

## Lesson Plan Template

**Lesson Segment Focus: Patterns in the Sky**

**Lesson 1 of 1**

**Course & topic addressed: Science, Space Systems**

**Date: 4-15-19 Grade: 5th**

### Student Outcomes

Specific learning objectives for this lesson.	Students will explore the seasonal appearance of some stars in the night sky. Students will work in groups to solve a puzzling question. Students will create charts showing seasonal constellations.
Describe the connection to previous lessons. (Prior knowledge of students this builds upon)	Students have learned about stars in this section of standards already. They have addressed how stars' brightness is affected by their closeness to Earth.
Knowledge of students background (personal, cultural, or community assets)	Most students have seen stars for most of their life, even in the city. Even if they don't know much about the solar system, they will have heard people talking about these constellations. Many students will have family members who believe in horoscopes and probably know the constellation that represents the month that they were born in. Many cultures have stories about how the constellations came to be in those patterns and certain students may be able to share these stories.

### State Academic Content Standards

List the state academic content standards with which this lesson is aligned. Include state abbreviation and number & text of the standard.	<b>5-ESS1-2 • Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. [Clarification Statement: Examples of patterns could include the position and motion of Earth with respect to the sun and select stars that are visible only in particular months.] [Assessment Boundary: Assessment does not include causes of seasons.]</b>
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### Academic Language Support

<p>What planned instructional supports might you use to assist students to understand key academic language to express and develop their content learning?          What will you do to provide varying supports for students at different levels of academic language development?</p>	<p>Students will have vocabulary cards on the table. Certain words will be looked up online for their definitions and written down. Students will work in groups and this will help those who have different levels of language development because they can discuss misunderstandings with their group. Students will draw constellations, they will be able to express their learning this way as well as in writing.</p>
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### Key Vocabulary

<p>What vocabulary terms/content specific terminology must be addressed for students to master the lesson?</p>	<p><b>Circumpolar constellation, seasonal constellation, constellation, horizon, axis, rotation, Northern Hemisphere, Southern Hemisphere</b></p>
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### Materials

<p>Materials needed by teacher for <b>this lesson.</b></p>	<p>Computer, internet, PowerPoint, Google classroom, YouTube, pens, paper, toothpicks, marshmallows, papers about making your own constellation story, charts of earth and the months, exit slips, vocabulary cards on table</p>
<p>Materials needed by students for <b>this lesson.</b></p>	<p>Groups: toothpicks, marshmallows, paper about making your own constellation story Individual students: laptops, internet, PowerPoint, Google classroom, YouTube, pens, paper, charts of earth and the months, exit slips, vocabulary cards</p>

### Lesson Timeline with Instructional Strategies & Learning Tasks (**This should be VERY DETAILED**)

Amount of Time	Teaching & Learning Activities	Describe what YOU (teacher) will be doing and/or what STUDENTS will be doing during this part of the lesson.
10 minutes	<p><b><u>Introduction:</u></b></p> <p>Students will come into the room and sit in their predetermined groups.</p>	<p>Students will sit in their groups of four. The teacher will play a YouTube video (<a href="https://youtu.be/4Qu6GQii-mU">https://youtu.be/4Qu6GQii-mU</a> ) I will have marshmallows and toothpicks on the tables. Students will work with a partner to create their own constellation. They will name the constellation and give it a story. Students will share out about their constellations. Students will fill out their vocabulary cards as a group.</p>

Amount of Time	Teaching & Learning Activities	Describe what YOU (teacher) will be doing and/or what STUDENTS will be doing during this part of the lesson.
5 minutes	<p><b><u>Instruction:</u></b></p> <p>1) <i>Provide students with puzzling situation</i></p>	<p>Students will be asked, "How do constellations move in the sky?"  Students will watch the youtube video and read the powerpoint book that is linked in Google Classroom. (<a href="https://youtu.be/seAJoplyBIc">https://youtu.be/seAJoplyBIc</a>)</p>
7 minutes	<p>2) <i>Students explore reactions to the situation</i></p>	<p>Students will write down their first relations to the puzzling question and their observations from the videos.</p>
5 minutes	<p>3) <i>Students formulate study task and organize for study (roles, assignments)</i></p>	<p>Student will assign study tasks (leader, spokesperson, timekeeper, note taker, researcher, etc.).</p>
20 minutes	<p>4) <i>Independent and group study time</i></p>	<p>Students will research the puzzling question. They will have charts, texts, and posters provided at their tables. They can also use the internet. They will draw on a chart (with the world in the center and months written around the earth) two seasonal constellations that you would see for every season. Students will discuss in their group what they think the answer is to the puzzling question.</p>
15 minutes	<p>5) <i>Students analyze progress and process</i>  &amp;  6) <i>Repeat the cycle with another confrontation or with a new problem growing out of the investigation itself</i></p>	<p>The spokesperson will share out and tell what their group thinks the answer is. The group will share how they came to that conclusion and what all they've learned.</p> <p>The students will share questions that this inquiry brought up. These questions will be used to direct another lesson.</p>

Amount of Time	Teaching & Learning Activities	Describe what YOU (teacher) will be doing and/or what STUDENTS will be doing during this part of the lesson.
3 minutes	<p><b>Closure:</b></p> <p>Students will do a exit slip</p>	Students will do an exit slip and individually answer the question, "How do stars move in the sky?"

### Accommodations/Modifications

<p>How might I modify instruction for:</p> <p>Remediation? Intervention? IEP/504? LEP/ESL?</p>	Small group intervention can be done in the group time. Students have their own laptops so the screens will be easier to see for those with vision issues. ESL students will be working with other students who have a higher level of language acquisition to help sort out misunderstandings.
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### Differentiation:

How might you provide a variety of instructional methods/tasks/instructional strategies to ensure all student needs are met?	<b>Drawing star charts, making their own constellation, watching YouTube, doing personal research, and filling out vocabulary cards will provide students with many different ways to have all of their learning needs met.</b>
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### Assessments: Formative and/or Summative

Describe the tools/procedures that will be used in this lesson to monitor students' learning of the lesson objective/s (include type of assessment & what is assessed).	✓ Formative <input type="checkbox"/> Summative	Papers with made up constellation information can be assessed.
	✓ Formative <input type="checkbox"/> Summative	Reaction papers to the puzzling question can be assess for understanding and progress.
	✓ Formative <input type="checkbox"/> Summative	Students will do an exit slip that will be compared with their reaction papers to see if understanding has improved or if a misunderstanding needs to be addressed in the next lesson.

### Research/Theory

Identify theories or research that supports the approach you used.	Herbert Thelen created the group investigation model. He wanted to create a model that would encourage cooperative learning while exploring real-life issues. Students cooperate in groups to research and are taught how to problem solve on their own. Students learn how to be learners independent of the teacher's strict guidance, while simultaneously learning to work in a group. This model has been proven to increase students knowledge on subject matter, even if all of the students are on different levels of ability or language acquisition.
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**Lesson Reflection/Evaluation**

What went well? What changes should be made? How will I use assessment data for next steps?	<i>TO BE FILLED IN AFTER TEACHING</i>  N/A
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Include supporting material such as slides, pictures, copy of textbook, and handouts for any activities students will be using as part of your lesson.

\*adapted from: <http://webcache.googleusercontent.com/search?q=cache:EsQcNWuG1ZoJ:web.mnstate.edu/harms/StudentTeachers/edTPA-LessonPlan.doc+&cd=2&hl=en&ct=clnk&gl=us>; <http://www.moreheadstate.edu/getmedia/cd3fd026-939f-4a47-a938-29c06d74ca01/Lesson-Plan-and-Reflections.aspx>; <http://www.mcneese.edu/f/c/9cb690d2/Lesson%20Plan%20Rubric%20Aligned%20with%20InTASC.docx>; <https://www.uwsp.edu/education/Documents/edTPA/Resource12.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/Resource11.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/Resource11a.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/LessonPlanTemplateSOE.docx>; <https://www.uwsp.edu/education/Documents/edTPA/SpecEdLessonPlanGuide.docx>; <https://www.uwsp.edu/education/Documents/edTPA/SpecEdLessonPlanTemplate.docx>