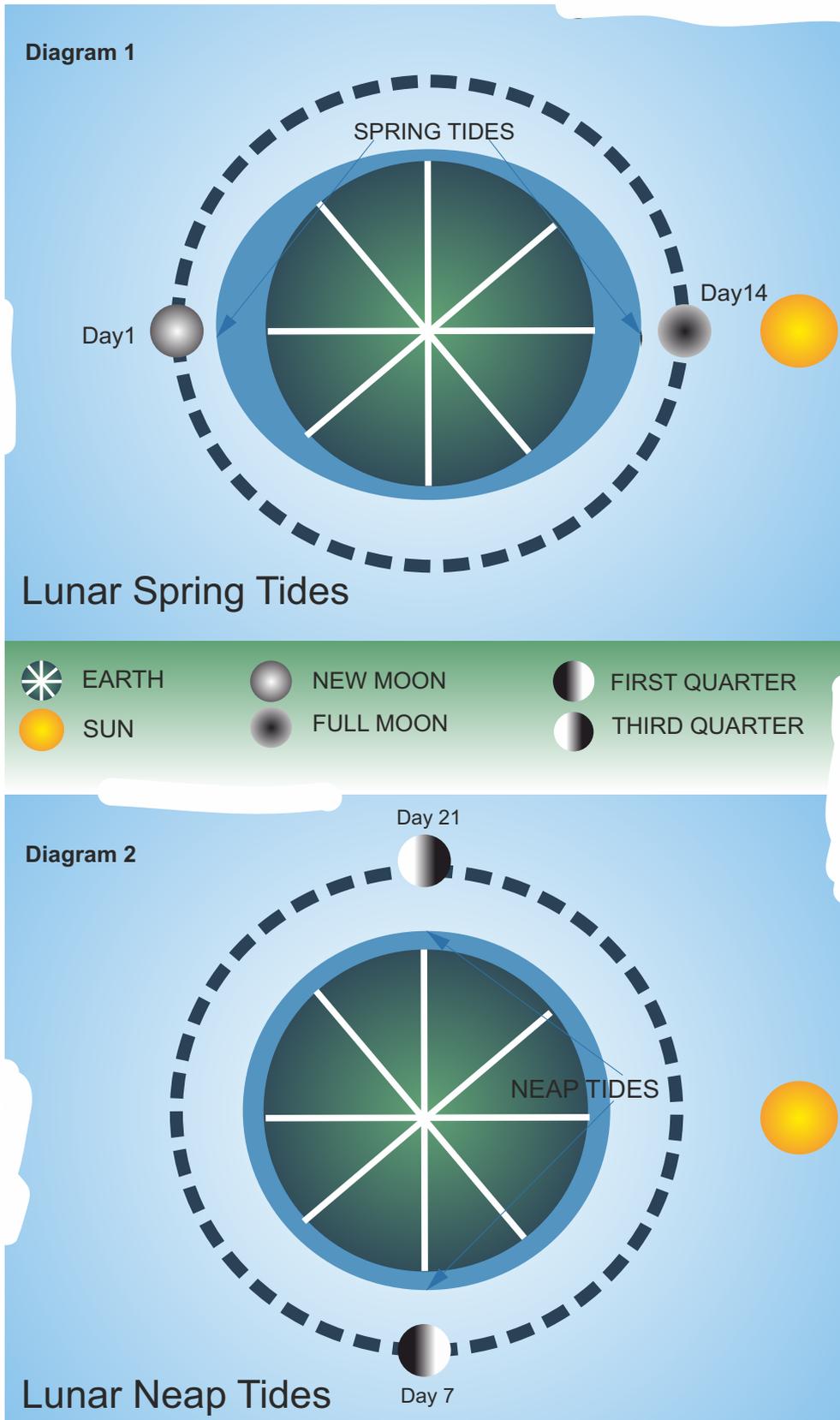


*A simple Guide to Understanding
the Lunar Cycle and its
interconnection with the Tidal Cycle
by*

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The Lunar Cycle



Lunar Cycle = 28 Day Cycle = 12deg. change per day

Simple explanation of the Lunar Cycle & Tidal Pattern

In a nutshell Astronomy controls the Lunar tides. These are the pattern forming tide cycles that play out on the shore each month. Each twenty eight days a new cycle commences.

The moon circulates the earth all the time. It takes twenty eight days to perform this circulation. The earth has magnetic powers within the solar system. The sun is the other main player. The sun too has magnetic powers over the moon and the earth. Sometimes the Sun, Moon and Earth are in a straight line. This happens twice a month, New Moon and Full Moon, fourteen days apart. This is depicted in Diagram 1. When this happens the Sun is pulling at its strongest on the moon which in turn has a stronger pull on the earth's surface because of this. This causes bulges on the earth's oceans. These bulges cause high and low **Spring Tides**. A low Spring tide is much lower than any other tide. The water disappears off the beach. Then the tide turns, meaning that at a particular point (normally six hours from start of withdrawal), it begins to return again. For six hours it will be returning at various velocities and reaching much further up the shore than at any other time (excepting special events). This means that a Spring tide is not only the lowest tide but it is also the highest tide. As the Moon moves around the earth at an approx daily movement of 12degrees, the main effects of a Spring tide will last approx two to three days at either side of a New Moon or a Full Moon.

So what happens when the Moon, moves away from its direct line with the Sun and therefore away from its magnetic pressure? The tidal bulges on the oceans surface return to normal, so the bulges disappear, so that by the time of the 1st quarter seven days after a New Moon, the Moon and Sun are at right angles to each other. On the surface of the ocean, this plays out with a tide that withdraws very little over a period of six hours and returns very little over a period of six hours (excepting special events). In other words, there is very little difference between low tide and high tide during this period. This is called **Neap tide**.(Diagram 2).

It is very important that when visiting the rocky shoreline to browse and explore, that one is aware of the tidal pattern of the day. Being familiar with the Lunar cycle is critical, and these can be found online, in some calendars and in various publications such as tide tables. Once one is aware of the Lunar Cycle, and the tide times for a particular day, it is very possible to plan a useful exploration trip. Ecologists and naturalists the world over prefer to visit the rocky shore during periods of Low Spring Tide. Low Spring Tide uncovers the lowest part of the shore together with its living organisms and it will provide for the most interesting trip at the lowest levels. Of course, at higher vertical levels on the shore, there will be rock pools exposed for greater lengths of time during any tide. These too provide for fantastic explorations.

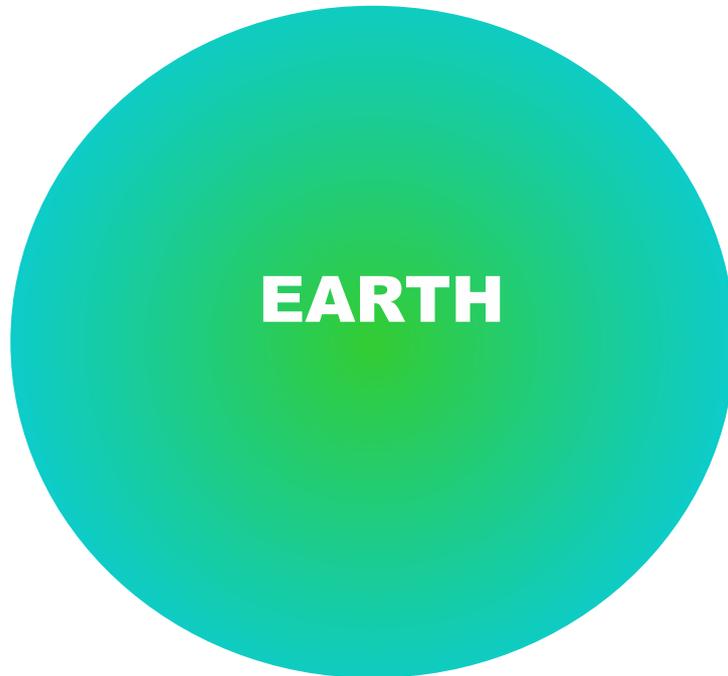
Furthermore, there are twenty four hours during which the tide is continually moving in one direction or another. The tide typically takes six hours to withdraw (**ebb tide**), and six hours to return (**flow tide**) every single day. That's just twelve hours. So each single twenty four hours, it performs this cycle twice. This is called the **day/night cycle** or **diurnal cycle**.

It may be fascinating to note at this point, that many shore creatures are internally clocked with the tidal rhythms, that determine critical factors, like when to eat, and when to reproduce. For instance, crabs generally hide during day time under rocks - hiding from predators such as gulls and oystercatchers. and at night time high tides move up and down the shore predated their wide selection of prey. Sub-tidal fish move up shore during night time high tides. Birds, will wait until day time low tides, when they can see and catch their prey. Limpets too, prefer night time high tides, remaining fastened to rock during day time low tides to prevent predation, especially from birds.

Understanding such factors greatly enhance the shore visit, whether your aim is to disprove a theory, discover a new strategy, or simply enjoy being in the midst of such marine industry.

Draw Your Own - Lunar Cycle

Spring Tide



Neap Tide

