

Worksheet – Motion of the Sun and Moon
The time of day, position of the Sun, and the phase of the Moon.

1. The Sun is on the western horizon (all parts rely on this information)
 - a. What time is it? **The Sun is setting and so 6 pm**
 - b. Where in the sky would you see a first quarter Moon at this time? **On the Meridian**
 - c. Where in the sky would you see a third quarter Moon at this time? **Below the horizon, underneath you**
 - d. Where in the sky would you see a new Moon at this time? **On the western horizon, next to the Sun.**
 - e. Where in the sky would you see a full Moon at this time? **On the eastern horizon, directly opposite to the Sun.**
 - f. If you are looking to the south at this time and see the Moon in the sky to the left of you, what phase would you see? **Waxing gibbous**
 - g. If the Moon had already set about 1.5 hours ago, what phase would it have shown when it was still in the sky? **Waning crescent**
2. It is 3 pm in the afternoon, and the Moon is just crossing your Meridian. What phase do you see? **Waxing crescent**
3. It is noon, and the Moon is just crossing your Meridian. What phase do you see? **New**
4. It is midnight, and the Moon is just crossing your Meridian. What phase do you see? **Full**
5. Can you see a full Moon at noon? If so where will you see it? **No, it will be below the horizon**
6. Can you see a new Moon at noon? If so where will you see it? **Yes, right next to the Sun, on the Meridian.**
7. Can you see a 1st quarter Moon at midnight? If so where will you see it? **Yes, on the western horizon.**
8. Can you see a 1st quarter at noon? If so where will you see it? **Yes, on the eastern horizon.**
9. A full Moon is on the eastern horizon. What time is it? **6 pm**
10. A 1st quarter Moon is on the eastern horizon. What time is it? **Noon**
11. A 3rd quarter Moon is on the eastern horizon. What time is it? **Midnight**