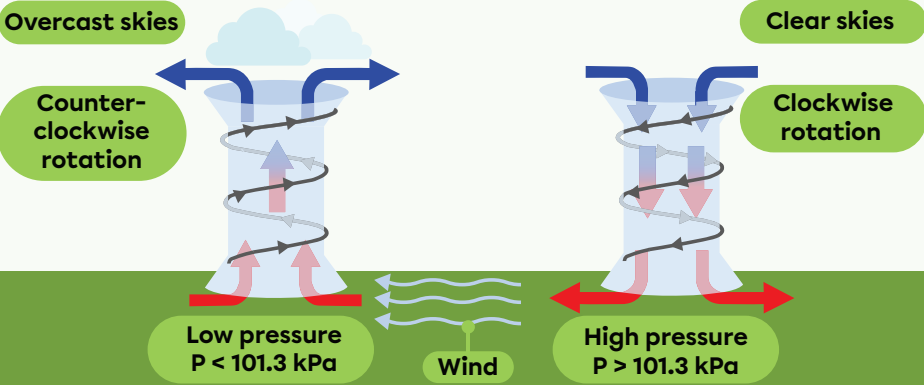


Cyclones and Anticyclones


Cyclones and **anticyclones** are meteorological systems linked to vertical movements of air masses. They influence a region's atmospheric conditions.

Cyclone formation: **a rising mass of warm air (less dense)** forms an area of low pressure on the ground.

Anticyclone formation: **a falling mass of cold (denser) air** forms an area of high pressure on the ground.



The wind moves from an area of high pressure to an area of low pressure.



Energy Resources			
Resource	Origin	Renewable	GHG emissions
Biomass	Biosphere	Yes	Yes
Fossil fuels	Lithosphere	No	Yes
Uranium	Lithosphere	No	No
Geothermal	Lithosphere	Yes	No
Wind	Atmosphere	Yes	No
Hydroelectricity	Hydrosphere	Yes	No
Solar radiation	Space	Yes	No





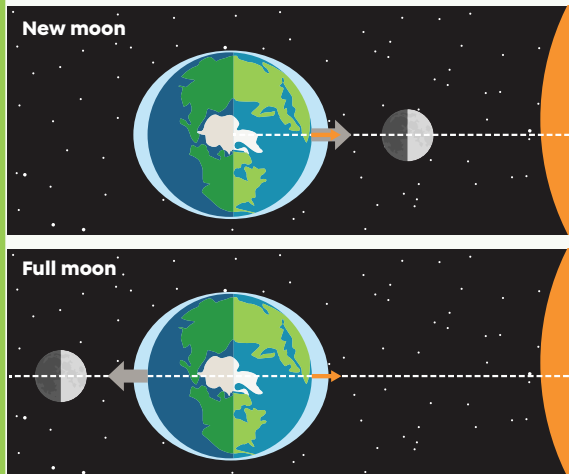
Tides

Tides are the daily change of water levels. One of the main causes is the effect of the gravitational forces of the Moon and the Sun.

Gravitational force: force of mutual attraction between two bodies.

Spring tides

The gravitational forces of the Moon and Sun are aligned.



Caption → Attraction of the Moon → Attraction of the Sun

Neap tides

The gravitational forces of the Moon and Sun are perpendicular.

First quarter moon



Last quarter moon



Important to know! Because of its proximity to the Earth, the Moon's gravitational pull is twice that of the Sun.



Watershed

A **watershed** or **catchment area** is a territory defined by boundaries called *watershed divides* that surround river and stream systems.

Here's the impact of a wastewater discharge on points A, B, and C.

