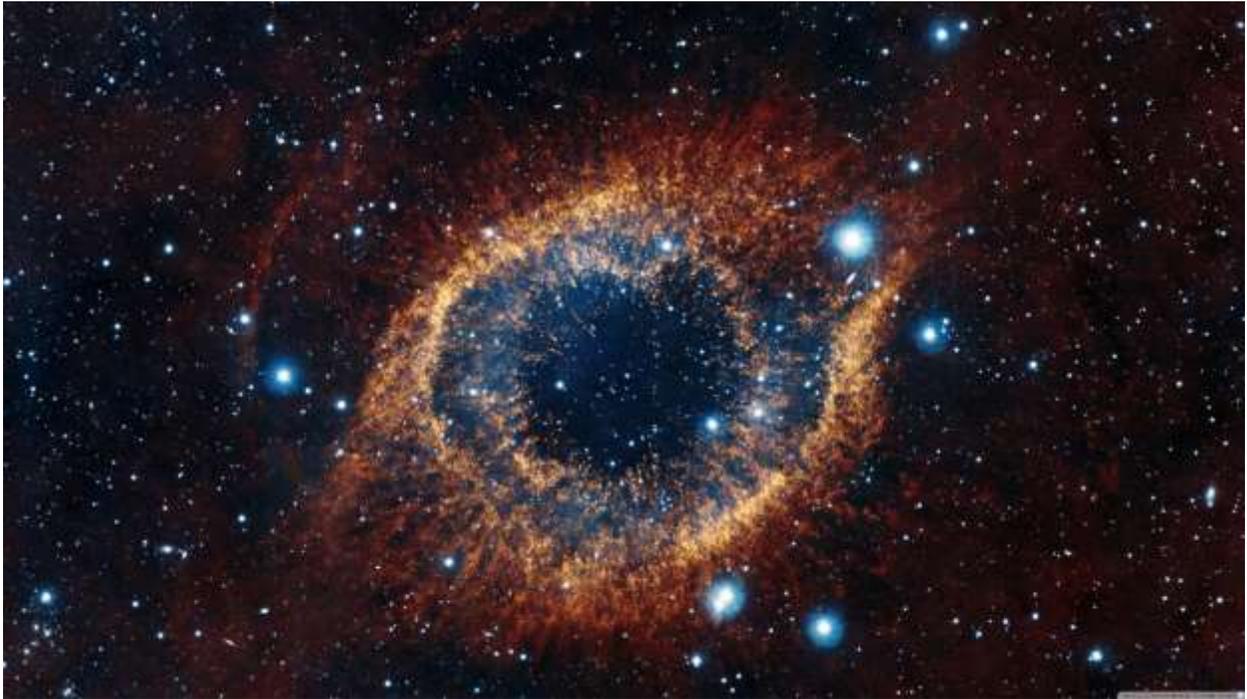


# 8<sup>th</sup> Grade Earth Science Lesson Plan



## *“Our Relatives...the Stars”*

### **8<sup>th</sup> Grade Earth Science Standards**

8.E.2.1: Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.

Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.

### **Common Core**

#### *Speaking and Listening:*

SL.9.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

### **OSEU 3:**

**The origin, thought and philosophy of the *Oceti Sakowin* continues in the contemporary lifestyles of Tribal members. Tribal cultures, traditions and languages are incorporated and are observed by many Tribal members both on and off the reservations.**

OSEU 3.2.3-5 and 9-12: Students are able to describe the relationship between the sacred sites, star knowledge and creation stories. Students are able to use the star knowledge to identify the sacred sites within the Black Hills.

## Lesson:

link to the Prezi: [http://prezi.com/sajf1qyxrcgg/?utm\\_campaign=share&utm\\_medium=copy](http://prezi.com/sajf1qyxrcgg/?utm_campaign=share&utm_medium=copy)

- Watch **“We are Dead Stars”** video <http://youtu.be/UUo-Q8hhvB0>
  - Questions for circle discussion
    - How does it make you feel to think about your body and everything about you being made of “stardust”?
    - Have you ever lain down under a starry night sky to watch the stars? What goes through your mind if you ever do that?
    - In what ways do the stars “rain down energy” for free on us? Do you ever pause to be thankful for all the “free stuff” you get just for being a human being living right now and here? How might being thankful like that change the way people live?

View clip from **“Lakota Star Knowledge”** <https://www.youtube.com/watch?v=VyK1Oqqcgg8>

- Questions for circle discussion
  - Why do you think “the year the stars fell” (Nov 12-13, 1833—the Leonid Meteor Showers) would be so important on almost every Winter Count?
  - In what ways are the stars and their movements “ordered” or predictable?
  - What do you already know about the Lakota belief that the stars are relatives?
  - What sorts of things might you think in 1833 as a Lakota person watching the “stars” fall?
- View Duane Hollow Horn Bear story, **“Star Boy and the Seven Sisters”** <http://youtu.be/uBOervIM4ag>
  - Questions for circle discussion
    - Can you name all the various relatives who assist the people in this story?
    - What lessons about the stars do you learn from this story?
    - What lessons about being away from home do you learn from this story?
- Explore the Lakota Star Map labeled in the Prezi
  - What is your understanding of ““What is in the stars is on earth and what is on earth is in the stars” & “As above, so below”?
  - Why do you think people of almost EVERY culture have stories and characters associated with the stars?
- Explore the Sacred Places Map labeled in the Prezi
  - How many of these sacred places have you visited?
  - What other sacred places are there in this region? Do you know of others?
  - How did the orderliness of the stars help the Lakota people order their ceremonies?
  - How might the “falling of the stars” impact Lakota ceremonial life?

- View Jace DeCory's interview on multiple perspectives: [http://www.wolakotaproject.org/?page\\_id=214](http://www.wolakotaproject.org/?page_id=214) and invite students to explore further some of the "Learn About" questions through interviews or research or to engage with some of the "Learn From" questions in a journal or a circle discussion if there is time:

**Learn ABOUT**  
(deep listening, *information*)

1. What is a "Wasicu way" of seeing?
2. Why is it important to honor multiple versions of stories or ways of understanding?
3. How do you decide if a grandparent or elder story is just "different" or is actually "incorrect"?



**Learn FROM**  
(deep sharing, *transformation*)

1. What are the unique "ways of seeing" that I or my family have? Am I aware of them?
2. Do I tend to see the differing perspectives of others as "wrong" or simply as "different"? What are the implications of these two attitudes?
3. What strategies for understanding do I take when I get differing perspectives from multiple trustworthy sources? How do I go about arriving at my own opinion, decision or choice?

OSEU 5: INTERVIEW WITH JACE DECORY  
WoLakota Project

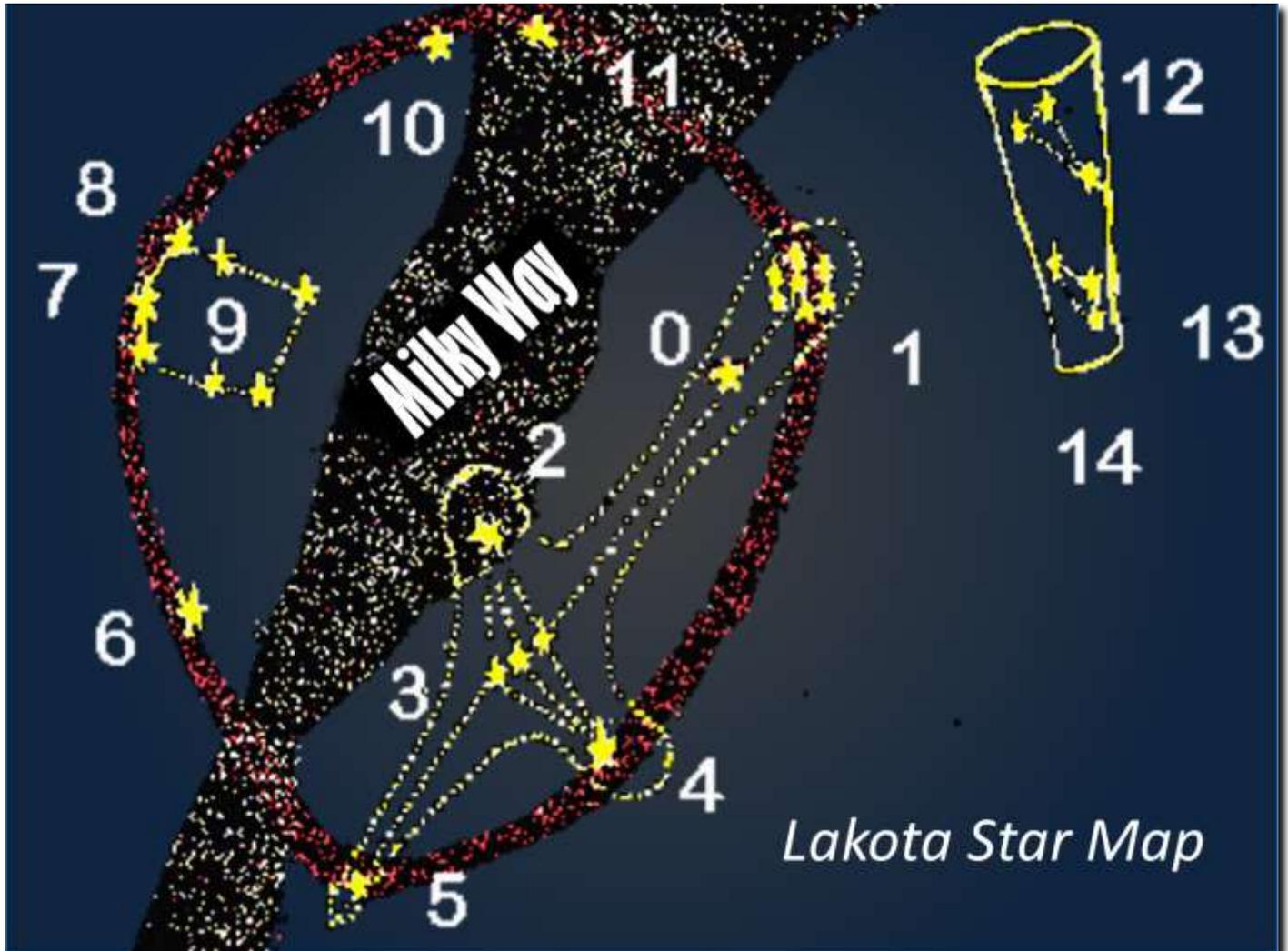
## Possible Follow-Up Activities:

- Explore the links to further information embedded on the Sacred Sites map in the Prezi

Additional Materials on following page

# Lakota Star-Earth Maps & Knowledge

Accessed at <http://www.kstrom.net/isk/stars/startabs.html#starmap>



Animal constellation (1, 2, 3, 4 & 5 plus bright Aldebaran in the head/neck) in a conventional night sky pic. We face north and as on all star maps, the left side is east (face north and hold a star map above your head to see why). In November, Orion's Belt rises (and remains) south of the southerly ecliptic.

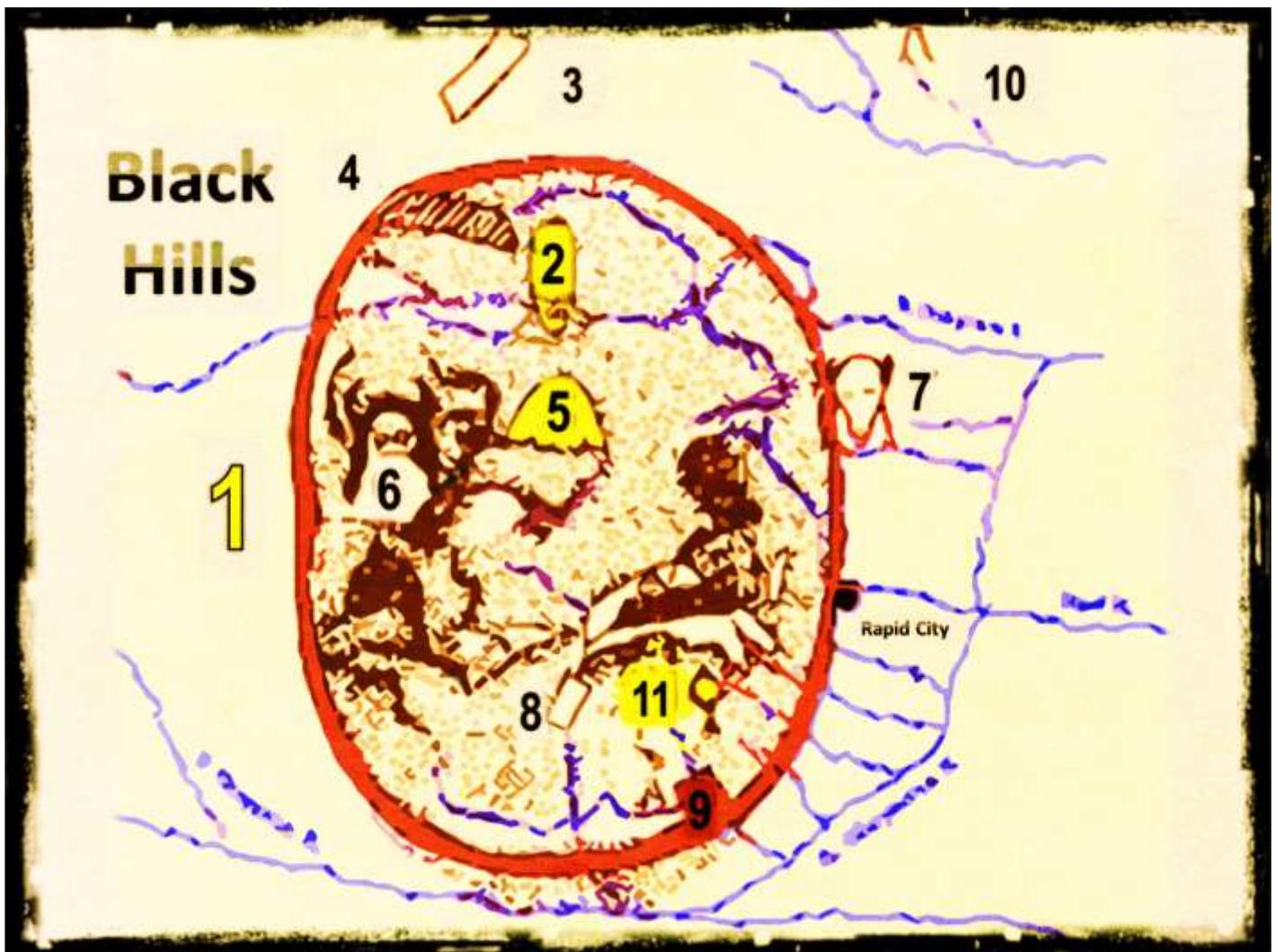
*Numbers on the Star Map refer to stars and constellations. The red track -- Ki Inyanka Ochanku, the Sacred Hoop -- is traced by certain bright stars: the Pleiades (7 sisters), Rigel, Sirius, Castor-Pollux, Auriga B, Capella.*

| No. | Name                      | Astron. name                | Represents   |
|-----|---------------------------|-----------------------------|--|
| 0   | ----                      | Aldebaran                   | First magnitude star lying in the bright Hyades cluster (Taurus) on backbone line to Pleiades (Animal's head)    |
| 1   | Tayamnipa                 | Pleiades                    | Head of constellation "Animal" (perhaps Buffalo)--Harney Peak. Also known as Wincincala Sakowin (7 little girls) |
| 2   | Tayamnitucuhu             | Betelgeuse                  | With Rigel, Animal's ribs  |
| 3   | Tayamnicankahu            | Orion's Belt                | Animal's backbone  |
| 4   | Tayamnitucuhu             | Rigel                       | Animal's other rib, Hoop marker  |
| 5   | Tayamnisinte              | Sirius                      | Animal's tail, Hoop marker; Animal's name means "born of 3 relatives"  |
| 6   | ----                      | Procyon                     | A Hoop marker  |
| 7   | Matotipila marker         | Castor ("Twins")            | Constellation is Bear's Tipi, aka Devil's Tower  |
| 8   | Matotipila marker         | Pollux ("Twins")            | Mato Tipila and Hoop marker  |
| 9   | Mato Tipila constellation | 8 of the 12 stars in Gemini | Constellation is Bear Tipi, now Grey Buffalo Horn (aka Devil's Tower), place of solstice Sun Dance               |
| 10  | ----                      | Beta Aurigae                | Hoop marker  |
| 11  | ----                      | Capella                     | Hoop north marker  |
| 12  | Part of Chanshasha Ipusye | Triangulum                  | Part of Dried Willow constellation, Spring Equinox, Pipe ceremony  |
| 13  | Part of Chanshasha Ipusye | Aries                       | Dried Willow, People are in the winter camps, Pipe Ceremony begins round of spring ceremonies                    |
| 14  | Chanshasha Ipusye         | ----                        | Standing for Pipe (red willow used in smoking); spring renewal ceremonies in Black Hills                         |

[--Sun and Star Constellations and Time](#)--explains how sun is "in" a constellation, and how the age of these ceremonies can be known from that.

**"W**hat is in the stars is on earth and what is on earth is in the stars." This idea unites the ceremonial map in the circle of stars, not only with sites in the Black Hills, but with a round of ceremonial actions at sacred sites there, ending with a Sun Dance at the Bear's Lodge (Devil's Tower) June 21 (summer solstice). "As above, so below" that is, what occurs in the stars is mirrored on earth is a very old idea now forgotten by Western culture. It is expressed in Alchemy and the even older idea that humankind and our events are a microcosmic mirror of the macrocosm. The Lakota elders believed this, and some of that knowledge did survive.

Below is a sacred map of the Black Hills within the sacred hoop, the earth-mother ceremonial home that mirrors the circle of stars in the skies. Actions of the people, not just places, are the sky-mirror -- the ceremonial round performed by the people or their representatives. "As the sun moved counterclockwise through the constellations of the ecliptic, the Lakota moved clockwise through the Black Hills from one ceremonial site to another; each site correlated to a constellation. The ceremonies mirrored the sun's path on the plains. After the Sun Dance and National Councils (held at Bear Butte) the 3-month ritual of incorporating the powers of the Wakan Waste (the ideal Good Life) was completed. The people were on the Red Road. Their will, individually and collectively, was now attuned to Wakan Tanka.



Sacred Hoop, Chan Gleska Wakan, red clay valley which circles the Black Hills, site of a race whose tumult lifted the hills higher and formed the valley. Stars mirror Spring ceremonies.

|  |                  |   |   |
|--|------------------|---|---|
| Numbers on the Black Hills Map refer to sacred sites. The red track -- Ki Inyanka Ocanku, the Sacred Hoop -- was created by a race run by 2-legged and 4-legged. |                  |   |   |
| 1  | Ki Iyanka Ocanku | Race Track Valley                                   | Race Track or Sacred Hoop bounding ceremonial area, mirrored in stars.  |
| 2  | Mata Tipi Paha   | Bear's Tipi, also Grey Buffalo Horn (Devil's Tower) | Site of June 21 Sun Dance that concludes Spring Sacred Ceremonial round.  |
| 3  | Paha Zipela      | Slim Buttes   | ----  |
| 4  | Paha Sapa        | Black Butte   | ---- .  |
| 5  | Pe Sla           | Old Baldy   | Center of Black Hills, Welcome back all life in peace (Okislataya Wowahwata -- Peace at a Bare Spot, 2nd stage of spring ceremonies |
| 6  | Hinhan Kaga Paha | Ghost (Owl) Butte                                   | Spirits of dead start path on Milky Way.  |
| 7  | Mato paha        | Bear Butte  | Sacred underground emergence origin; desecrated by park site  |
| 8  | Mnikata          | Hot springs   | For sacred purifications, now desecrated by tourist operations.   |
| 9  | Pte tali yapa    | Buffalo Gap   | Sacred entrance/exit to Hoop  |
| 10   | Wakinyan Paha    | Thunder Butte                                       | Welcoming back thunders (Wakinyan) ceremony, when sun is in Pleiades, Yate Iwakicipi ceremony                                       |
| 11   | ----             | Harney Peak   | When the sun is in Pleiades, the sacred round starts from Harney Peak, or any of several buttes.                                    |

*MAP CORRELATIONS:* If you jumped back & forth between Star and Hills maps and were puzzled, you're being too literal, looking for a mirror that's like a 1-to-1 matched diagram. Both the stars in the circle and the Black Hills contain time in their mirrors of each other, but not in the same way. People and their ceremonies are a part of the time-of-the-hills. The relative motions of the sun (and moon and certain planets) are time-in-the-stars.

When the sun is "in" certain constellations, it is time for certain ceremonies to begin. Old Baldy, a bare place in the Hills marks the center of the ceremonial geography -- but there is no star or constellation to mark the starry circle's center in the sky, the correspondence is 2 different kinds of empty places. (Although in the 11th century, when the light from the Crab Nebula Supernova reached earth so the star was even visible in daytime, it occupied this empty center.)

There's a red clay valley round the Black Hills (not so neat a circle as the elders drew above) but the Red Race Track in the star map is only indicated by certain bright stars, and is imagined. Constellations for any culture (all have them) aren't outlined by stars like so many connect-the-dots pix, they are imaginative projections on scatters of bright lights. The Lakota sky/earth mirroring is spiritual, metaphorical, symbolic, artistic -- not a literal mapping of 2 diagrams onto each other.

*CREDITS:* <http://www.kstrom.net/isk/stars/startabs.html#starmap>