



Twilight is defined as the time between night and day when there is light outside but the sun is below the horizon. In the morning it is called dawn while in the evening it is called dusk.

Twilight happens when the sun is still below the horizon but the light from the sun is reflecting off of clouds and gases in our upper atmospheres, scattering across the sky and brightening what would otherwise be dark.

How long twilight lasts depends on where on Earth you live. Near the equator, twilight is much shorter than at higher latitudes such as North America and Europe, and during equinoxes—times when day and night are equal lengths—the north and south poles only have twilight rather than full night.

Twilight has 3 stages: civil, nautical, and astronomical.

Civil twilight is the brightest twilight. The sun is still close enough to the horizon to provide natural light for outdoor activities. It's used to make laws related to aviation, hunting, streetlights, and the headlights of cars.

Civil dawn begins when the geometric center of the sun is 6 degrees below the eastern horizon. It lasts until sunrise. Civil dusk begins at sunset and ends when the geometric center of the sun is 6 degrees below the western horizon.

Nautical twilight is important to sea navigation and military operations. The term *Nautical Twilight* comes from the days when sailors used the stars to navigate the

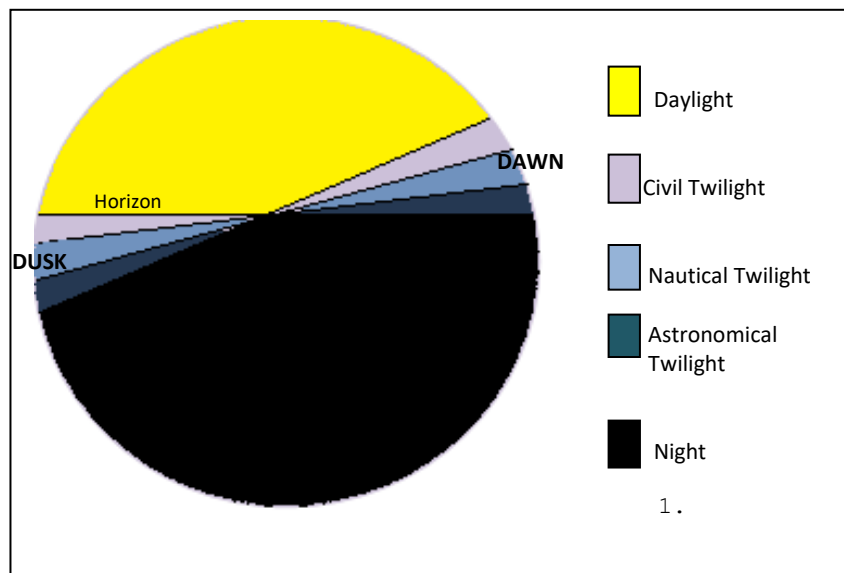
oceans. Because during nautical twilight the sun is further below the horizon than civil twilight, more stars are visible at this time.

Nautical dawn begins before civil dawn, when the sun is 12 degrees below the eastern horizon. Nautical dusk begins after civil dusk, when the sun is 12 degrees below the western horizon.

Astronomical twilight happens just before or after complete darkness. In the morning, the sky is completely dark before the onset of astronomical dawn, when the sun is 18 degrees below the eastern horizon. It is after this point that the sky begins to lighten.

In the evening, astronomical dusk occurs when the sun is 18 degrees below the western horizon. After this point, the sky is completely dark.

3 Stages of Twilight



Write the definitions.

1. Twilight_____

2. Dawn_____

3. Dusk_____

4. Equator_____

5. Latitudes_____

6. Equinox_____

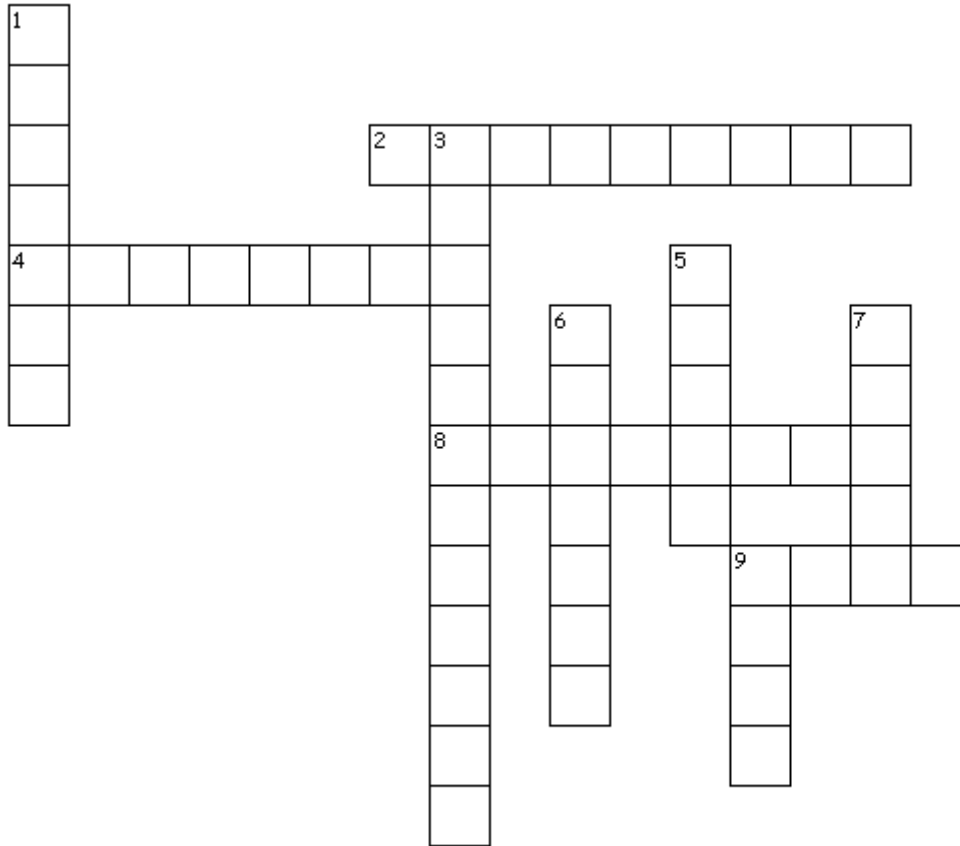
7. Poles_____

8. Civil_____

9. Nautical_____

10. Astronomical_____

Twilight Crossword



Across

- 2. imaginary lines that divide the earth horizontally
- 4. the time between night and day when there is light outside but the sun is below the horizon
- 8. twilight that happens when the sun is 12 degrees below the horizon
- 9. evening twilight

Down

- 1. imaginary line around the center of the earth
- 3. twilight that happens when the sun is 18 degrees below the horizon
- 5. twilight that happens when the sun is 6 degrees below the horizon
- 6. time when day and night are equal lengths
- 7. furthest points north and south on Earth
- 9. morning twilight

Word Bank		
nautical	latitudes	equinox
twilight	dawn	dusk
equator	poles	civil
	astronomical	

Twilight Word Search

U L A C I M O N O R T S A J R
E U E Q U A T O R Y C P C Q G
F Q X G P Y M O V A I H E Z P
T V U Q I E K L F E V R R O N
O H C I J W M W L D I S L G O
C W G I N C P A D U L E L X Z
C K T I K O C Z U T S X D I B
C T F P L I X H F I D C J P Q
G I P Y T I P R U T A R T T Q
L V R U X X W Z Z A Y Y N N X
O Q A N W A D T T L A D A D H
H N E E X M P E L K K J Q Z E
A U N F Q F Q V C B P S Q T D
M U D O O R F K D V M V U K Y
U F Q L Z U S A B J U N M D J

ASTRONOMICAL
DUSK
LATITUDE

CIVIL
EQUATOR
NAUTICAL

DAWN
EQUINOX
POLES

Label the 3 Stages of Twilight

Fill in the blanks of the chart

