

Montessori Lesson Plan

School: N/A	Teacher: Kathlyn Videkovich
Subject/Topic(s): Introduction of the Big Bang	
Grade Level: 9	Theme: Our Universe, Our place
Curriculum Components Included: <input type="checkbox"/> Project <input type="checkbox"/> Mini-Whole Grp <input type="checkbox"/> Lesson-Small Grp <input checked="" type="checkbox"/> Student engagement during lesson <input type="checkbox"/> Shelfwork <input type="checkbox"/> Rubric <input type="checkbox"/> Self-Assessment <input type="checkbox"/> Seminar/Qs <input type="checkbox"/> Interdisciplinary <input type="checkbox"/> Outside Opportunity	
Seven Gateways for Adolescence addressed in this lesson: <input checked="" type="checkbox"/> Deep Connection <input type="checkbox"/> Silence & Solitude <input type="checkbox"/> Meaning & Purpose <input type="checkbox"/> Joy & Delight <input type="checkbox"/> Creative <input type="checkbox"/> Transcendence <input type="checkbox"/> Initiation	

<u>Standards/Objectives</u> Standards: From Wisconsin Science Standard [1] SCI.ESS1.A.h Light spectra from stars are used to determine their characteristics, processes, and lifecycles. Solar activity creates the elements through nuclear fusion. The development of technologies has provided the astronomical data that provide the empirical evidence for the Big Bang theory.		
Objectives: Review the Formation of the Universe Story Inspire curiosity to explore the science behind how we know about the big bang		
<u>Materials: Teacher</u> <ul style="list-style-type: none"> The Story of the Formation of the Universe from "Children of the Universe" by Michael & D'Neil Duffy The Black Strip KWL 	<u>Materials: Student</u> <ul style="list-style-type: none"> Listening ears Note taking materials 	<u>Time/Dates</u> <ul style="list-style-type: none"> 9/03
<u>Facts/Skills (Prior Knowledge)</u> <ul style="list-style-type: none"> Prior presentation of the Story of the Formation of the Universe. 	<u>Concepts/Big Ideas</u> <ul style="list-style-type: none"> The Universe was created at the big bang 	
<u>Lesson Relates to Theme</u> (Note: Every content lesson will not directly relate to the theme) This lesson relates to "How do we know our place in the universe's history"		
<u>Connection to Elementary Material or Lesson</u> The Black Strip Story of the Formation of the Universe		

Step-by-Step Procedures

1st Period Lesson – 20 minutes (Include steps and materials)

- Gather students outside in a shading area (if bad weather, in classroom in a circle)
- Read the “Story of the Universe”, “Scientific Creation Story” starting on page 52 on from the book “Children of the Universe”
- Roll out the Black Strip
- Have the students physical walk along the strip from beginning to end
- When all students are at the end, discuss how all this time has gone before we existed and amazing things have happened in our universe during that time.
- Discussion how we have used observations and technology to probe into the universe’s past to learn about its formation and how we came to be a part of it.
- Re- summarize how we are going to investigate this topic this term with the students (Ideally a repeat of the coversheet wording).
- Invite the students to choose either the journal follow-up activity or the KWL, allow the students 10 to 20 minutes to free write/think
- Follow-up as a group to share their journal or the “W” from the KWL

2nd Period – Recognition (Shelfwork)

-

2nd Period – Recall Practice

- Choose:
 - Write a journal reflection on how your reading the Story of the Universe as adolescent changes your understanding of how you fit into the universe compared to when you were a LE/UE student.
 - Write a journal entry on how the reading the Story of the Universe and walking the black strip impacts their perception of place in the universe.
- Fill out the KWL

3rd Period – Student Application

- In a group, either share a “W” form the KWL or their journal entry
- Hand write either paragraph about why they choice the particular “W” or final version of the journal entry

Plan for Differentiation

Teaching

General lesson will be provided to all students in the same session.

Work

Students can choice their follow-up work.

Assessment

None

Outside Support: Who, What, How

Formal Assessments

Formative Assessments

Review the students’ paragraphs or KWLs to check that the activity was completed. These products will be to evaluate what they are curious in and what adjustments need to be made materials or topics covered in the cycle.

Summative Assessment