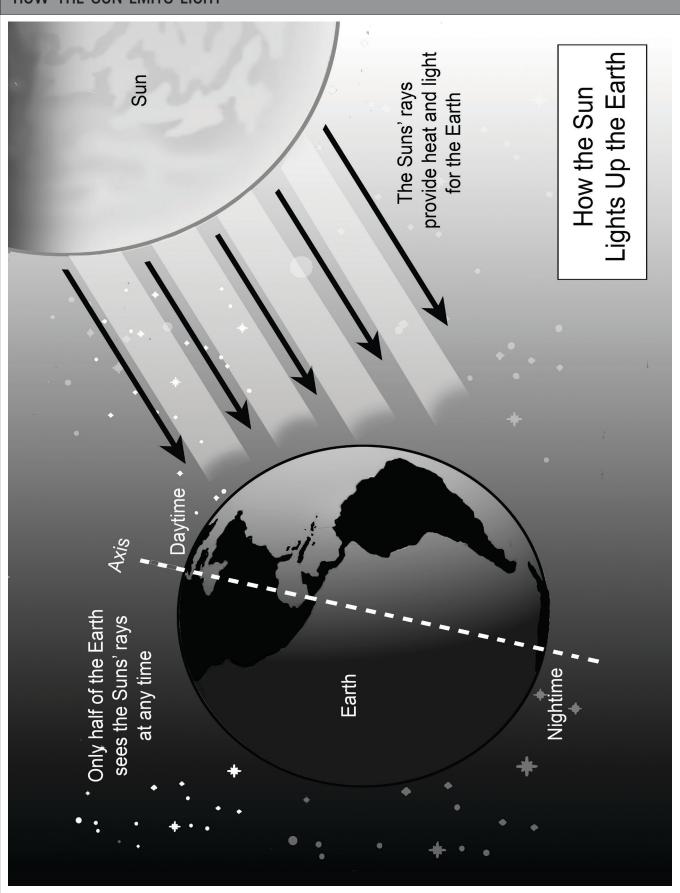


GRADE: 8 TERM: 4 STRAND: PLANET EARTH AND BEYOND

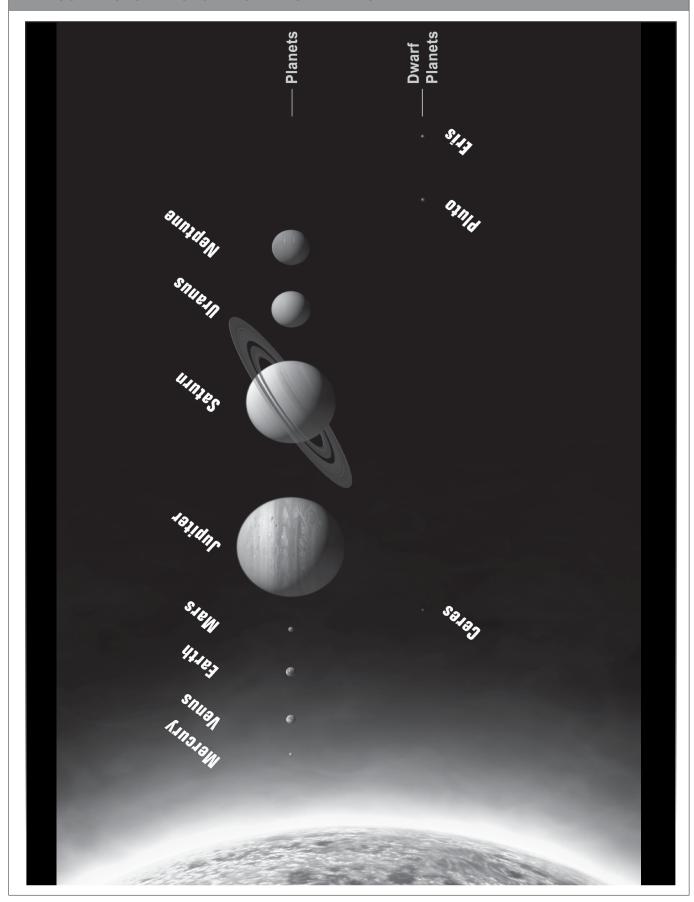
RESOURCE 1

HOW THE SUN EMITS LIGHT

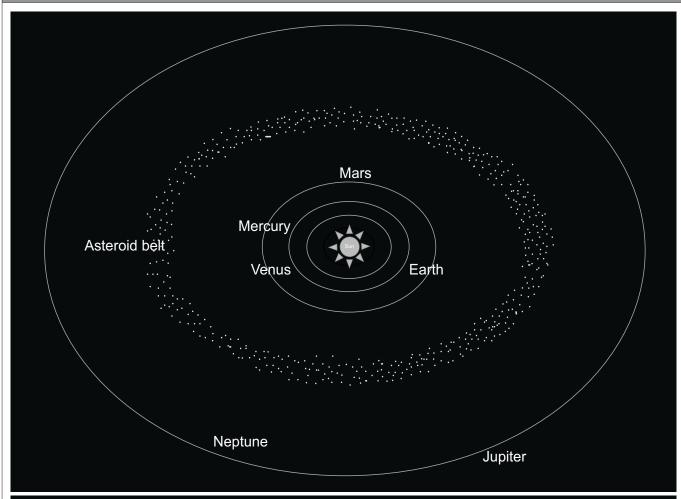


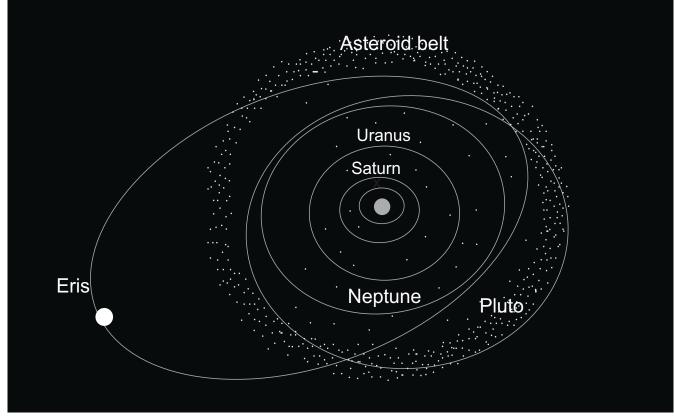
https://solarsystem.nasa.gov/multimedia/gallery/solarsys_scale.jpg

THE SOLAR SYSTEM SHOWING THE 8 PLANETS



THE ASTEROID BELT AND THE KUIPER BELT





EARTH SHOWING THE EQUATOR



EARTH SHOWING THE HEMISPHERES

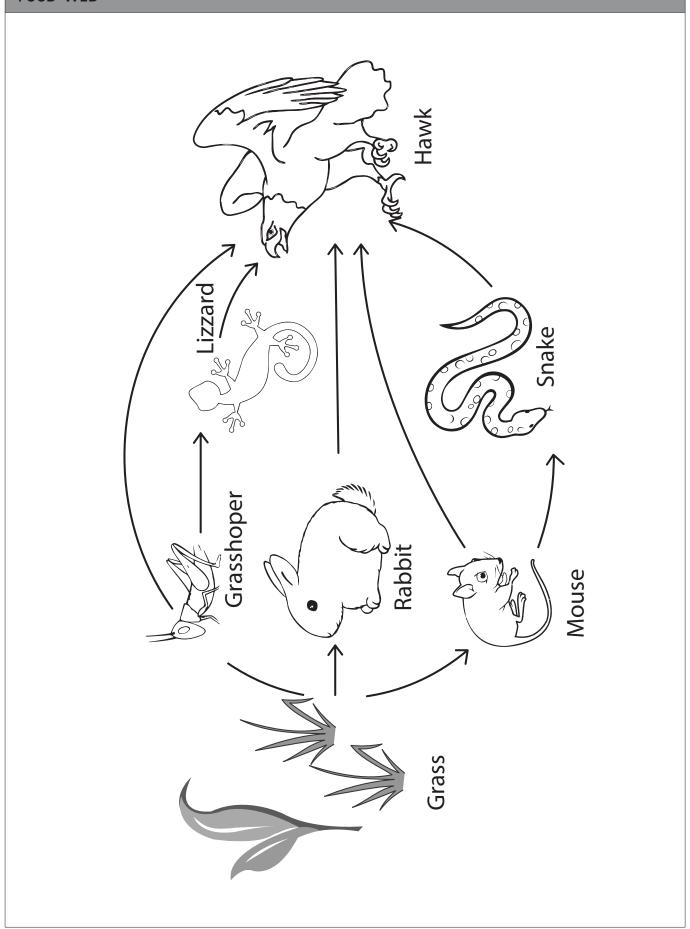
Northern Hemisphere

Southern Hemisphere

THE EARTH'S ROTATION ON ITS AXIS



FOOD WEB



https://en.wikipedia.org/wiki/Milky_Way_(mythology)

HOW THE MILKY WAY WAS FORMED

Different cultures and religions have different views on how the milky way was formed. Here are some of these views:

Armenian

Ancient Armenian mythology called the Milky Way the "Straw Thief's Way". According to legend, the god Vahagn stole some straw from the Assyrian king Barsham and brought it to Armenia during a cold winter. When he fled across the heavens, he spilled some of the straw along the way

Khoisan

The Khoisan people of the Kalahari desert in southern Africa say that long ago there were no stars and the night was pitch black. A girl, who was lonely and wanted to visit other people, threw the embers from a fire into the sky and created the Milky Way.

Cherokee

A Cherokee folktale tells of a dog who stole some cornmeal and was chased away. He ran away to the north, spilling the cornmeal along the way.

Eastern Asia

Peoples in Eastern Asia believed that the hazy band of stars was the "Silvery River" of Heaven (Korean: eunha and Japanese: ginga). In one story, the stars Altairand Vega were said to be two lovers who were allowed to meet only once a year on the seventh day of the seventh month, when a flock of magpies and crows formed a bridge over the galactic river. That day is celebrated as Qi Xi, the Seventh Night (Chinese: Korean: chilseok and Japanese: tanabata)

Egyptian

In Egyptian mythology, the Milky Way was considered a pool of cow's milk. The Milky Way was deified as a fertility cow-goddess by the name of Bat (later on syncretized with the sky goddess Hathor)

Greek

The Greek name for the Milky Way ($\Gamma\alpha\lambda\alpha\xi$ í $\alpha\zeta$ Galaxias) is derived from the word for milk ($\gamma\alpha\lambda\alpha$, gala). One legend explains how the Milky Way was created by Heracles when he was a baby. His father, Zeus, was fond of his son, who was born of the mortal woman Alcmene. He decided to let the infant Heracles suckle on his divine wife Hera's milk when she was asleep, an act which would endow the baby with godlike qualities. When Hera woke up and realized that she was breastfeeding an unknown infant, she pushed him away and the spurting milk became the Milky Way.

https://en.wikipedia.org/wiki/Milky_Way_(mythology)

HOW THE MILKY WAY WAS FORMED

Roman

A story told by the Roman Hyginus in the Poeticon astronomicon (ultimately based on Greek myth) says that the milk came from the goddess Ops (Greek Rhea), or Opis, the wife of Saturn (Greek Cronus). Saturn swallowed his children to ensure his position as head of the Pantheonand sky god, and so Ops conceived a plan to save her newborn son Jupiter (Greek Zeus): She wrapped a stone in infant's clothes and gave it to Saturn to swallow. Saturn asked her to nurse the child once more before he swallowed it, and the milk that spurted when she pressed her nipple against the rock eventually became the Milky Way.

Hindu

In the Hindu collection of stories called Bhagavata Purana, all the visible stars and planets moving through space are likened to a dolphin that swims through the water, and the heavens are called the dolphin disc. The Milky Way forms the abdomen of the dolphin and is called Akasaganga which means "The Ganges River of the Sky".

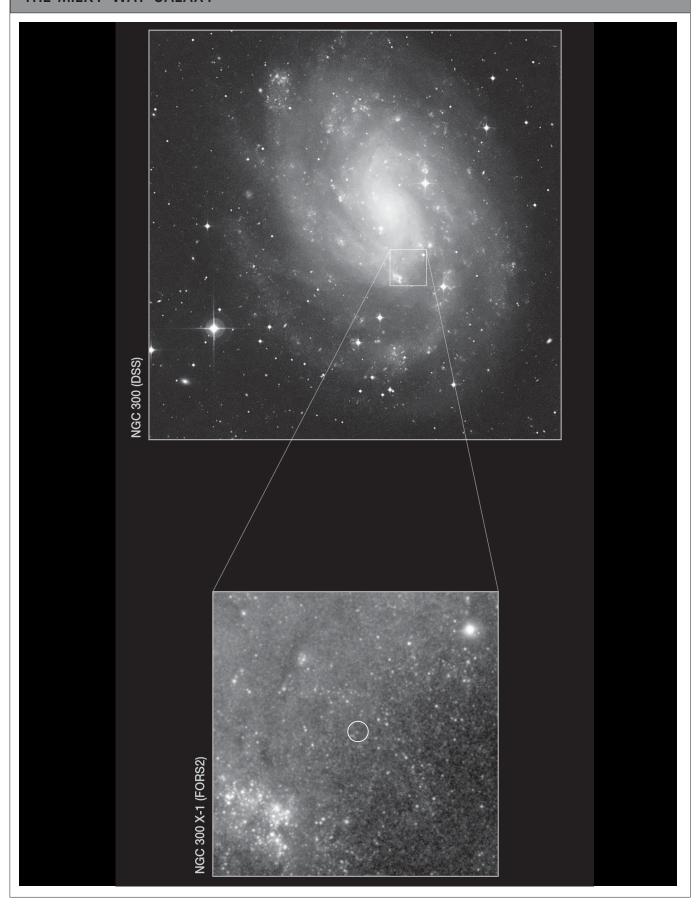
According to Hindu mythology, Vishnu lies meditating on Shesha with his consort Lakshmi, in the Kshira Sagara (Sea of Milk).

South African Cultures

To Xhosas, the Milky Way seemed like the raised bristles on the back of an angry dog. Sotho and Tswana saw it as Molalatladi, the place where lightning rests. It also kept the sky from collapsing, and showed the movement of time. Some said it turned the Sun to the east.

https://www.universetoday.com/22285/facts-about-the-milky-way/

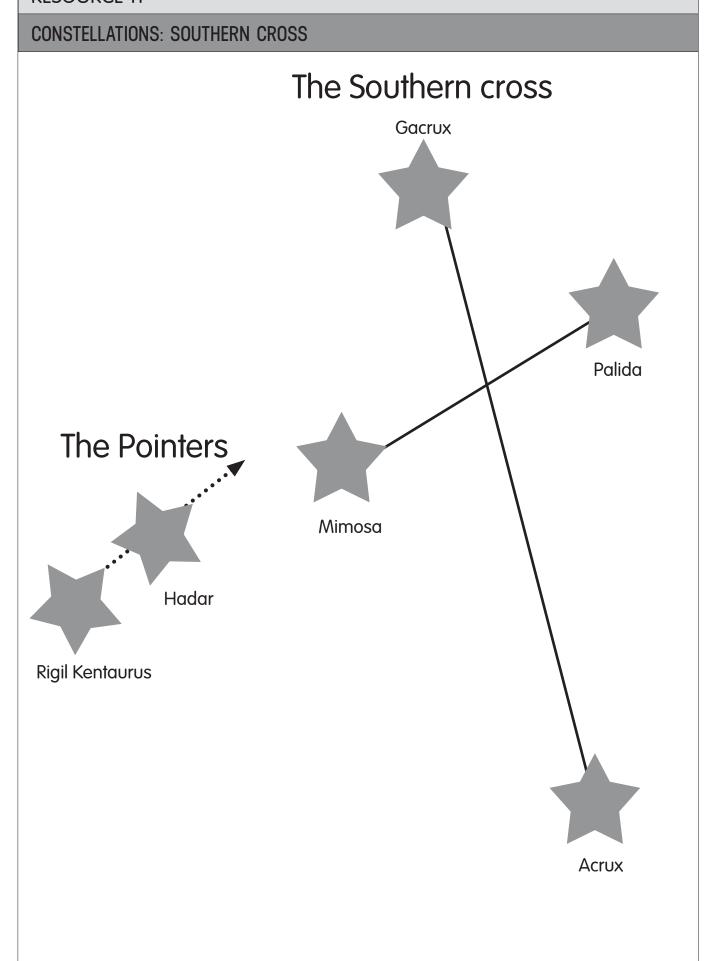
THE MILKY WAY GALAXY



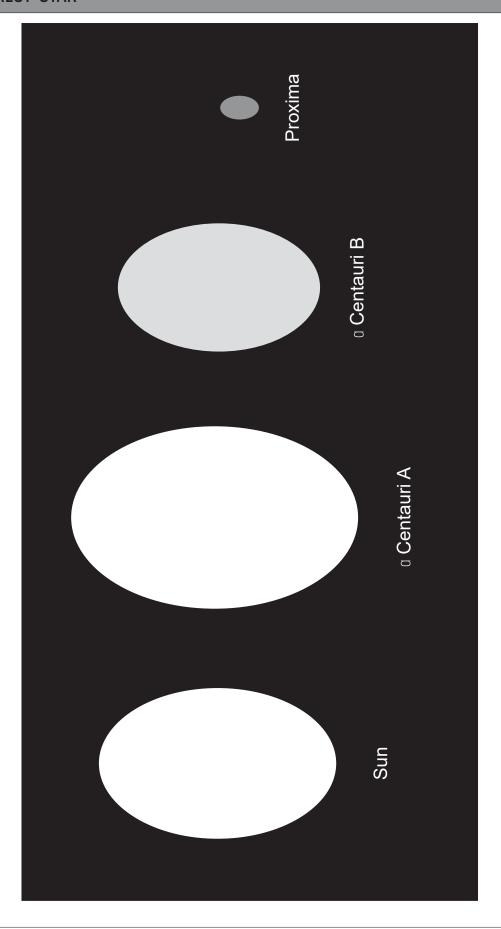
By ESO and Digitized Sky Survey 2 (http://www.eso.org/public/images/eso0949k/) [CC BY 4.0 (http://creativecommons.org/licenses/by/4.0)], via Wikimedia Commons

CONSTELLATIONS: ORION'S BELT



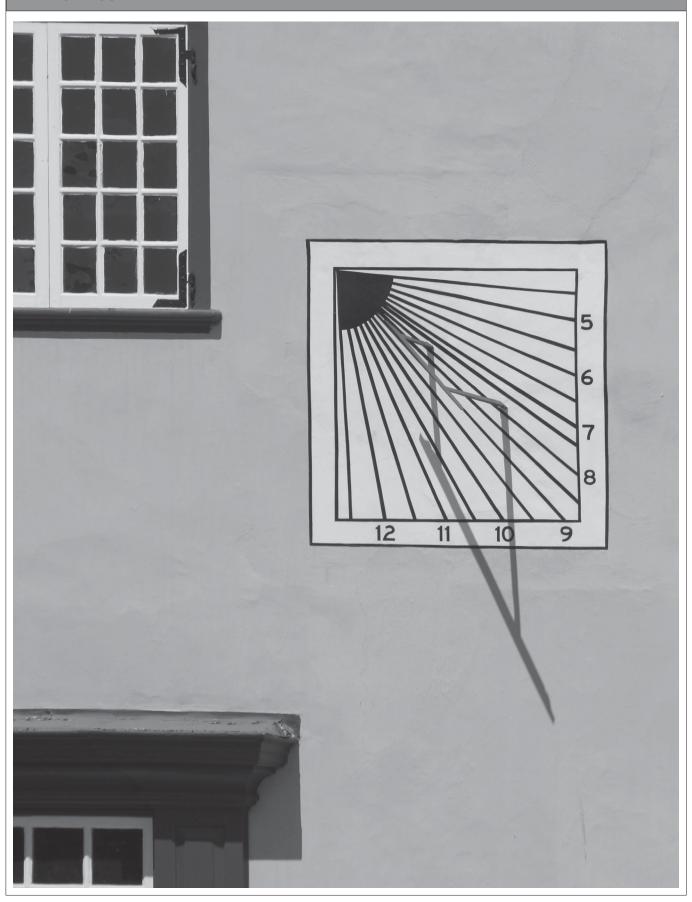


OUR NEAREST STAR



By Martinvl - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=54207865

VERTICAL SUNDIAL



By John Carmichael (Own work) [Public domain], via Wikimedia Commons

SUNDIAL



SUNDIAL



Adapted from http://www.symmetrymagazine.org/article/five-facts-about-the-big-bang and www.atnf. csiro.au/outreach/education/senior/cosmicengine/hubble.html

THE BIG BANG THEORY

Astronomers Edwin Hubble and Milton Humason in the early 20th century discovered that galaxies are moving away from the Milky Way. Every galaxy is moving away from every other galaxy which means the whole universe is expanding. In the past, the whole cosmos must have been much smaller, hotter and denser.

The Big Bang model, has stood up against new discoveries and competing theories. So what is this "Big Bang" thing all about? Scientists will use the term to describe a moment in time—when everything was packed into a single point.

The universe has no centre and is constantly growing bigger and bigger. That means if we run the clock backwards we can find out when everything was packed together, 13.8 billion years ago. Every place we see today occupied the same place 13.8 billion years ago. There was no location for the Big Bang, it occurred everywhere at the same time.

In the 1940s, Ralph Alpher and George Gamow calculated that the early universe was hot and dense enough to make virtually all the helium, lithium and deuterium (hydrogen with a neutron attached) present in the cosmos today.

The best evidence for the Big Bang is in the form of microwaves. Early on, the whole universe was dense and completely opaque. But at a time roughly 380,000 years after the Big Bang, expansion spread everything out enough to make the universe transparent.

One of the first people to think scientifically about the origin of the universe was a Catholic priest. In addition to his religious training and work, Georges Lemaître was a physicist who studied the general theory of relativity and worked out some of the conditions of the early cosmos in the '20s and '30s.

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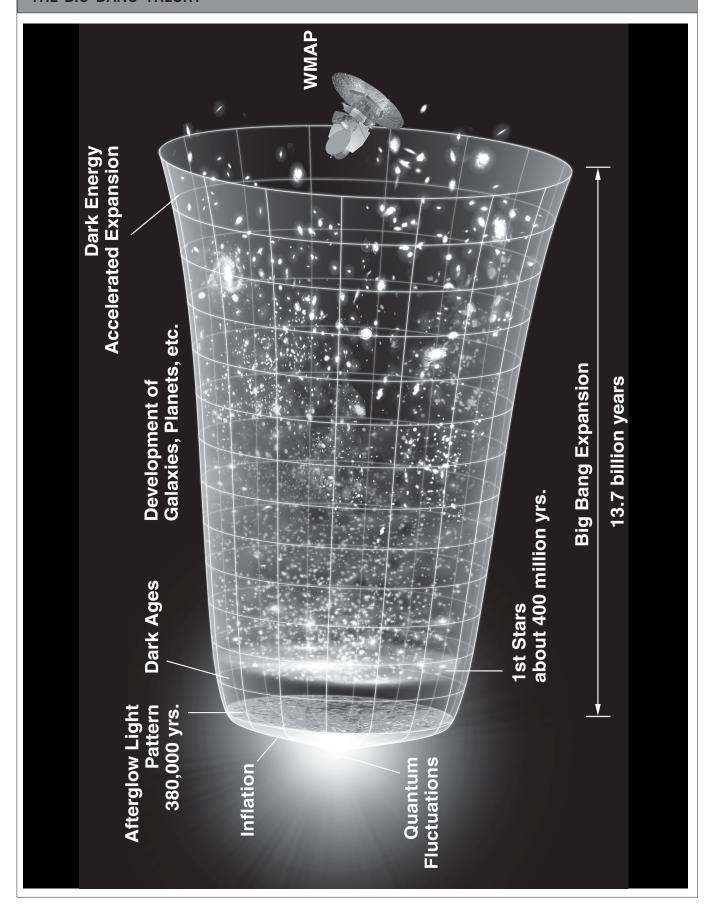
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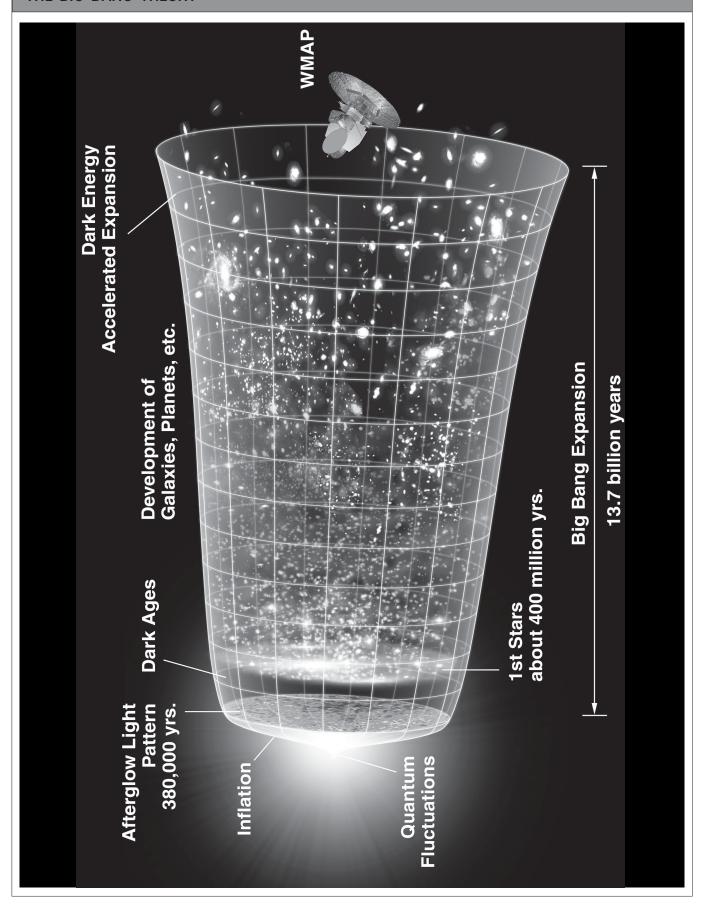
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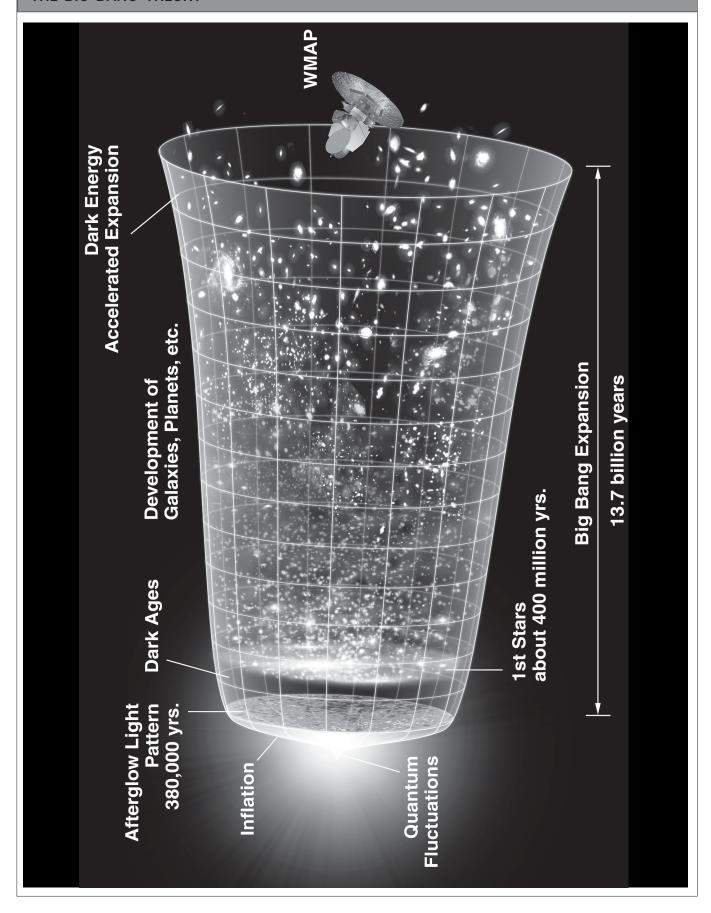
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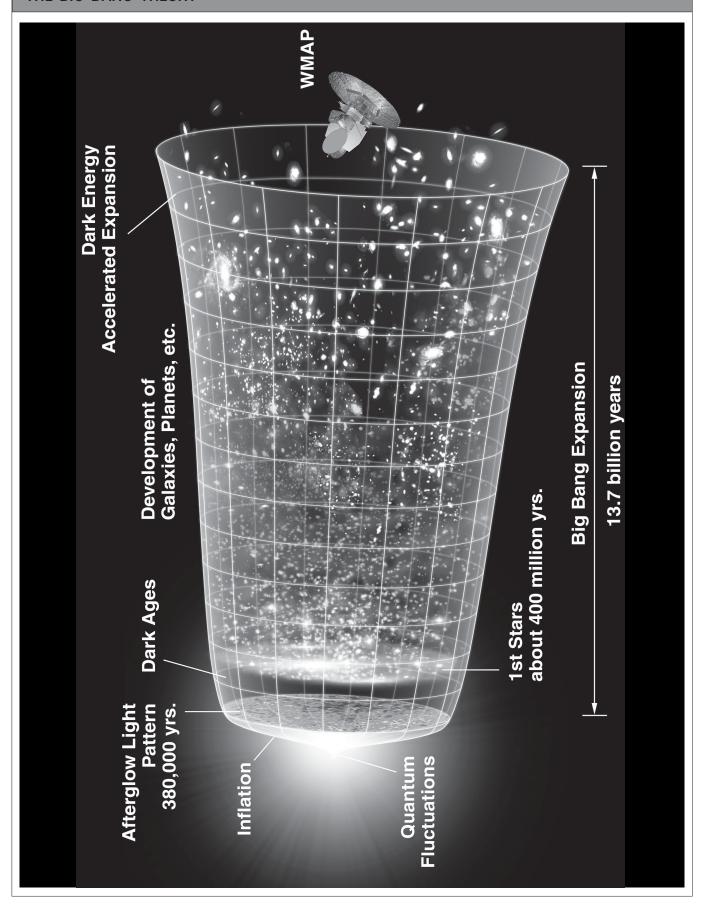
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Adapted from https://www.thoughtco.com/the-creation-story-700209

THE CREATION STORY

In the beginning, God created the heavens and the earth. The earth was without form and void, and darkness was over the face of the deep. And the Spirit of God was hovering over the face of the waters. And God said, "Let there be light," and there was light. And God saw that the light was good. And God separated the light from the darkness.5 God called the light Day, and the darkness he called Night. And there was evening and there was morning, the first day.

And God said, "Let there be an expanse in the midst of the waters, and let it separate the waters from the waters." And God made the expanse and separated the waters that were under the expanse from the waters that were above the expanse. And it was so. And God called the expanse Heaven. And there was evening and there was morning, the second day.

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RESOURCE 18.1 Cont.

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So God created man in his own image in the image of God he created him; male and female he created them. And God saw everything that he had made, and behold, it was very good. And there was evening and there was morning, the sixth day.

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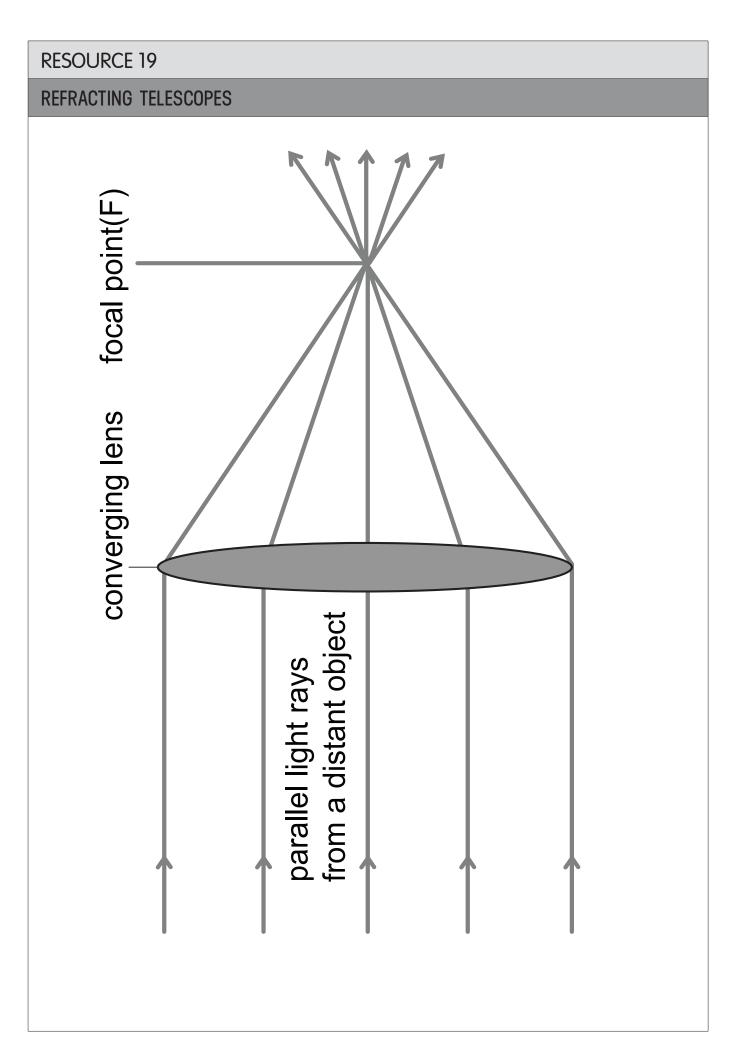
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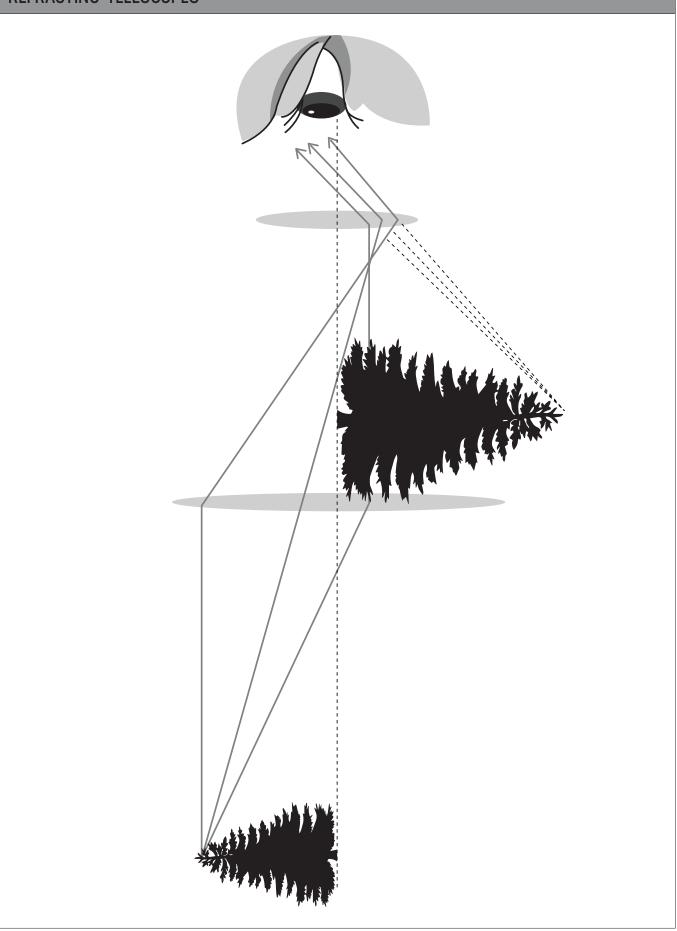
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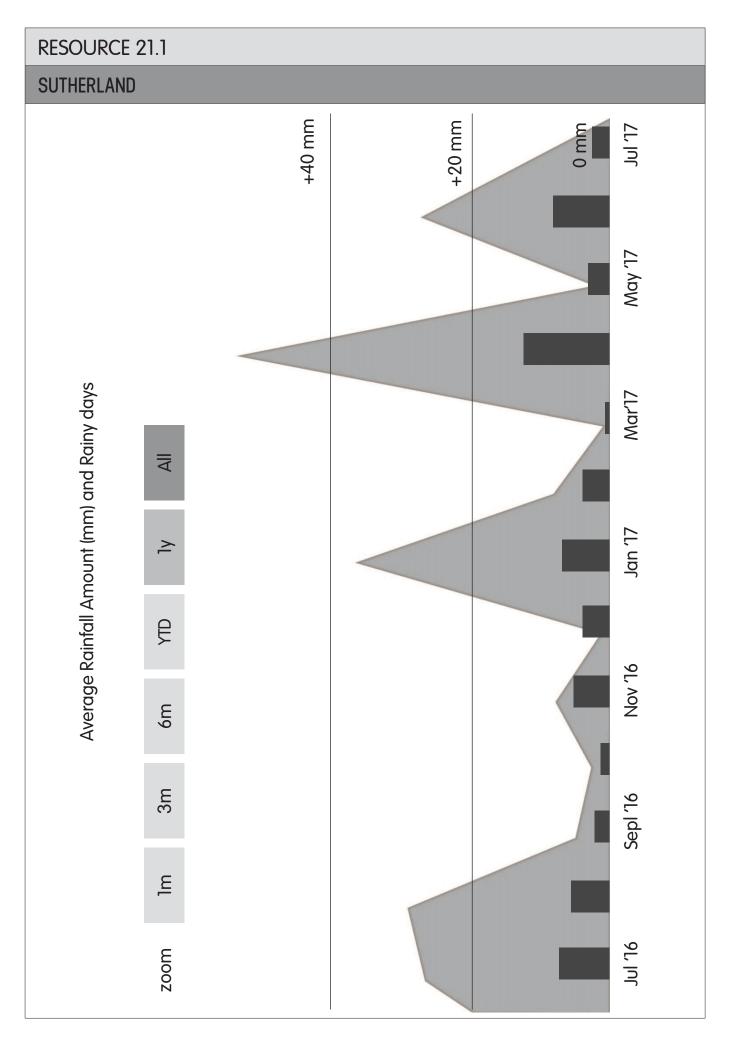
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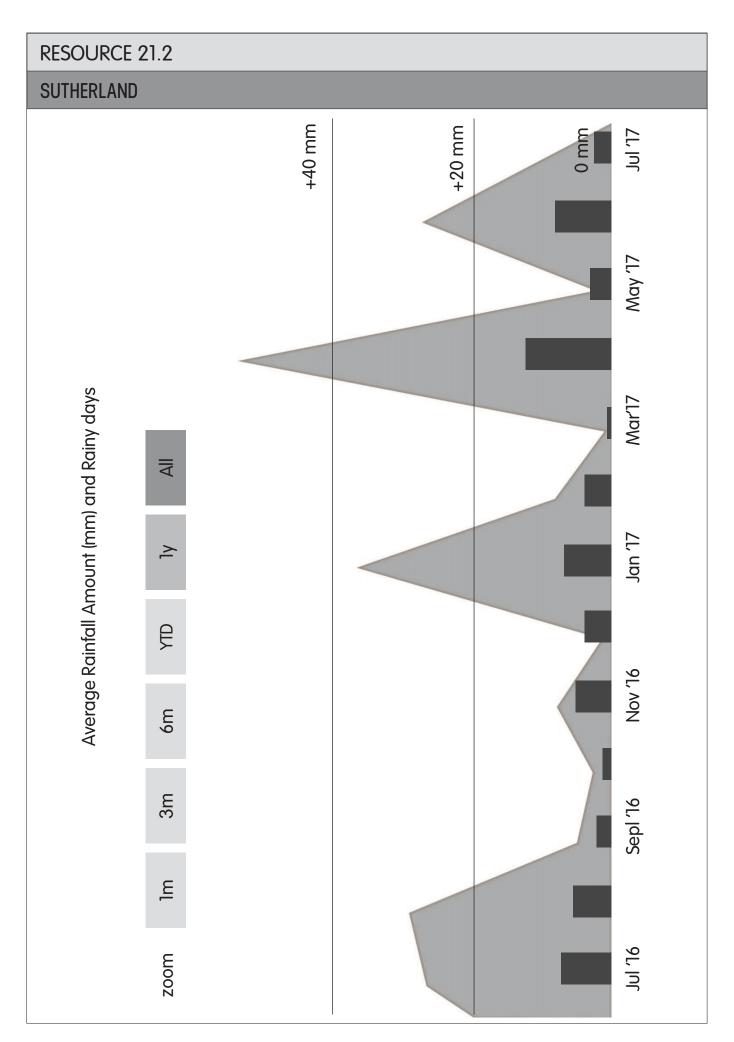
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REFRACTING TELESCOPES







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RADIO TELESCOPE



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LOVELL TELESCOPE

