**Define:**

|  |  |
| --- | --- |
| **Dissolved oxygen** |  |
| **Light availability** |  |
| **Salinity** |  |
| **Substrate and sediment** |  |

Coral reef distribution 1

* identify the distribution of coral reefs globally and in Australia
* identify abiotic factors that have affected the geographic distribution of corals over geological time including dissolved oxygen, light availability, salinity, temperature, substrate, aragonite and low levels of nitrates and phosphates
* recall that corals first appeared within the geological record over 250 million years ago but not in Australian waters until approximately 500 000 years ago
* recognise that the Great Barrier Reef of today has been shaped by changes in sea levels that began over 20 000 years before present (BP) and only stabilised 6500 years BP

**How does light availability affect the distribution of coral reefs? Why?**

Explain the difference between:

|  |  |
| --- | --- |
| Calcite | Aragonite |
|  |  |

Where are coral reefs typically located? Why?

**Coral reef**

Define the following terms:

**Geographic distribution**

**Holocene**

**Sea level change**

**Glaciation periods**

Define abiotic and biotic factors and provide examples of each:

|  |  |
| --- | --- |
| **ABIOTIC** | **BIOTIC** |
|  |  |

|  |  |
| --- | --- |
| **Comparing Calcite and Aragonite** | |
| **Calcite** | **Aragonite** |
| **Chemical formula:**  **How is it formed?**  **Advantages/uses:** | **Chemical formula:**  **How is it formed?**  **Advantages/uses:** |

**Explain three biotic and abiotic factors that would limit coral reef distribution.**

**Answer the following questions:**

1. When did the Great Barrier reef start to look like it does today?
2. When did sea levels last stabilise?
3. What were sea levels like 20,000 years ago?
4. How have sea level changes affected the development of the Great Barrier Reef?

**Explain how these factors have changed over time:**

Salinity:

Ocean temperatures:

Nitrates and Phosphates:

**Zooxanthellae**