Tides occur because of the pull of ________ of the Moon and the Sun on the Earth’s ________. Because the Moon is closer to the Earth, it has the greatest effect on our tides. There are approximately ______ high tides and ______ low tides every 24 hours.

Spring tides occur at New Moon and Full Moon when the Sun, the Moon and the Earth are__________. This forms extremely high high-tides and extremely low low-tides. In the space below, draw a diagram showing the position of the sun, moon and earth during a spring tide.

Neap tides occur at First and Last ____________, when the Sun, the Earth and the Moon are at ______________. This forms quite low high-tides and quite high low-tides. In the space below, draw a diagram showing the position of the sun, moon and earth during a neap tide.
Eclipses occur when a large ___________ travels across the surface of the Earth.

**Umbra** - The Umbra is the ___________ part of the shadow.

**Penumbra** - The Penumbra is the ___________ part of the shadow.

**Total Eclipse** – Observers on the Earth’s surface who are shadowed by the darker umbra would see a total eclipse.

**Partial Eclipse** – Observers on the Earth’s surface who are shadowed by the lighter penumbra would see a partial eclipse.

**Solar Eclipses** occur sometimes when the Moon passes between the Sun and the ___________ at N____ M_________. The shadow of the Moon falls on the Earth appearing to block out the Sun.

**Lunar Eclipses** occur sometimes when the Moon passes on the opposite side of the Earth from the Sun at F____ M_________. The Moon passes in the Earth’s shadow. It appears dull and can only just be seen.
Day and Night

- The Earth’s _________ on its own axis causes the change of ‘day’ and ‘night’.
- The Earth rotates on its axis once every _______ hours approximately.
- The rotation of the Earth is _________ to _______, so the Sun is visible in the eastern sky first.
- The Sun shines only on _______ of the Earth at any time, so that half the Earth is in daylight and the other half is in __________.
- The tilt on the Earth’s axis causes ‘day’ and ‘night’ to be of different lengths in different parts of the world.
- The autumn and spring ___________ occur twice a year when the day and night are of equal length.

Seasons

- Seasons are caused by the Earth’s revolution around the Sun and the unchanging tilt of the Earth’s axis.
- The different distances to the Sun caused by the tilt _______ ___________ ________ cause the seasons.
- The season depends on how much of the Earth’s surface is covered by light rays, and at what angle they reach the Earth’s surface. Head-on rays on a small area are strong and cause ___________ seasons. Slanting rays focusing on a large area are weaker and cause ___________ seasons.