

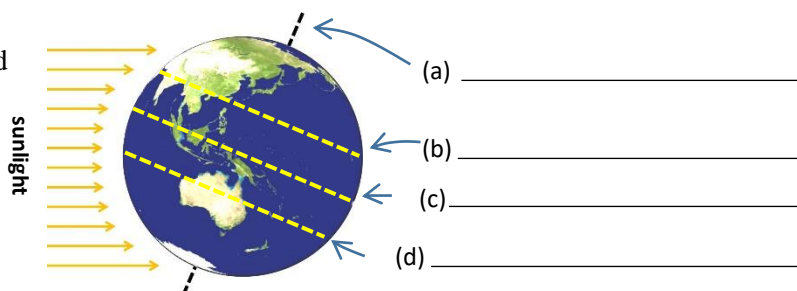
### Q3: STAR LAWS (Shedding Light on Astronomy) Episode III: **Why do we have Seasons?**

Name: \_\_\_\_\_

1. The hottest season is \_\_\_\_\_ and the coldest season is \_\_\_\_\_. \_\_\_\_\_ follows summer and is characterised by falling temperatures. \_\_\_\_\_ follows winter and is characterized by \_\_\_\_\_ temperatures.

2. The angle of Earth's axis of rotation with respect to the orbital plane is \_\_\_\_\_.

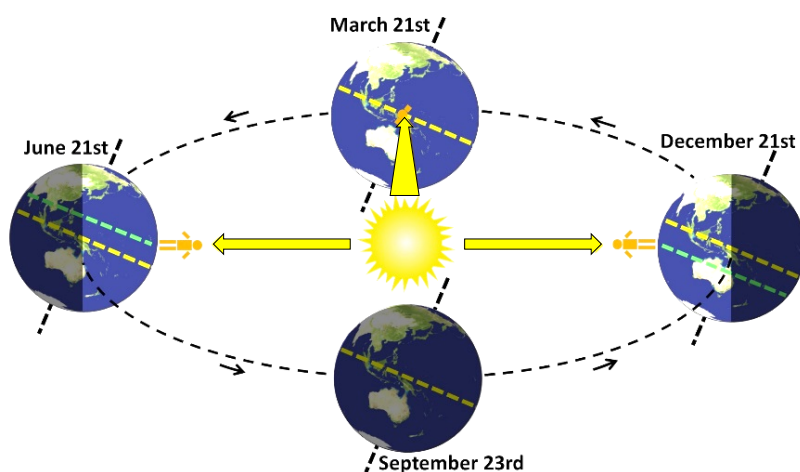
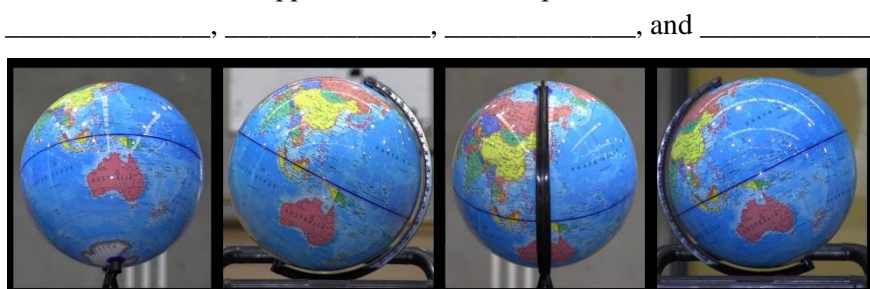
3. Use the diagram at right to explain why the Southern Hemisphere experiences summer and the Northern Hemisphere experiences winter when it is in the position shown.



4. Regions of the Earth near the equator don't experience seasons in quite the same way as the rest of the planet. Why is it warm to hot near the equator all year round? \_\_\_\_\_

5. Label the dotted lines (a) and (c) on the diagram above. (The answers to (b) and (d) are given later in the video.)

6. The images below show how the Earth appears from the Sun's point of view in the months of...



7. On around \_\_\_\_\_ every year, the December solstice occurs. It is often called the \_\_\_\_\_ solstice in the southern hemisphere and the \_\_\_\_\_ solstice in the northern hemisphere. On this day, the sun is directly over the \_\_\_\_\_.

The nights in the southern hemisphere are \_\_\_\_\_ and the days are \_\_\_\_\_. In the northern hemisphere, the nights are \_\_\_\_\_ and the days are \_\_\_\_\_.

8. On around \_\_\_\_\_ every year, the June solstice occurs. It is often

called the \_\_\_\_\_ solstice in the southern hemisphere and the \_\_\_\_\_ solstice in the northern hemisphere. On this day, the sun is directly over the \_\_\_\_\_.

9. On around March 21<sup>st</sup> and September 23<sup>rd</sup> every year, the two \_\_\_\_\_ occur. The sun is directly over the \_\_\_\_\_. Daytime lasts approximately \_\_\_\_\_ hours and night time also lasts about \_\_\_\_\_ hours.

10. Label dotted lines (b) and (d) on the diagram above next to Q3.

11. When it's summer in the southern hemisphere, it's \_\_\_\_\_ in the northern hemisphere.