Browning Public Schools
Board Agenda Request
Meeting to Be Held: 09/27/2018

Recognition:	☐ Students	☐ Staff	☐ Parents
Information:	☐ Building Report	☐ Old Business	☐ Superintendent's Report
Action:	☐ Resignation	☐ Hiring	☐ Contract Service Agreements
	☐ Travel Out-of-State	☐ Travel In State	☒ Approvals
	☐ Termination	☐ Legal Matters	☐ Other:
	This action request pertains to	☒ Elementary (only)	☐ High School/District Wide

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Date: 9/17/2018

To: **Browning School Board** Members

From: Corrina Guardipee-Hall ED.S.
Title: Superintendent

Subject: Presentation by Ty Show

Description: Ty Show would presented to the school board on a project that will involve working with a control group of middle school students. 4 participating classes and 1 control group - likely 7th and 8th grade science and social studies that will involve having students complete a pre and post survey, as well as Ty and Latrice publishing their work. The plan is to hopefully do this starting in January.

Ty Show, recent graduate of MSU is working on a project with Latrice Tatsey, who is a graduate student at MSU, wish to incorporate Blackfeet Values and ideology into STEM education. They would like to pilot a project at the Browning Middle School.

Financial Impact: pending negotiated agreement: N/A

Funding Source (Budget/grant, etc.): 0

Attachment(s): MSU STEM Outreach Project

Approval: Superintendent's Office/Finance/Personnel as applicable (Initial) _____

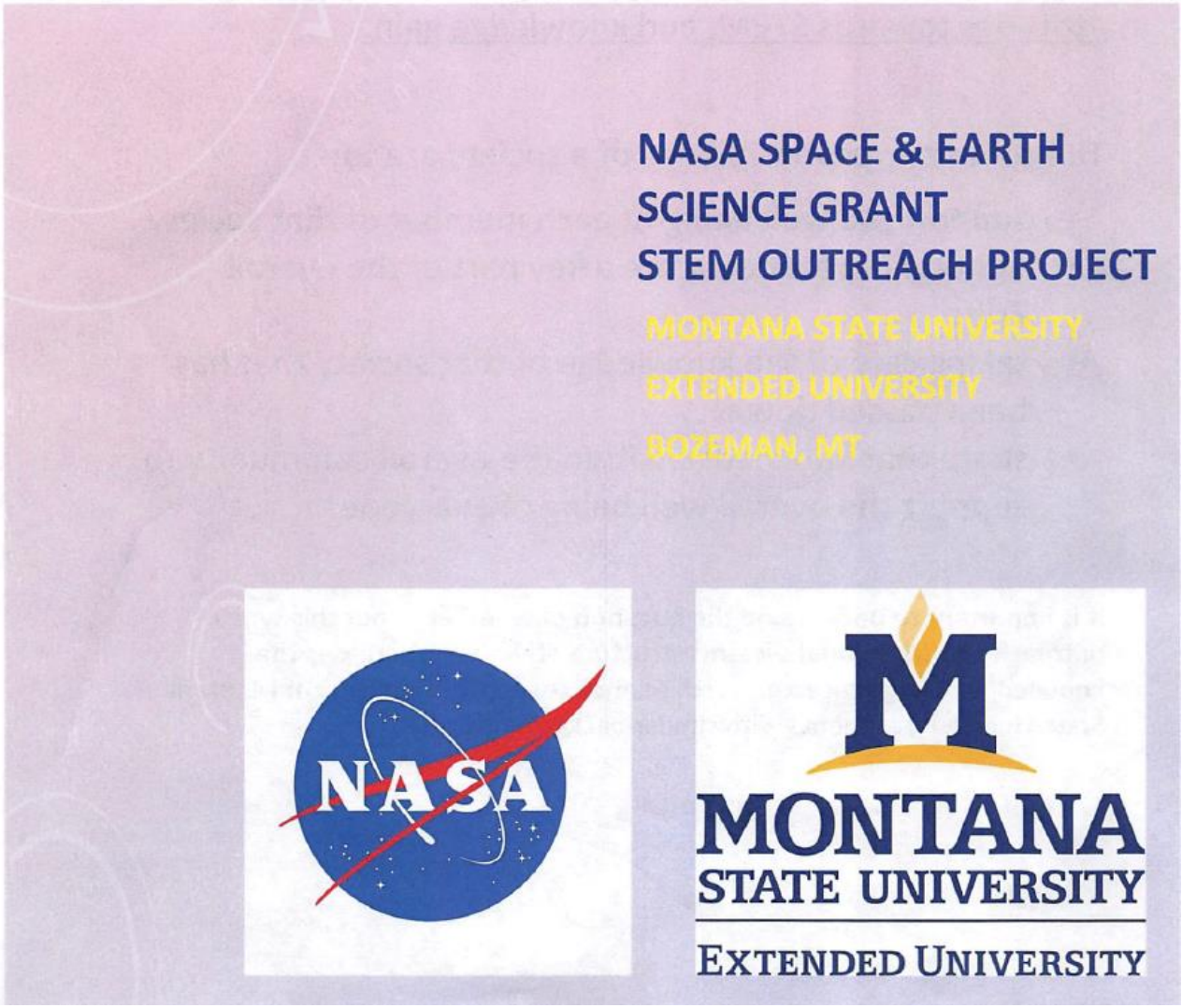
Comments: _____

Board Action: ☐ N/A (Info) ☐ Approved ☐ Denied ☐ Tabled to: _____

Transfer of Knowledge

MSU STEM Outreach Project

Browning Middle School



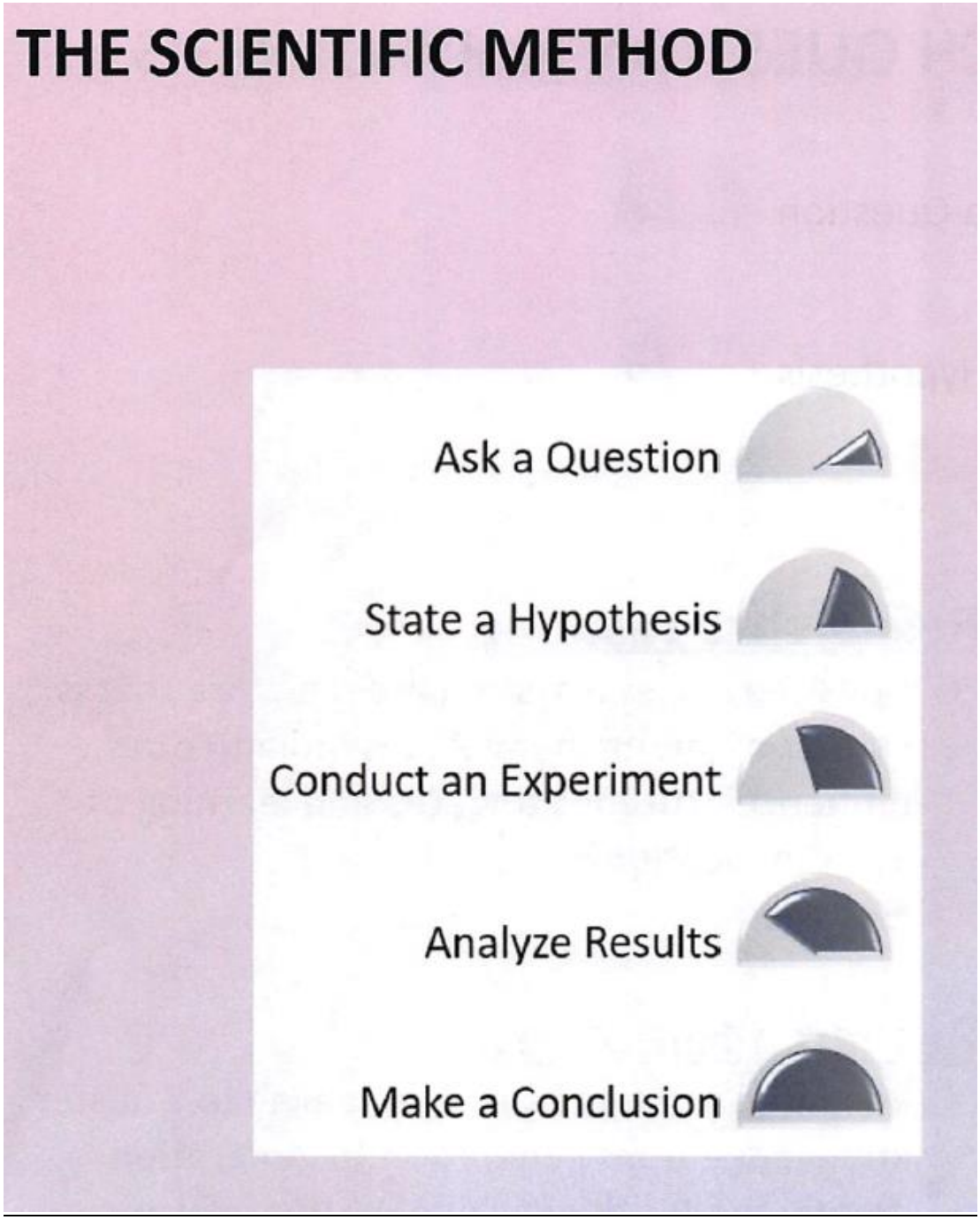
Purpose

Utilize the traditional systematic structure of societies to acquire, foster, and transfer knowledge to improve attitudes towards STEM, and knowledge gain.

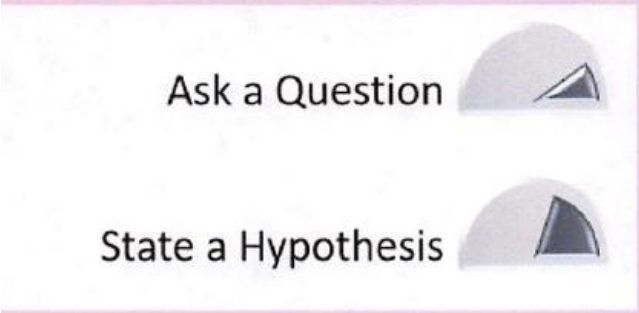
The common responsibilities of a society are to:

- **support the well being of each member of that society**
- **understand that they are a key part of the overall Tribe**
- **taking care of the knowledge of that society that has been passed down**
- **share that knowledge within the overall community to support the overall well being of everyone.**

It is important to understand the question of whether of not this type of outreach and traditional systems structure effectively increases the knowledge of key space and earth science concepts using current Montana State University students with similar backgrounds.


THE SCIENTIFIC METHOD
Ask a Question
State a Hypothesis
Conduct an Experiment
Analyze Results
Make a Conclusion

RESEARCH QUESTION & HYPOTHESIS



1.) Research Question:

- Does the societal systematic structure that is common among many Plains Indian Tribes influence attitudes towards and learning of STEM education?

2.) Research Hypothesis

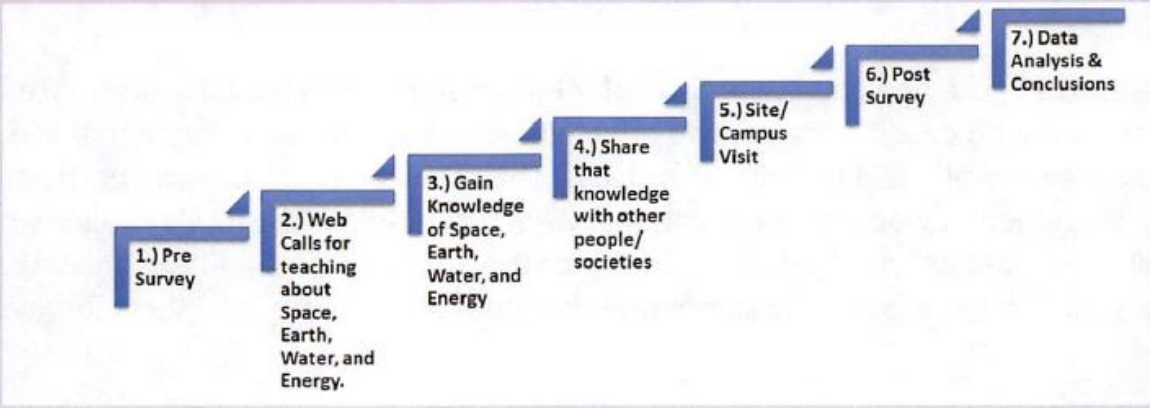
- Because societies have been a way to transfer knowledge from generation to generation among the Blackfeet Tribe, both orally and visually, the societal systematic structure will increase positive attitudes and educate students on STEM related topics in energy, space, earth, and water.

SYSTEMS APPROACH TO EXPERIMENT

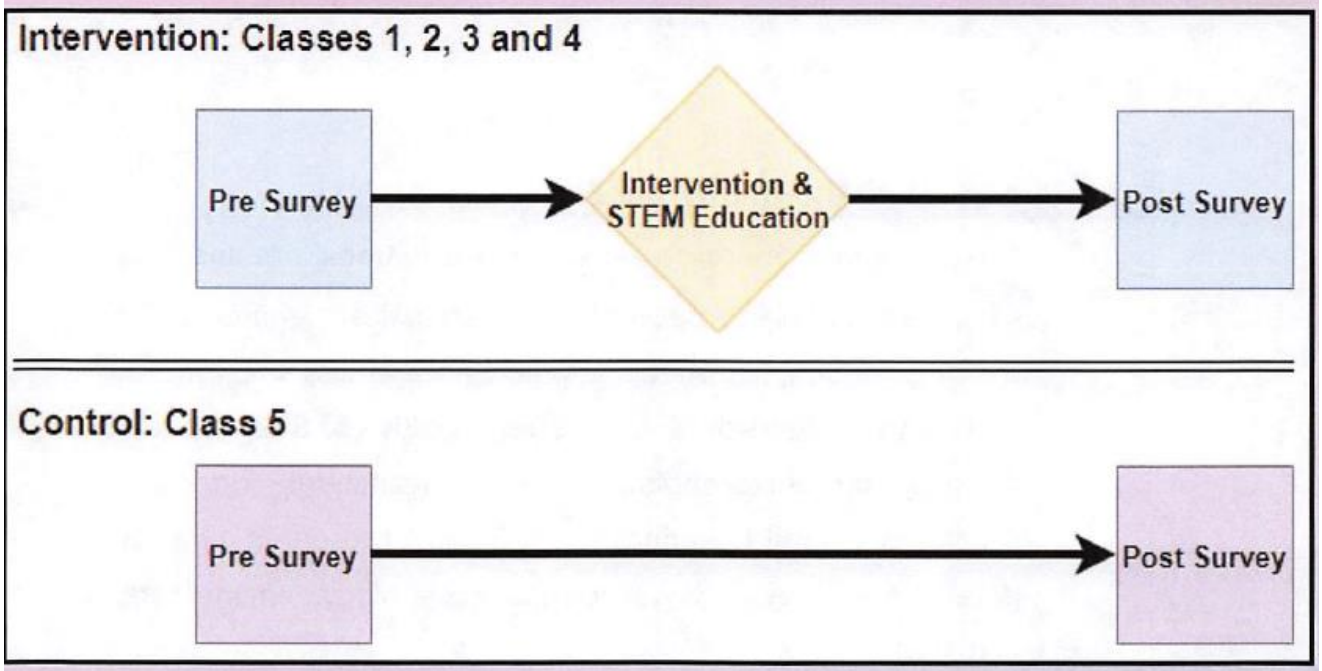
Conduct an Experiment

3.) Experimental Design:

- This systematic approach allows for a traditional pre and post survey evaluation to determine the statistical significance of the intervention, STEM educational webcasts and site/campus visits with students of MSU. The Data analysis of these surveys will allow for all stakeholders to make meaningful strides and conclusions about the education of underrepresented minority populations in regards to science, technology, engineering, and math.

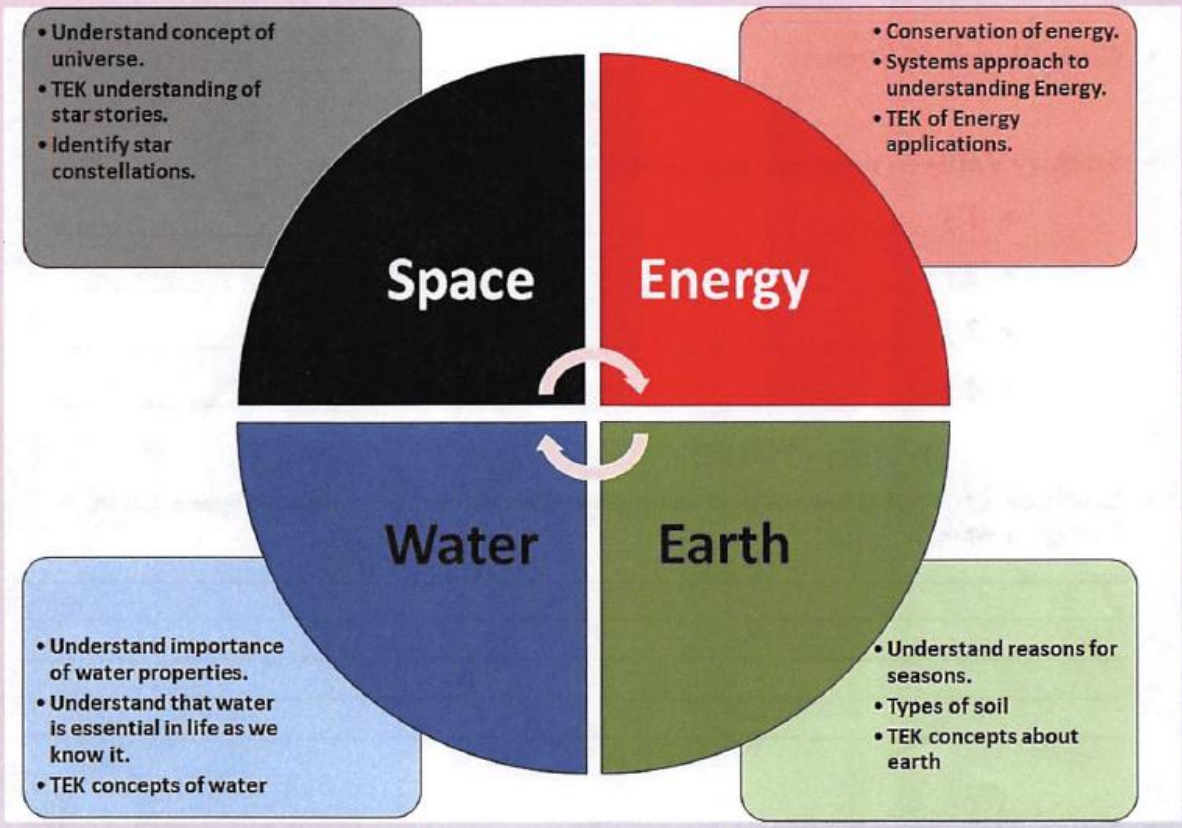


Statistical Design



The above figure depicts the method of intervention and control. Furthermore, this method will be used to analyze the effectiveness of the intervention, and there are five classes involved in the overall process. This means four classes will participate in one introduction webcast, 2 educational webcasts, and a final site/campus visit, while one class will not participate in any of the interventions, and will only take pre and post surveys around the same time the other four classes take their surveys.

SOCIETAL BREAKDOWN



- **All Classes will have all societies.**
- **All members of a society participate in all lessons and activities of that society.**
- **Each Society Completes a Society Information Sheet.**
- **Each Society will create four presentations to go back to original class and present as a group. (TRANSFER KNOWLEDGE)**

Society Information Sheet

***All Societies in All Classes complete this form as a group within their original classes. ***

- **English Name of Society:** _____

  (example: Space, Earth, Energy, Water)

- **Chippewa Name of Society:** _____

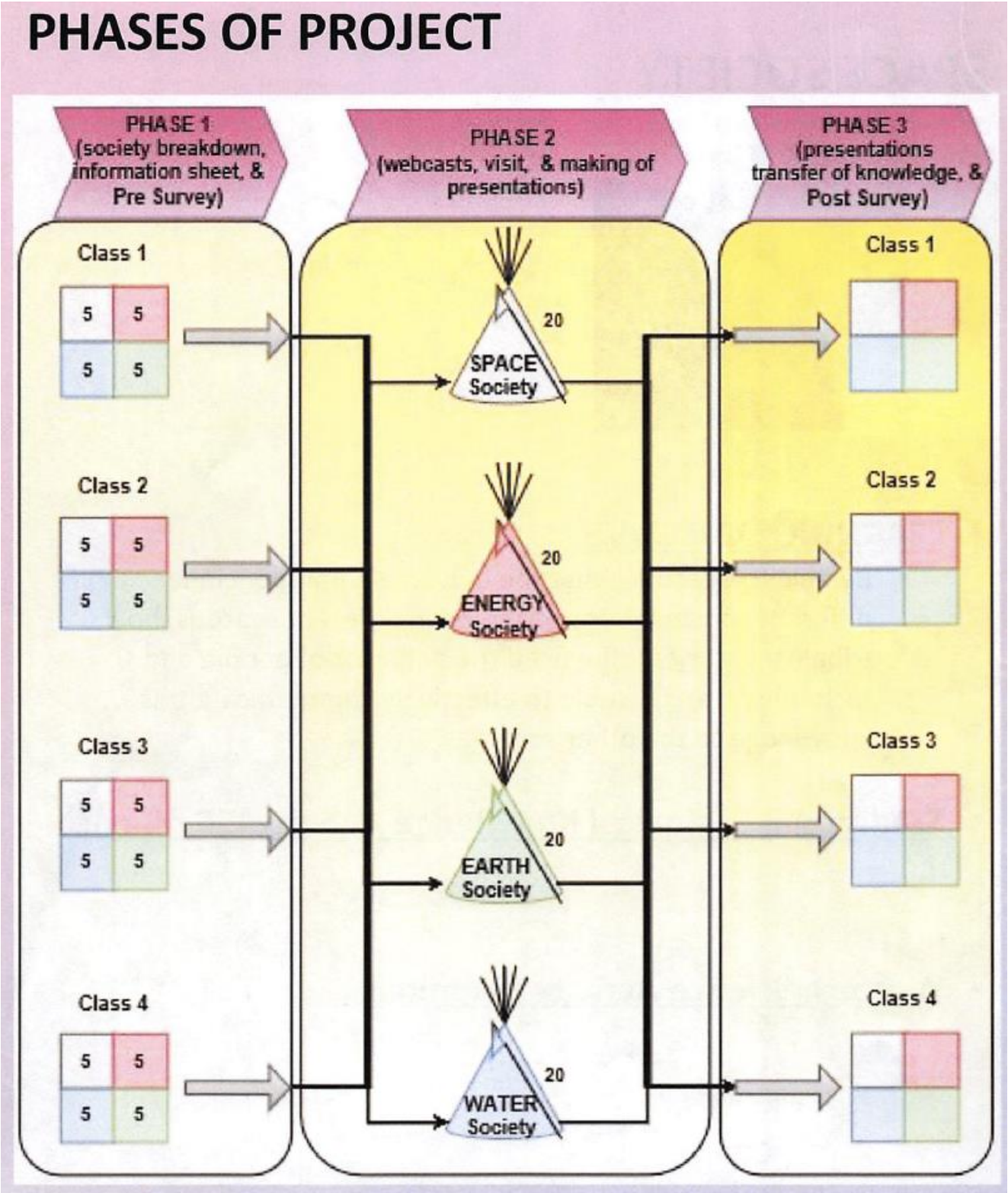
- **Cree Name of Society:** _____

- **Society Values:** (What does your society value relating to subject).
  - *1.)* _____
  - *2.)* _____
  - *3.)* _____
  - *4.)* _____

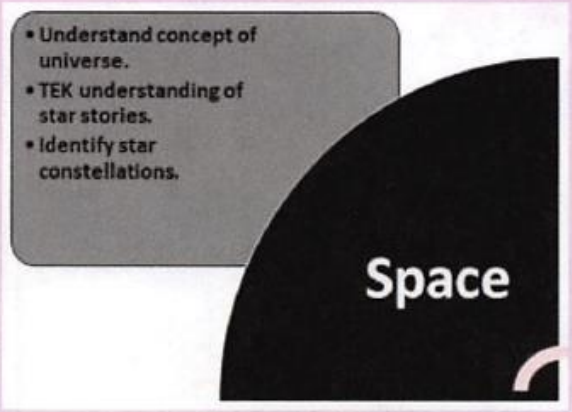
- **Society Motto:** (How will your society use their values to learn about Space, Earth, Energy, or water).

  _____
  _____
  _____
  _____
  _____

- **Cultural Facts related to your society:** (try to relate what you know about the subject to your culture or a known project in your area).
  - *1.)* _____
    _____
    _____
  - *2.)* _____
    _____
    _____

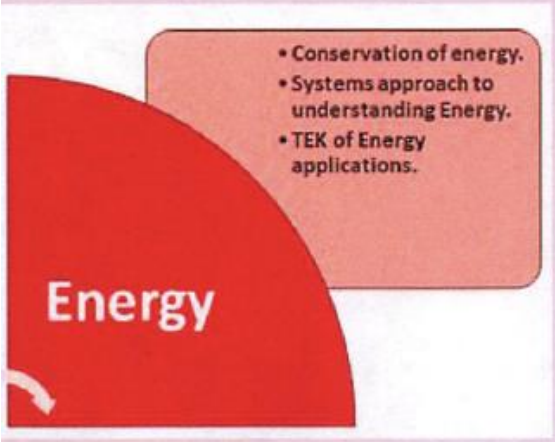

PHASES OF PROJECT
PHASE 1
(society breakdown, information sheet, & Pre Survey)
PHASE 2
(webcasts, visit, & making of presentations)
PHASE 3
(presentations transfer of knowledge, & Post Survey)
Class 1
5 5
5 5
20
SPACE Society
Class 1
Class 2
5 5
5 5
20
ENERGY Society
Class 2
Class 3
5 5
5 5
20
EARTH Society
Class 3
Class 4
5 5
5 5
20
WATER Society
Class 4

SPACE SOCIETY



- **LEARNING OBJECTIVE:**
  - Be able to describe what the universe entails, decipher different constellations observed in different seasons, how tribal star stories influenced the behavior of people and technology, and be able to effectively communicate this knowledge to the other societies.
- **Traditional Ecological Knowledge Activity (50 mins):**
- **Western Science Activity (50 mins):**

ENERGY SOCIETY

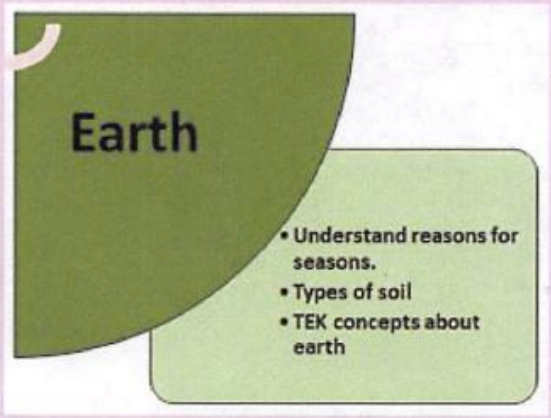


- **LEARNING OBJECTIVE:**
  - Be able to identify a system where energy is conserved, decipher different forms of energy, give examples of common traditional and modern tribal uses for that energy, and be able to effectively communicate this knowledge to the other societies.

- **Traditional Ecological Knowledge Activity (50 mins):**

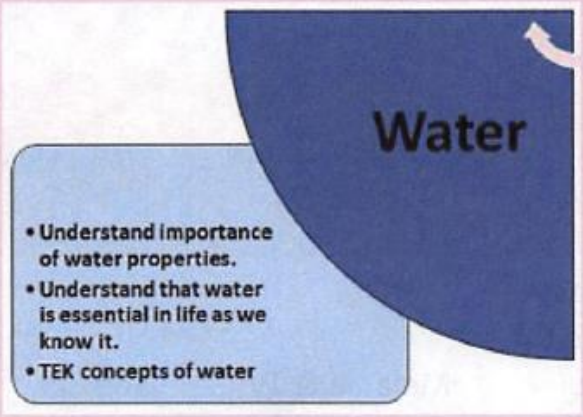
- **Western Science Activity (50 mins):**

EARTH SOCIETY



- **LEARNING OBJECTIVE:**
  - Be able to determine why there are seasons, identify different soil types, be able to give an example of common traditional and modern tribal practices involving soil, and be able to effectively communicate this knowledge to the other societies.
- **Traditional Ecological Knowledge Activity (50 mins):**
- **Western Science Activity (50 mins):**

WATER SOCIETY



- **LEARNING OBJECTIVE:**
  - Be able to identify important uses of water today, traditionally, and locally, how water has been essential in the existence of life, traditional tribal understandings of water, and be able to effectively communicate this knowledge to the other societies.
- **Traditional Ecological Knowledge Activity (50 mins):**
- **Western Science Activity (50 mins):**

FOLLOW UP

Remaining Problem/ More Info Needed	Description	Responsibility	Due Date
Classes	Finalize the 4 participating classes (intervention & Surveys)), and the 1 control class (no intervention but surveys are administered).	Melanie & Ty	Sep. 14, 2018
Consent for study	Decide consent type: Letter home for parents to sign or "Passive Consent" letter home and if parent doesn't sign and send back, that is consent		Oct. 2018
Letter of Support	Ty will email whoever a letter that they can add a letterhead to and sign.	Superintendent & BMS Administration	Oct. 2018
BCC & MSU Institutional Review Board Submission	Letters of support and the example consent form are due with the submission.	Ty, Superintendent, and BMS Admin.	
Skype	Skype needs to be downloaded for the webcast portion of this project.	BMS Staff & Melanie	Jan. 2019
Supplies	Purchase and mail supplies needed to an address and person decided on by the school.	Ty	Jan. 2019