## Planning the inquiry

### 1. What is our purpose?

1a) To inquire into the following:

- **transdisciplinary theme**
  
  **Sharing the Planet**
  
  An inquiry into rights and responsibilities in the struggle to share finite resources with other people and with other living things; communities and the relationships within and between them; access to equal opportunities; peace and conflict resolution.

- **central idea**
  
  Management of resources impact outcomes and opportunities.

1b) **Summative assessment task(s):**

What are the possible ways of assessing students’ understanding of the central idea? What evidence, including student-initiated actions, will we look for?

**Scenario:**

Compare the ways Native Americans managed their resources to the way we manage our resources today. How did/does it impact the outcomes or opportunities of those groups of people?

How can you manage the resources in your life? What would be impacted by your management of these resources? How would your decision affect others around you?

Native Americans made the most of every resource. There was little to no waste. Now, people in the US are more wasteful. We throw more things away. We don’t use all of the resources that are available to us wisely.

Students choose how they would like to present their findings and understanding of the central idea.

**Goal:** Students can explain how to appropriately manage their resources using the example of the Native Americans (all resources).

**Role:** Role play (drama), Writer, Communicator, Analyze, Inventor

**Audience:** Class, groups and teacher

**Situation:** How can you manage the resources in your life? What would be impacted by your management of these resources? How would your decision affect others around you?

### 2. What do we want to learn?

What are the key concepts (form, function, causation, change, connection, perspective, responsibility, reflection) to be emphasized within this inquiry?

**Causation**

Related: Survival, Process, Interdependence

What lines of inquiry will define the scope of the inquiry into the central idea?

- Forms of energy, renewable and nonrenewable
- Ways in which the Native Americans adapt to their environment by using natural resources
- Opportunities created by geography
- Managing resources in our personal day to day lives

What teacher questions/provocations will drive these inquiries?

- What resources are we responsible for managing?
- How do we manage our resources effectively?
- How effective were the systems the Native Americans use to manage their resources? What did they do differently to survive?
- What actions can we take to preserve our resources to survive?

**Provocation:**

**Choice #1**

Asking questions and take a step forward activity. Take a step forward if you….
<table>
<thead>
<tr>
<th>3. How might we know what we have learned?</th>
<th>4. How best might we learn?</th>
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| *This column should be used in conjunction with “How best might we learn?”*  
What are the possible ways of assessing students’ prior knowledge and skills?  
What evidence will we look for?  
Writing Prompt: Write about a time when you did not have a resource available.  
Brainstorm about what the word resource means.  
Can students identify forms of energy? Complete KWL Chart  
Compare Native Americans’ management of resources to current management on Venn Diagram  
What are the possible ways of assessing student learning in the context of the lines of inquiry? What evidence will we look for?  
STEM Scopes vocabulary and content connection assessments and tasks on energy, force and motion  
Class discussion and reflection on forms of energy and the management of those resources  
Final project on Native American home to explain how they adapted to their environment and efficiently used their resources | What are the learning experiences suggested by the teacher and/or students to encourage the students to engage with the inquiries and address the driving questions?  
Native American script/play  
Utilization of energy- How can we be more effective? It costs money, energy and resources to make new things. How can we be better stewards of our resources?  
Landfill Discovery and Garbage in the Ocean:  
https://www.youtube.com/watch?v=mA608GJ-EzM,  
https://www.youtube.com/watch?v=1qT-rOXB6Nj;  
https://www.youtube.com/watch?v=HQTUWK7CM-Y  
Math Word Problems involving the amount of trash Kramer 4th graders produce in a day, week, month and year.  
Design a toy, art, artifact, or tool out of the resources you have (wood, rocks, cardboard, egg cartons and so forth)  
Week 1: Provocation. IB Elements-Introduce new theme and central idea, KWL in science, Social Studies- Native American tribes and their characteristics, Science-types of energy, introduce toy/ art project, Writing- brainstorm resources in preparation for writing prompt, Reading- Fiction  
Week 2: IB Elements- Wonderwall, KWL in science, Science- videos on nonrenewable resources (coal, etc.); What actions can we take? How can we reflect on what we see? Writing- resource prompt, Reading- Drama  
Week 3: IB Elements Science- Ask them about what conservation tips they have
learned in garden and how to apply that in their lives. (Natural resources, renewable vs. nonrenewable resources), Reading- Literary Nonfiction on Native Americans

Note: find video on public transport that is run from natural resources*

Week 4: IB Elements-KWL and Venn Diagram continue, Social Studies- Native American home,

Week 5: Summative assessment, reflection on unit

Build a Native American home using the resources that would be available to them. How did Native Americans manage their resources? (using all of the animal parts)

Inquiry into different types of energy and conservation, including food energy, demands of energy increase, challenges moving forward, how do we manage it.

What opportunities will occur for transdisciplinary skills development and for the development of the attributes of the learner profile?

**Approaches to Learning Skills:**

Research skills-collecting data, interpreting data, presenting findings

Thinking skills-acquisition, evaluation, synthesis, analysis, making connections

IB Learner Profile-Reflective, Knowledgeable, Inquirers (new ways to manage or produce energy), Caring (knowing the consequences of mismanaging resources)

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5. What resources need to be gathered?
What people, places, audio-visual materials, related literature, music, art, computer software, etc, will be available?

Sancedio-Research skills; types of energy, Native American resources

Southwick-Types of natural energy resources, renewable and nonrenewable resources, composting, growing your own food

How will the classroom environment, local environment, and/or the community be used to facilitate the inquiry?

Create an Action Poster for our classroom including actions we can take in the classroom to manage our resources
6. To what extent did we achieve our purpose?

Assess the outcome of the inquiry by providing evidence of students' understanding of the central idea. The reflections of all teachers involved in the planning and teaching of the inquiry should be included.

How you could improve on the assessment task(s) so that you would have a more accurate picture of each student's understanding of the central idea.

What was the evidence that connections were made between the central idea and the transdisciplinary theme?

Students' Understanding of Central Idea-

- Understand it well. They have completed a project and PowerPoint about the way they manage resources that they are responsible for. It has pushed their thinking about the ways they manage their resources.
- When it was time to apply it, spent more time identifying the types of resources they are using (paper, water, electricity). At first, they could only identify the responsibilities that they have at home as opposed to the resources they must take care of at home.
- Majority can explain what they need to take care of at home/bathroom and at school/classroom (water, electricity, paper, compost at school, resources in the garden, recycling bags and paper and bottles).
- Students show a strong understanding of managing resources.
- Students were able to successfully compare the use of resources by Native Americans to the way we manage our resources today.
- Students understand that the Native Americans managed their resources in a less wasteful way.
- Students made connections to different renewable resources that we can use in a more effective, efficient way
- The opportunities and outcomes component of the central idea was not fully developed
- Students have made connections to science. They understand that the resources are many things besides oil, wood and water.
- In reading, they have aligned with science. Some confusion was had on whether or not resources were natural. Oliva did a list, map to talk about those pieces to clarify for students.
- In Martinez’s class, they had to use their resources in different ways and

7. To what extent did we include the elements of the PYP?

What were the learning experiences that enabled students to:

- develop an understanding of the concepts identified in “What do we want to learn?”
- demonstrate the learning and application of particular transdisciplinary skills?
- develop particular attributes of the learner profile and/or attitudes?

In each case, explain your selection.

Lines of Inquiry-

- Native Americans and their resources was very well understood, ways they adapted to their environment (SS project). They see it as a real world, historic example. Students became very invested.
- Students were able to zone in on the resources they were responsible for managing.
- Force, motion, and magnetism was not as connected and should be moved to a different planner.
- Remove the line of inquiry about Opportunities created by famous, historical Americans.
- Forms of energy, renewable and nonrenewable
  - Connections to recycling, and to the geography that provides greater opportunities to take advantage of natural resources, such as wind energy in west Texas.
- Force and motion, magnetism
  - Remove this line of inquiry for next year, it does not fit with the central idea
- How did the Native Americans adapt to their environment by using natural resources?
  - Students showed a very strong understanding of this line of inquiry and showed action by researching more about a tribe they were interested in. They took initiative in researching using technology and databases.
- Opportunities created by geography
  - Understood that Native Americans moved around based on the geographical resources (rivers, fertile soil, etc.)
  - Geography of a place influences which resources are available (e.g. wind energy in W. Texas)

Learner Profile-

Reflective-Talked about changes they made about their own resources and conservation at home. We discussed being reflective in an academic way, not as
make adjustments (technology free recess). Saw that they could adapt depending on their resources or lack of resources.

Improve the Assessment-

- Kids were excited to do the PowerPoints. Keep it for next year. It was well timed for what they were doing in class.
- Interested in a service project like collecting bags to see the impact they could make on the community (a tangible outcome).
- Creating posters next to the recycling bins.
- The assessment task addresses the management of resources of both Native Americans and us in the current day.
- It includes a reflection on the outcomes resulting from effective resource utilization.
- Research is going on this week.

Connection from Central Idea to the Theme-

- Central idea is aligned with theme.
- Sharing finite resources or a responsibility for the resources is evident.
- Most can make the connection from central idea to theme. They understood that there is a global impact in the decisions they make about taking care of our resources.
- Students are able to make connections between effective resource use and management to how we share the planet.

Knowledgeable- Students had to practice being knowledgeable to take initiative to learn more about Native Americans as well as develop their science fair project.

Inquirers-This was key! Students had many questions about the project and components. Students were wondering about Native Americans’ lives. Many questions were added to the Wonder Wall.

Caring-Students had empathy about the Native American people. Very “heated” conversations about Native Americans forced off their lands. This is still true- students feel that Native American tribes that still exist were treated unfairly.

Transdisciplinary Skills-

Research- all over the project! Every single week, every part of the project. What is it that you want to find out? How do you find it? Where do you start? Students were very self-motivated with their Native American research using various resources such as books, databases, and the internet. Students asked questions and worked to find out the answer.

Thinking- More reflection on what they do. They had to analyze their current actions before they could make a change or identify how they could manage it more effectively. Students made connections to how we can recycle and utilize renewable resources in order to effectively manage resources.
8. What student-initiated inquiries arose from the learning?

Record a range of student-initiated inquiries and student questions and highlight any that were incorporated into the teaching and learning.

- Difference between renewable and non-renewable resources. What is hazardous? What materials are hazardous for humans or nature?
- How do I know if something is reusable? Recyclable? Asking about materials and categorizing them.
- What would it be like to live in those houses? What resources would they have been using during that time? (Fat of the animals v mosquito spray)
- Do Native Americans attend school or have an education?
- Am I related to Native Americans? Students wanted to be related to Native Americans to have more of a connection with the lesson.
- Students asked questions about what they could do in school and in the classroom to better manage resources

What student-initiated actions arose from the learning?

Record student-initiated actions taken by individuals or groups showing their ability to reflect, to choose and to act.

- Students feel more responsible for resources at home and at school.
- We need to take care of the things we have.
- We throw less things away and recycle more.
- Students made changes at home, conserving water for example and would try it at home.
- Students learning from each other about other options to conserve and reuse resources.
- Students were more proactive about using resources appropriately in the classroom and recycling/reusing if possible
- Students researched Native American tribes using various online and print resources

9. Teacher notes

Make connections to behavior with classroom resources. What are you using that for? Are you using the resources in the best way possible?

Incorporate outcomes and opportunities. What impact does it make? Why should it even bother?

Make more connections to specials teachers, specifically garden.

Add a cause and effect chart that aligns

How can we emphasize the component of outcomes and opportunities? What global connections can we make to the central idea and theme? (Maybe how do our actions with ineffective, wasteful resource use impact the globe)

Provocation:

Saroni took away resources in her class. Students were creative, some were lost, but they decided to use what they had. Students would share resources. After the lesson, they reflected on the lack of resources and they named those emotions. They were upset that they didn’t have their resources but they adapted to the new situation.

If resources were already gone, Martinez wouldn’t replace them so they had to problem solve and find solutions (pencils from home). A student took action and taped the pencils so they could track the pencils and materials.

In reading, Oliva invited the native american family to come talk to the class. Students made strong connections based on listening to the family. It was eye opening to find out that their classmate was part of the Cherokee tribe. They also learned about the traditions from the student’s tribe and their history (North Dakota). They also shared food with the class.

Student Agency Check Point

Reminding students about routines when students ask permission. Trying to reinforce independence through expectations and routines.

RLA/SS, they have choices for their stations. They have a variety of choices and they have to track their progress based on data. In DEAR time, they get to choose what book they read and they can choose how to respond to the reading.

Math/Sci, the early finishers have choices when they are done. They are helping others, researching, and reading/writing more.

Teachers will try PROBE notebooks in the 3rd six week.