

VENUS: THE MORNING STAR & THE EVENING STAR

Indigenous Theme 2020–2021 : Skyworld Teachings

VENUS - A STAR?

The planet Venus is often thought of as a star – the first one to appear at night (so it is often called the Evening Star) and the last one to fade in the morning sunlight (so it is also called the Morning Star). Because of this, the planet has been part of the stories of many different cultures.



This video is a reminder about the importance of stars and planets to Indigenous traditions and historical connections.

THE WOMAN WHO MARRIED MORNING STAR A FIRST NATIONS CREATION STORY

According to the Siksika tradition, it was in the summer when two girls went outside of their lodge to sleep. The girls awoke before morning, and one of them said that she wished to marry the morning star. Not long after, the same two girls were out gathering wood. They were about to start home with their bundles of wood when one of the ropes broke. As one of the girls was fixing it, a young man approached her. He said he was the morning star. He took her to his home with Natosi and Kokomi-kisomm.

THE WOMAN WHO MARRIED MORNING STAR

After some time, she gave birth to a child. To pass the time, she would go out every day to dig roots and turnips. She could go anywhere in the sky, but her husband would not allow her to dig up a certain large turnip. But one day, the temptation was too great. She could not resist digging up the turnip to see what was underneath. Looking through a hole in the sky, she saw all her family down upon the earth. She started to cry. At last Iviso-waahsa, the morning star, cut a long rope of buffalo rawhide and lowered her back to earth with her child. Before she left, he gave her a ceremonial headdress and an elk tooth dress and the ceremony of ookaan. Her people were to use this ceremony every year to call on Natosi, the sun, to ask for his pity and help.

-AS TOLD BY MRS. WOLF PLUME, AMSSKAAPIPIKANI IN 1911

DIG DEEPER

- What is explained in the story?
- What are some symbols in the story? Explain.
- Rewrite the story into a children's book format - what is the moral?
- Illustrate the main events, explaining the story with images only. Present.
- Who are the Siksika? Where on a map do they reside? Research the Siksika Nation - does any information uncovered connect to this story? In what ways?

INDIGENOUS CONNECTIONS & COMPARISONS

AUSTRALIAN PERSPECTIVE ON VENUS

"Venus is commonly known in many Aboriginal and Torres Strait Islander cultures as both the Morning and Evening Star.

In the Dreaming stories of the Western Arrernte, a celestial baby fell from the Milky Way, striking the ground and creating the giant meteorite crater called Tnorala (Gosses Bluff). The child's parents - the Morning and Evening Stars - take turns searching for their lost child to this day.

INDIGENOUS CONNECTIONS & COMPARISONS

AUSTRALIAN PERSPECTIVE ON VENUS

Arrernte mothers warn their children not to look at the Morning or Evening Star, as the celestial parents might mistake them for their lost child and carry them away to the sky.

In Yolngu traditions of Arnhem Land, a special ceremony is held to signify the rising of the Creation ancestor, Banumbirr (Venus), between the mainland and a Burralku - the sacred island of the dead.

The ceremony starts at dusk and continues through the night, reaching a climax when Banumbirr rises a few hours before dawn as Venus transitions from the Evening Star to the Morning Star. Banumbirr communicates with the people through a faint rope that holds her close to the Sun."

DIG DEEPER

- What is explained in the story?
- What are some similarities in the Australian story compared to the Siksika First Nation story?
- Which story do you most connect with? Why?
- Indigenous People in Australia have many connections to the planets - particularly Venus. If you do some research, what connections can you make between Indigenous ideology in Australia to their stories of the sky?



SO WHERE IS VENUS, ANYWAY?

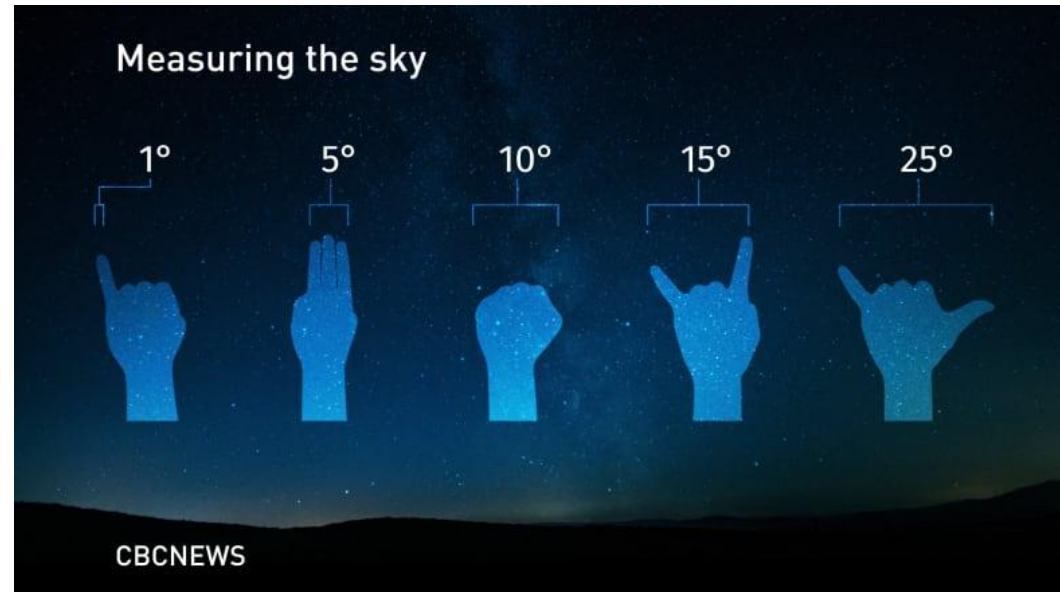
Venus is so bright, it is often mistaken for a star, a plane, or even a UFO! When it's visible, the planet is the brightest object in the night sky.

Venus's orbit is closer to the sun than Earth, and so Venus is visible before and after sunrise, depending on where it is in its orbit. That is why Venus is referred to as either an "evening star" or "morning star."



HOW CAN I SPOT VENUS?

- Look just above the moon, and you should be able to see Venus as a tiny brilliant pinpoint of light.
- Venus will appear to be 6.5° from the moon
- Venus is 48° from the sun
- Venus doesn't rise higher than 46°



A BIT ABOUT VENUS



| | |
|-----------------------------------|---|
| Type | Rocky planet |
| Size (diameter) | 12,104 km, or 95% the size of Earth |
| Mass | 4.868×10^{24} kg, or 82% the mass of Earth |
| Length of a year (orbital period) | 224.7 days |
| Number of moons | 0 |
| Average distance from the Sun | 108,208,000 km |
| Temperature | Approximately 460 degrees Celsius |



VENUS



38 TO
261

**MILLION
KILOMETRES**

Distance from Venus to Earth depending on its orbit. Venus is Earth's closest planetary neighbour.



VENUS
19/20
THE SIZE OF
EARTH



VENUS
4/5
THE MASS OF
EARTH

225
**ONE YEAR
ON VENUS**

Number of Earth days it takes for Venus to make one revolution around the Sun.

243
**ONE DAY
ON VENUS**

Number of Earth days it takes for Venus to complete one rotation on its axis. One day is longer than an entire year!



NO MOONS

Of all the planets in our solar system, only Venus and Mercury have no moons.

465
**DEGREES
CELSIUS**

The surface temperature on Venus is hot enough to melt lead! While Venus is the second planet from the Sun, it is actually the hottest because of its thick atmosphere that traps heat in a runaway greenhouse effect.



**"BACKWARDS"
ROTATION**

Venus is one of just two planets (the second being Uranus) that spin in the opposite direction from the others. This means that the Sun rises in the west.

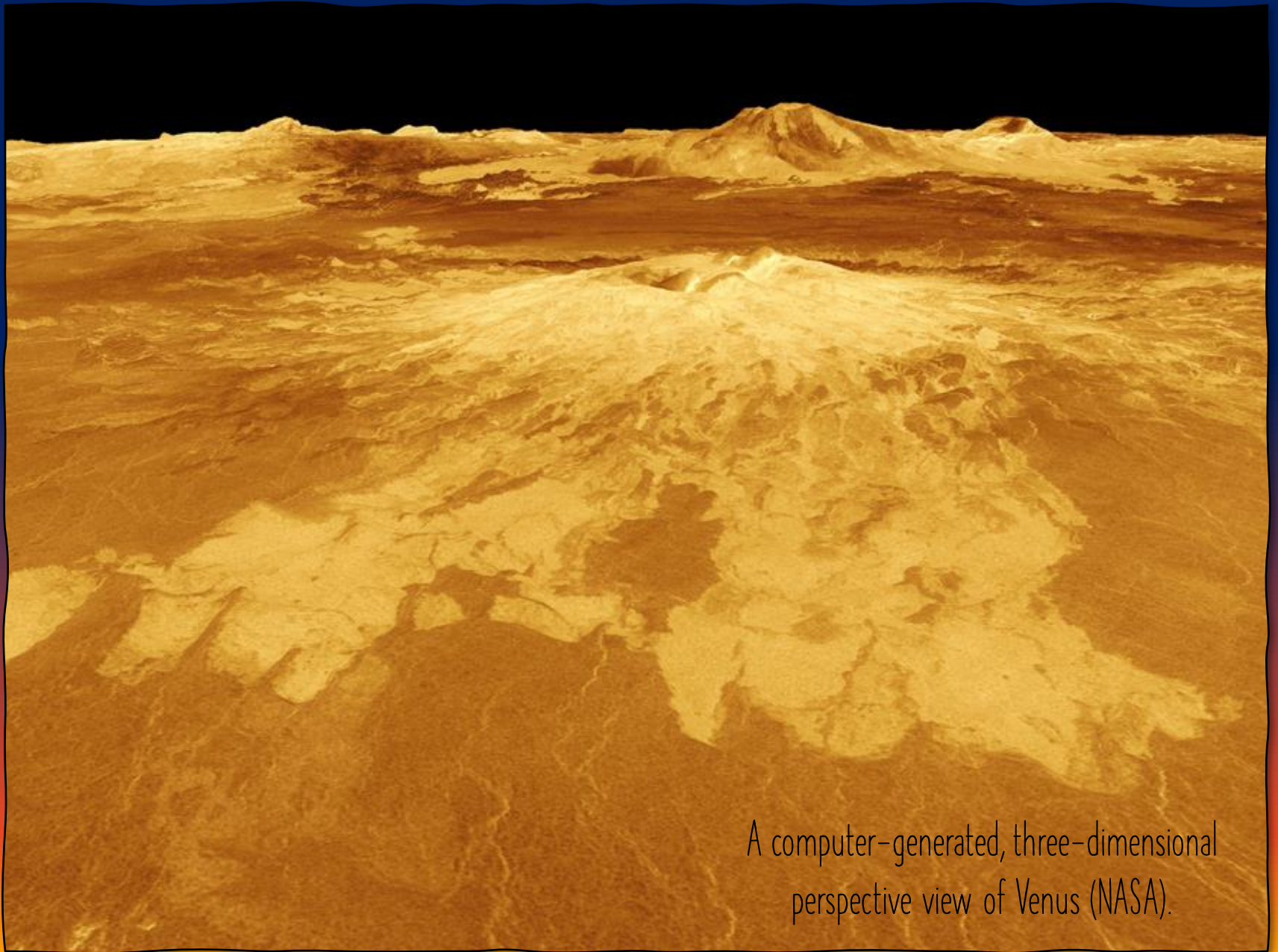


**360
KM/H**

Hurricane-force winds drive the top level of clouds around the planet every four Earth days.



Venus is covered with thousands of volcanoes, but scientists don't know if they are still active.



A computer-generated, three-dimensional perspective view of Venus (NASA).

PHOTOS OF VENUS FROM EARTH



A nightscape photo on the banks of Bow River "at the point called Blackfoot Crossing, the traditional heart of the Siksika First Nation land. Here, the Bow River runs north-south for a stretch and the highway crosses the river heading west into the evening twilight, as if off into the sky to meet Venus and Jupiter in conjunction." – Alan Dyer, 2012



Venus shines like a star – especially as it approaches the moon. Here is it is magnified and either looks like a disk or a crescent, it can sometimes resemble a miniature Moon!
As for its surface, there is unfortunately not much to see, for Venus is constantly shrouded by thick white clouds which do not reveal any significant details. However, these clouds are what makes Venus shine so brightly. – Jean-Baptiste Feldman, 2014

VENUS AND CELEBRATION



ON CORE

- Lunar Calendar and the Importance of Venus The oral histories of Indigenous peoples throughout the Americas include references to the sun, moon, stars, and planets. Solar and lunar eclipses often coincided with political and cultural events that continue to be commemorated hundreds of years later.



AUSTRALIAN
INDIGENOUS
ASTRONOMY

- Banumbirr: Morning Star Poles In Yolngu traditions of Arnhem Land, a special ceremony is held to signify the rising of the Creation ancestor, Banumbirr (Venus), between the mainland and a Burralku - the sacred island of the dead.

PODCAST POSSIBILITIES



From CBC Unreserved, the podcast "Skywatch" discusses Indigenous astronomy, the first Indigenous astronaut, and how Indigenous people are reframing the way we look at the sky. Listen in whole, or in part!



The podcast, "Journey of the Universe: Indigenous Ways of Knowing" discuss astronomy from an Indigenous perspective and the importance of place-based learning.



EXTRAS & REMINDERS

- [Why Indigenous Astronomy](#) is a thorough and fascinating article through Ontario Parks that reinforces the reasoning behind the resurgence of astronomy from an Indigenous perspective.
- [SciFri "Ways of Knowing"](#) is a link to an online interview with Wilfred Buck and focuses on Indigenous astronomy and science as part of Reconciliation.

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