

Centaur Chiron's Calendar in our era

An Environmental activity for schools
with inter-scientific characteristics and
basic astronomy content

Identity of the educational pathway

- **Short Description:** It is an educational pathway that combines active participation of students in a sequence of picture taking with knowledge from basic astronomy, geography and computer science
- **Vocabulary:** Centaur Chiron, Calendar, Astronomy, Seasons, Sunset
- **Age of Students:** 13-15
- **Teaching Environment:** Open field, Classroom
- **Duration:** Half of an academic year

Centaurs in Greek Mythology

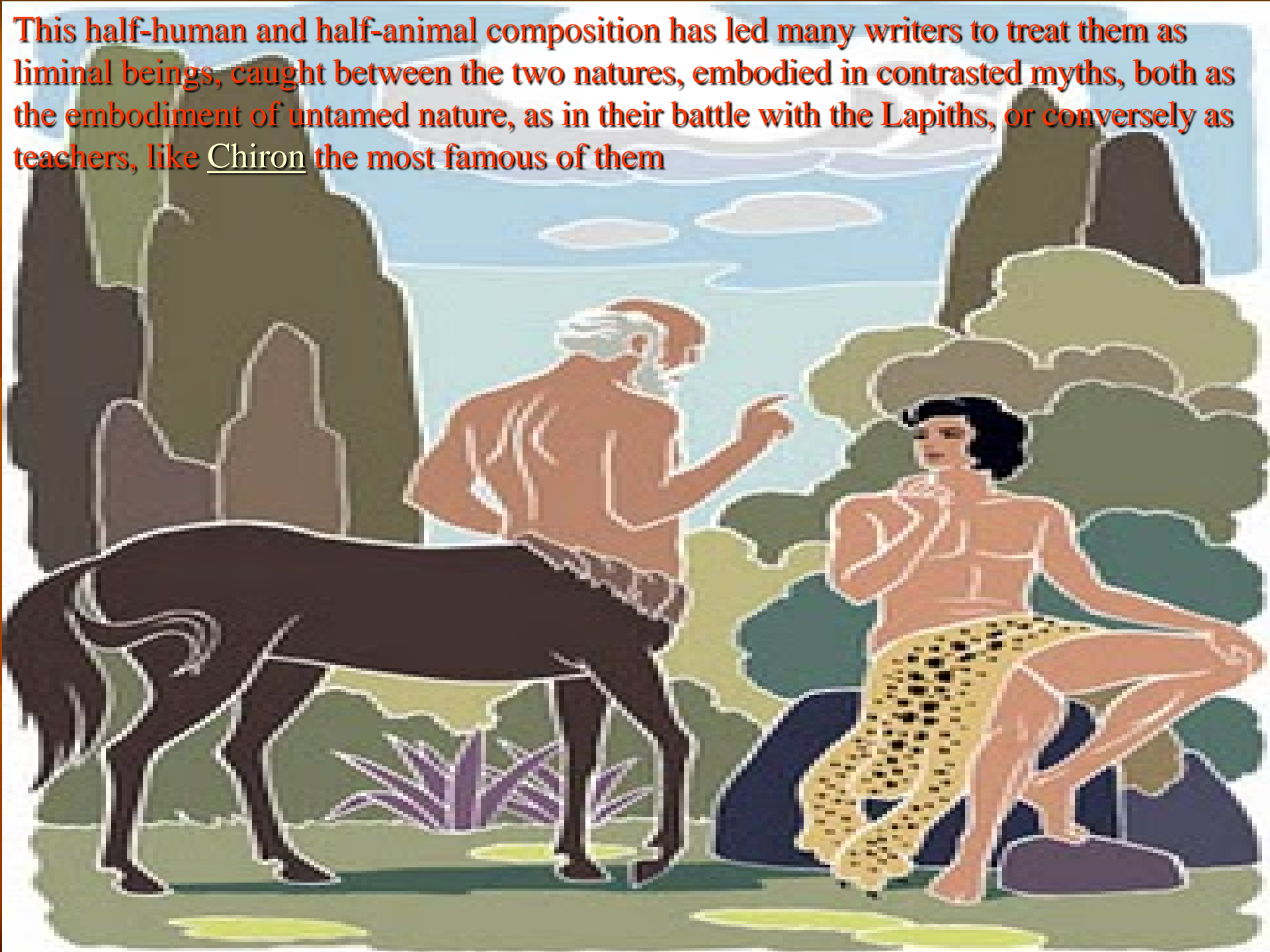
In Greek mythology, a **centaur** (from Greek Kéntauroi) or **hippocentaur** is a member of a composite race of creatures, part human and part horse. Centaurs are given the torso of a human joined at the waist to the horse's withers, where the horse's neck would be. In the picture you see an ancient depiction of the battle of Centaurs against Lapiths which is found at Parthenon's gable or "aetoma".





Centaurs were said to have inhabited the region of Magnesia and Mount Pelion in Thessaly

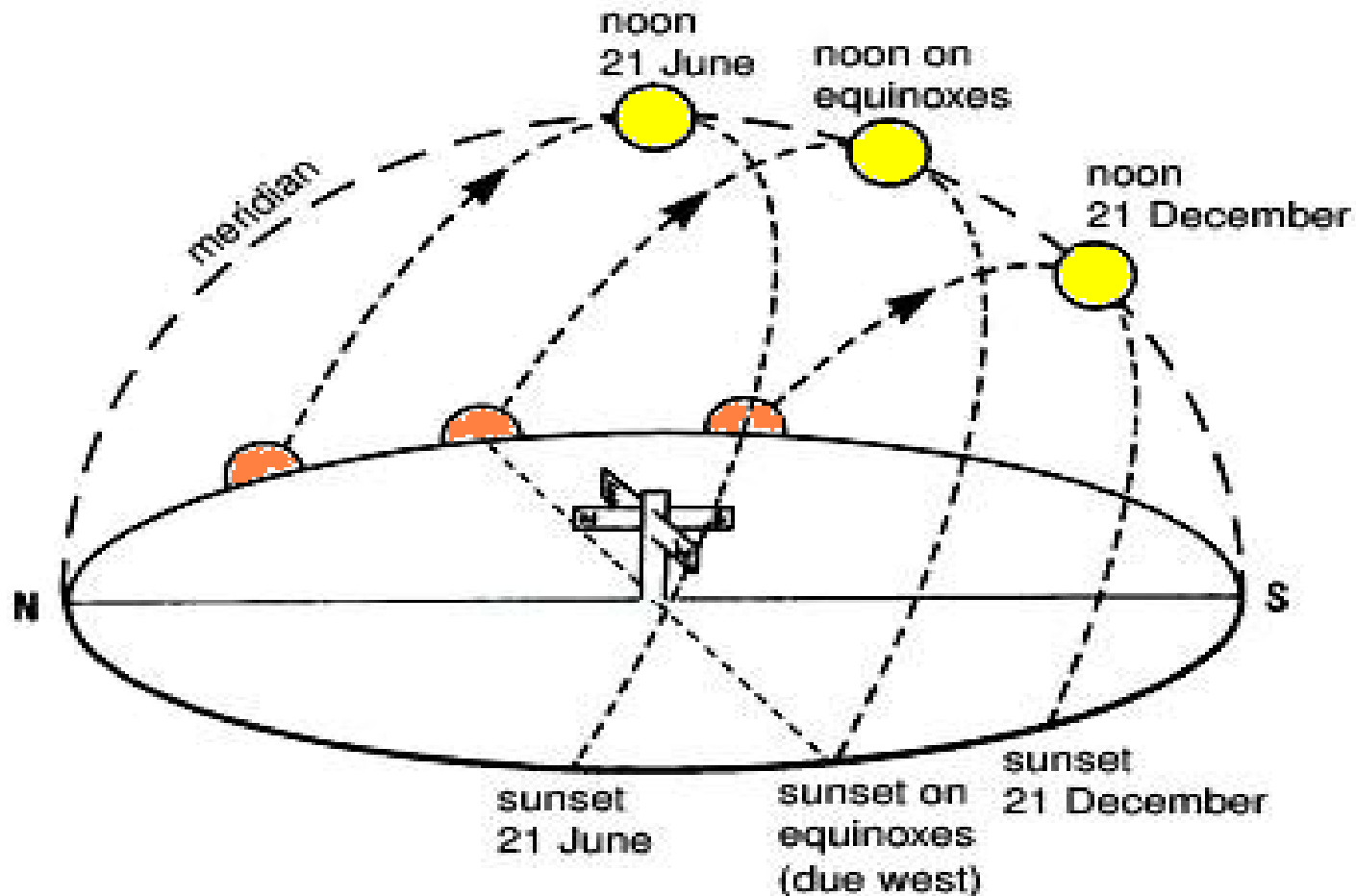
This half-human and half-animal composition has led many writers to treat them as liminal beings, caught between the two natures, embodied in contrasted myths, both as the embodiment of untamed nature, as in their battle with the Lapiths, or conversely as teachers, like Chiron the most famous of them



Chiron as a teacher

- Chiron was a famous teacher
- Among his students were Jason and Achilles
- He used the stars positions to teach navigation
- But most of all he was teaching medicine
- Practicing of medicine was based on herbs
- To use special parts of herbs harvesting dates are required
- But how was he able to deduce harvesting dates?

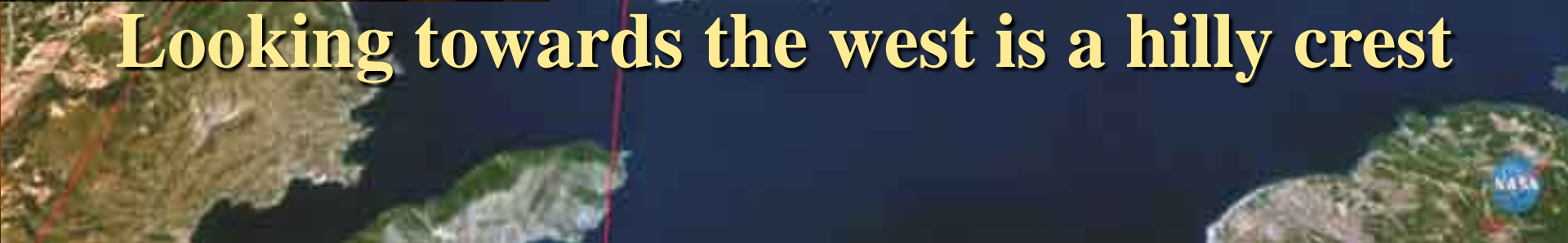
Daily course of the sun in the four seasons of the year



Looking towards the east is Aegean

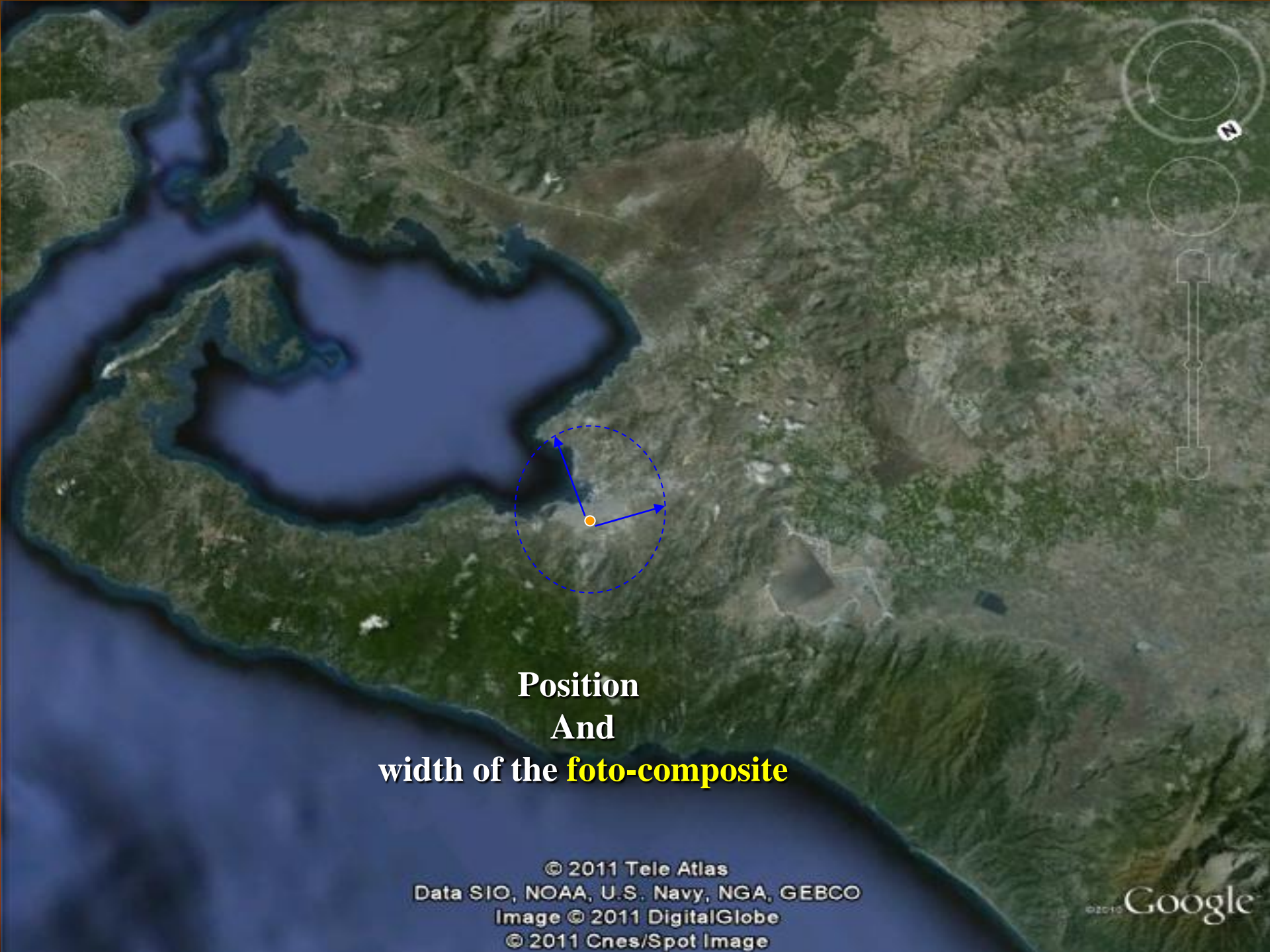


Looking towards the west is a hilly crest



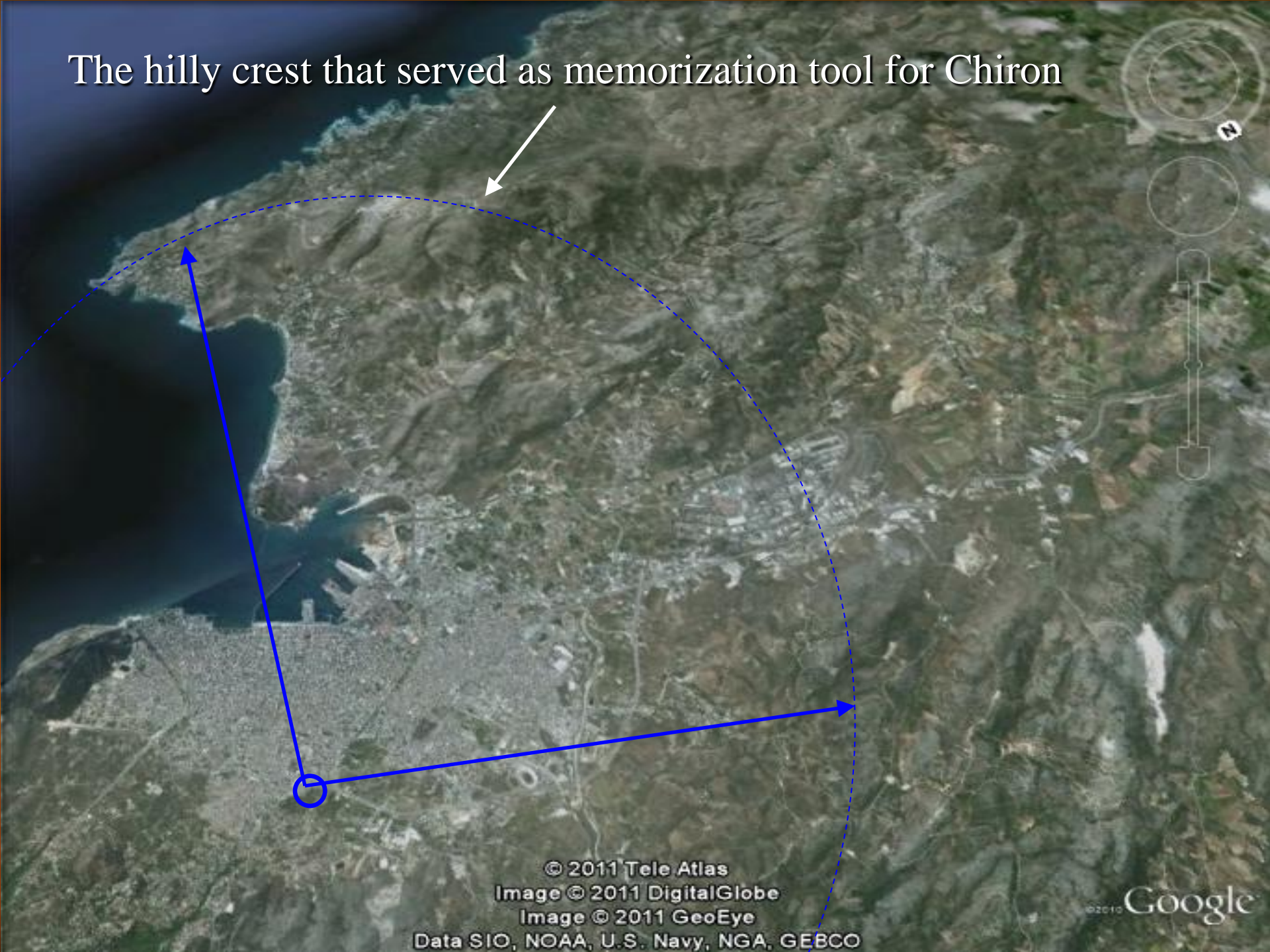
Development of the project

- Starting from 21 of December we take pictures of the western horizon each sunset
- There is no need to fix the camera in the exact position
- There is no need to use the same magnification
- When the weather is bad we omit the recording



**Position
And
width of the foto-composite**

The hilly crest that served as memorization tool for Chiron



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Data SIO, NOAA, U.S. Navy, NGA, GEBCO

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Picture archive

21-Dec



3-Feb



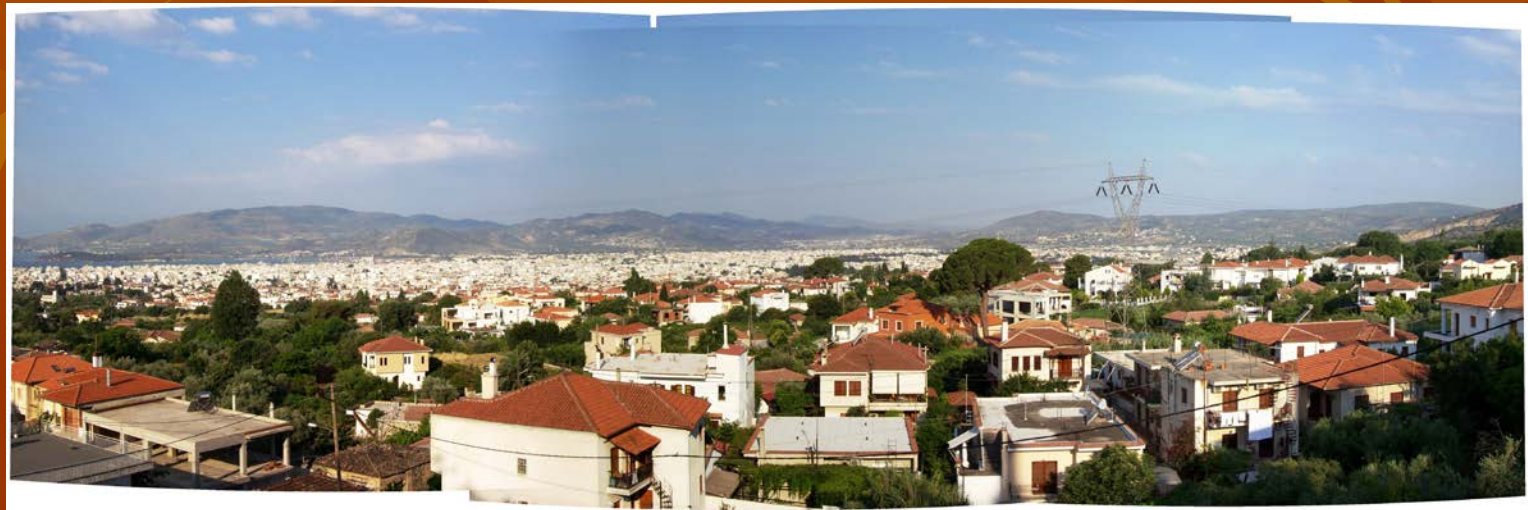
27-Mar



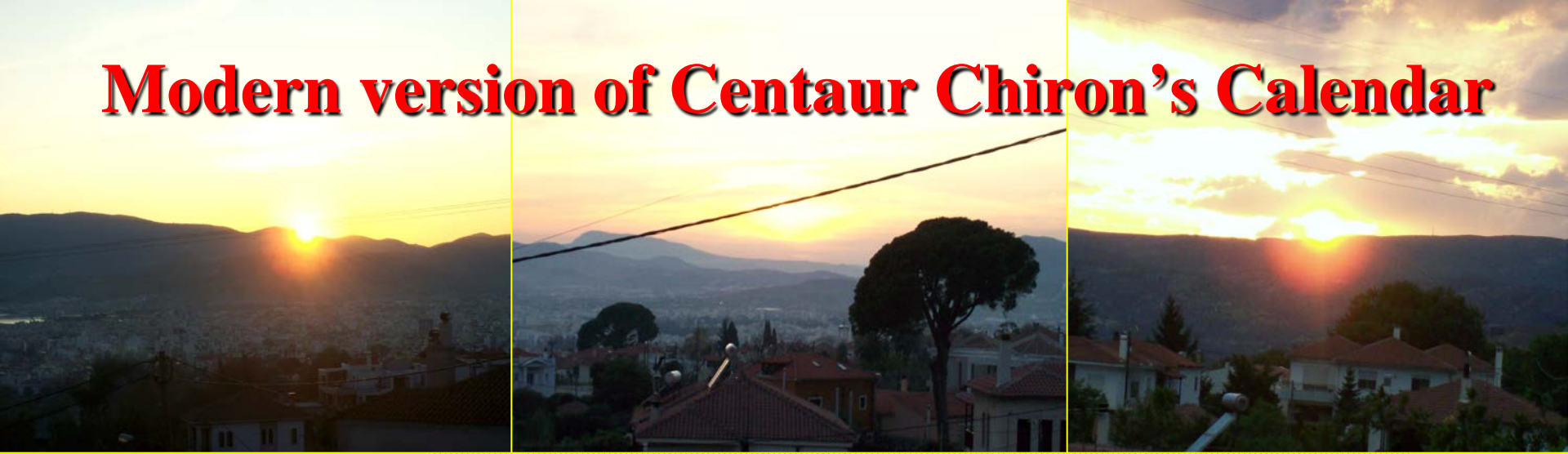
15-May



Digital stitching of various exposures



Modern version of Centaur Chiron's Calendar



0cm 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



21 December

21 March

21 June

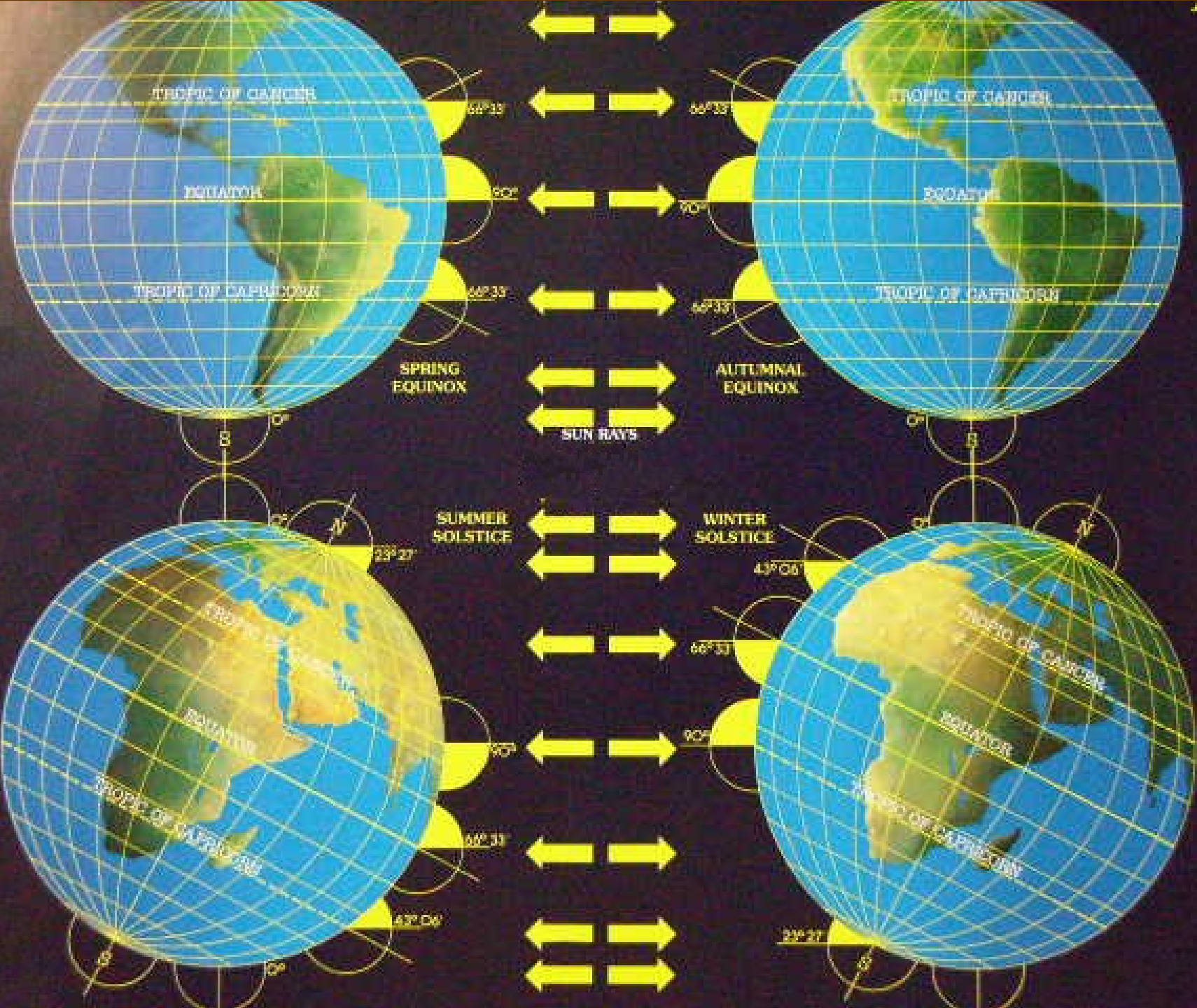
Sunset Hour

Date	21 Dec	3 Jan	3 Feb	18 Feb	27 Mar	21 Apr	15 May	7 Joun
Day No	0	13	44	59	96	121	145	168
Hour	1659	1709	1737	1746	1840	1903	1924	1940

Every student knows that as we move from winter to spring and summer the length of the day increases.

But what is the rate of increase?

If we calculate it we can predict the both duration and sunset time



Conclusions

The educational pathway :

Can be easily followed by the members of the environmental group of a school.

The pathway involves knowledge from various fields such as :
Mythology, Botany, Astronomy, Computer Science etc.

It can be easily adopted and reproduced by other schools with similar orientation and terrain.

It can also be modified for higher classes in order to approach subjects like Kepler's laws, rotation of the earth, etc