

RE 356 Wilderness Stewardship Course – Student Lesson Plan

Your completed lesson plan is due by the beginning of class on Monday Feb. 22nd. Be sure to submit a hard copy to your instructor at or before this time. Lesson plans will be reviewed and re-submitted to the student if something is in question or needs to be fixed. In this event a lesson plan will not be graded until it is fixed and returned.

Researching information for your lesson is a key element for a successful lesson and a good grade. Be sure you are using up to date resources on your topic. Your texts and books from the ORLM library will be helpful for many lessons. Especially The Backcountry Classroom and the NOLS Wilderness Field Guide. Contact the instructor with any questions on research or content.

Basic Information

1. Your name

Amelia Richards

2. Lesson topic

Winter Constellations

3. Estimated length of the lesson. If broken into pieces please explain in detail.

40 min-1hour (depending on weather conditions)

The introduction and assignment of constellations should only take about 5-10 min

The myths should take around 15 minutes to cover.

Pointing out constellations in the sky should take about 10 min (weather permitting)

Creating a human sky map should take approximately 5 min.

Finally the review at the end will only take about 5 min

Resources

4. List **specifically all materials**, supplies or equipment needed to conduct the lesson. Be sure to include the number of each item, size, length, color, etc. (be specific!). For each item, indicate who will provide this (you or NMU). Be sure to speak with the instructor for RE 356 to see what type of materials you can borrow from NMU.

Milkyway chocolate (bag of mini chocolates), Flashlight, constellation headbands, Constellation disks (7), green laser pointer, and sky map.

Objectives

5. In ABCD format list at least two participant objectives for this lesson. For each objective, identify the appropriate learning domain (cognitive, psychomotor, affective).

Each participant will be able to identify the majority of the constellations based on their disks by the end of the lesson. (Cognitive)

Each participant will better relate to each myth through embodying the characters during the lesson. (Affective)

6. Describe what you will do to evaluate your participant objectives listed in number 5. How will you know if they have been met?

I will finish up the lesson by quizzing the participants in exchange for milky way candy.

I'll also know if they are paying attention and relating to the characters by their reactions to the props and stories. (Smiling, laughter, eye contact)

7. In ToVOT format list two teaching goals that you would like to accomplish for *yourself* through this lesson. *This goal should be directly related to you, the teacher, not what you want the participants to achieve.*

To make my stories interesting and educational while I pass on each myth.

To easily identify each of the constellations in the actual night sky during my lesson.

Instructional Strategies & Procedures

8. List Kolb's four learning styles that we learned in class. Describe what strategies/procedures/teaching techniques you will use during your lesson to address as many of Kolb's learning styles as possible.

Accommodating - "hands on" - Getting the chance to dress/act as a character from a myth, representing *your* constellation's spot in the sky chart, and using the green laser to point out constellations

Converging - "practical application" - finding your spot in the sky chart and identifying constellations in the disks as well as with the green laser

Diverging - "observation/creativity" - getting to observe others embody their constellation myths and see how the constellations are laid out in the actual sky as well as the sky chart.

Assimilating - "information" - Listening to the myths, seeing the constellations via the flashlight disks, learning where the constellations are in relation to one another.

9. Describe (or draw) the spatial arrangement(s) you will use throughout the lesson. For example, where will you be? And, where will the audience be? Will they be sitting or standing, etc.? If this changes throughout your lesson be sure to describe how this will happen.

(all students will need their headlamps and a sleeping pad to lay on)

In the beginning of the lesson, students will draw a constellation and separate themselves into Circumpolar and Seasonal.

Once each person is assigned a constellation and has acquired the appropriate headgear, each person will come stand up with me while the rest of the class sits down to watch us.

Once we have gone through all the constellation myths, we will lay on our sleeping pads to look at the night sky and identify each constellation.

Once we have finished we will stand up and try to recreate a sky chart using ourselves as constellations. Once we have established the whole sky we will sit back down again and review in exchange for milkyway chocolates

10. Describe the type of setting you will need and/or prefer for your teaching opportunity- such as a wooded area, grassy field, deep snow drift, sunny skies, dark moonless night, large area with packed snow, etc.

Dark Moonless night would be preferable, but the lesson plan can be adapted to a bright night or even a cloudy night. (Moon should be waning and about half during our time out there)

11. Write the content of your lesson. All of your factual information, relevant stories you intend to tell, or any other information you intend to give to your audience should be included here, in detail. *This section will probably be long.* Feel free to attach photocopied notes or other resources in this spot. Please ask the instructor if you have any questions about the content of this.

Have each person draw a card (constellation cutout). As they draw, read out the constellation and divide the circumpolar from the seasonal.

Begin discovering constellations and their myths...

Begin with the circumpolar people. Have them read off their card and they will receive appropriate prop and personality. Description of the myth and notable things about the constellation.

Constellations - Constellations are formed of bright stars which appear close to each other on the sky, but are really far apart in space. The shapes you see all depend on your point of view. Many societies saw patterns among the stars with gods and goddesses or stories from their culture.

Most of the constellations with which we are familiar come from ancient Greece. But other civilizations created their own patterns in the sky based on stories and people that were important to them.

Many peoples noticed that the planets, the moon, and comets moved through the sky in a different way than the stars.

Circumpolar Constellations - Because of the rotation of the Earth and its orbit around the Sun, we divide the stars and constellations into two groups. Some stars and constellations never rise nor set, and they are called circumpolar. All the rest are divided into seasonal stars and constellations. Which stars and constellations will be circumpolar and which seasonal depends on your latitude.

Ursa Major - Headband with plastic spoon attached, bear ears

Many cultures across the world know this constellation as a bear. In Greek mythology, Zeus, the player that he is, had an affair with yet another woman named Callisto. Hera finally had enough with her husbands shenanigans and turned the poor woman into a bear in hopes that Zeus would no longer find her attractive. It sort of worked, but Zeus felt bad and placed her in the sky to admire her and remember her beauty, and also to piss off Hera.

The Navajo also saw this constellation as a bear, but in their myth a mans eldest daughter fell in love with a bear. The youngest sister told her father who hunted down the bear bachelor and killed him before he ended up with a bear for a son-in-law. The eldest daughter went into full out rage mode, turned herself into a bear and killed all of her siblings. Each of the siblings now represent a star in the constellation and the bear daughter still roams the woods mourning her lost fiancé.

Ursa Minor - Headband with smaller spoon, bear ears

Following the end of the big dipper, you can find Ursa Minor, the little bear. According to the Greeks, Zeus felt really bad that he had gotten Callisto turned into a bear so when he placed her in the sky he turned her son into a bear as well so that they could remain together. While a dim and small constellation, Ursa Minor is an important one. It remains in the night sky, simply spinning about it's point at the end of the handle: Polaris.

Polaris - star

Dubhe and Merak are the pointer stars of the big dipper. If you follow them up you will stumble upon Polaris (the north star). The North star is called such because while it's not due north, it remains in the northern sky and all stars seem to rotate around it. People for hundreds of years have used it for navigation most notably sailors at sea and slaves using the underground railroad.

Draco - Hat with dragon things?

The easiest way to find Draco is to look between the big and little dipper to find a tail and trace it to his trapezoid head. The end of the tail is a star named Thuban which was the polar star 4,000 years ago.

In Greek Mythology, A dragon's purpose was to guard a golden apple tree. Heracles managed to kill him while performing his 12 labors, but Gaia was so fond of the dragon that she placed him in the sky to be honored for all eternity.

Cassiopeia - paper crown (Q)

Cassiopeia was the wife of King Cephus. The queen was extremely vain and often boasted that she and her daughter Andromeda were even more beautiful than the Sea Nymphs. Poseidon didn't take too kindly to all of that and sent a sea monster to attack the coastal kingdom. Cassiopeia and Cepheus sacrificed their daughter to the monster, but Perseus swooped in and saved her at the last minute. This story was so dramatic the Gods wanted to preserve it forever and placed all the players in the sky.

The constellation looks like a W and is fairly bright.

Cepheus - paper crown (K)

King Cepheus was Cassiopeia's husband. He was dragged into her mess with the sea serpent and forced to choose between his daughter and his kingdom. While not a very good father, his actions saved his people and his kingdom gave rise to what is now known as Ethiopia (or so the myth goes)

This constellation looks like a crude drawing of a house. The tip of the house would be the polar star if we lived on Mars.

Winter Northern Hemisphere Constellations - Because of the rotation of the Earth and its orbit around the Sun, we divide the constellations into two groups. Some constellations never rise nor set, and they are called *circumpolar*. All the rest are divided into *seasonal*

constellations. Which constellations will be circumpolar and which seasonal depends on your latitude.

Orion - coon skin cap/Belt (sticky glow stars?)

Orion is a great hunter and after a lifetime of being the greatest hunter out there, he boasted that no creature could kill him. The gods became irritated with the arrogant human and sent Scorpio to go put Orion down. After a good fight, Orion managed to kill the scorpion, but not before scorpion stung him in the chest. Shortly after getting Steve Irwined, Orion passed away. Zeus saw much respect for both though and Orion and the scorpion were placed among the stars, (just on opposite sides so that they will never be in the night sky at the same time).

Canis Major - Hat with old socks attached

Canis was Orion's faithful pup. He followed Orion everywhere and was his best hunting dog. He was so faithful that he refused to leave his master's dead body giving Zeus no option but to place the canine in the sky at his master's heels.

The star Sirius is Canis Major's nose.

Sirius The star Sirius is Canis Major's nose. Sirius, the Dog Star, is one of the brightest objects in the night sky. Only the Moon, Venus, Jupiter and Mars are brighter. Those that lived near the Nile River used the star to signal the flooding of the Nile. This special occasion represented the return from the dead of the Sun god Osiris. Also, now you know why Sirius Black is named such.

Sirius is Greek for "Scorcher". Also called the "Dog Star". Sirius was not visible in the night sky during the summer months, therefore the Greeks thought that Sirius added its heat to that of the sun, producing the warm summer months. The hottest days are still called "dog days"

Gemini (2) - tie arms and legs together

Many different civilizations saw this pair in the sky. Ancient Greeks saw the twins Castor and Pollux, sons of Leda and Zeus. The Romans saw the brothers Romulus and Remus, two heroes that founded Rome. Both the Greeks and the Romans believed the twins were raised by the centaur, Chiron.

Gemini is a part of the Zodiac, which is a group of stars which the Sun travels through each year.

Gemini is very easy to find, just look for the two bright stars called Castor and Pollux. They represent the heads of the twins, while fainter stars sketch out two bodies.

Taurus - Horns

Taurus the bull was known as a bull across many ancient cultures. The most notable story was that of Zeus turning himself into a white bull in an attempt to seduce a milkmaid who caught his eye. Somehow he convinced her to climb onto his back and he ran away with her. So the next time you want to pick up a chick, turn into a bull.

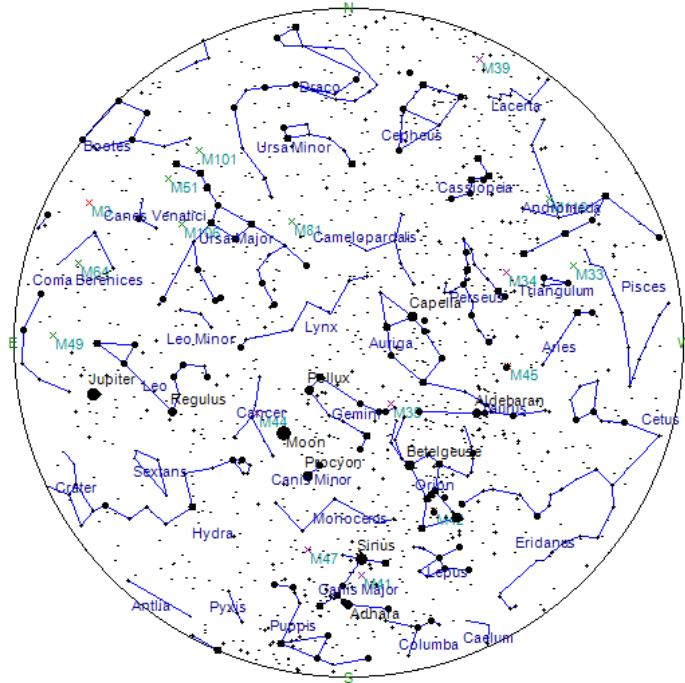
Within Taurus is a grouping of stars known as the Pleiades. They are known as the 7 sisters and are the inspiration for the Subaru Logo

Once everyone is propped and have their story....

Lay in a circle and identify each of the constellations in the actual night sky. The Green laser can be passed around so that people can trace their constellation (and find it again)

Draw a large circle in the snow. (already drawn)

Establish north, south, east and west by locating the big and little dipper - polaris



12. Describe all visual aids, props, games, or other activities you plan to use or do. **It should be noted that every lesson needs to be based on experiential and interpretive techniques. So, using props in some capacity will be a given.**

Initial Constellation/Star Assignments - Flashlight disks/head adornments

Storytime - Introduction (focus is on the greek myths), Circumpolar constellations, Seasonal Constellations

Identification of actual constellations - green laser pointer

Human Sky Chart - Within the stamped out circle arrange yourselves as the constellations are laid out in the sky (polaris is north)

Final Review quiz - Milkyway chocolate

13. List and describe the safety concerns associated with this lesson. For each concern, identify how you plan to avoid or minimize the risk. Be sure to mention at least two potential risks.

One concern is the participants getting cold. To minimize this I will be sure to warn people to dress warmly and bring their sleeping pads to lay on/sit on. I will also keep a few hand warmers on my person in case anyone needs some.

One other risk is using the green laser and it pointing into people's eyes. To prevent this from happening, I will require anyone using it to only point it at the sky, be very cautious when using it, and never point it at planes overhead.

14. List and describe any factors that may adversely affect your lesson. For each factor, identify what you could do to deal with it; what is your contingency plan? Please describe at least three of these.

*Think of this as anything that can take away from the learning experience, such as cold temperatures, wind, hungry/tired participants, etc. *

Cold temperature is a problem which I will combat by continuously observing my participants and asking if they are feeling alright. I will try to get everyone to do a bit of jumping around to warm up between each section and will also have hand warmers.

Because it is late at night, my participants will probably be tired after a long day. I will do my best to keep things interesting and engaging so that people don't have to just sit and listen to me talk while they get cold.

Cloudy weather or a bright moon (both likely because it's marquette in the winter and we should have a waning half moon in the sky). If the stars just aren't out or are hard to see, it will be okay still. Only 1 part of my lesson is actively observing the night sky. We will be learning the myths and constellation shapes as well as creating a star chart with our bodies so that even if we cannot see the actual constellations we know where they would be.