

1. What is our purpose?

To inquire into the following:

- **transdisciplinary theme**

How the World Works: *An inquiry into the natural world and its laws; the interaction between the natural world (physical and biological) and human societies; how humans use their understanding of scientific principals; the impact of scientific and technological advances on society and on the environment*

- **central idea**

Systems determine how we live.

Summative assessment task(s):

Students will choose an example of a system. They will draw, label and write about it. Students will explain the function of their system, the parts and how they works together, and they will explain what would happen if one part of their system was missing. A rubric will be used to assess.

Class/grade: 2nd Grade

Age group: 7 to 8 year olds

School: Poe Elementary

School code: 49497



PYP planner

Title:

Teacher(s): F. Castro, S. Gray, E. Gregor, A. Marrs, P. Pare, J. Quintana

Date: November 30, 2020 through January 29, 2021

Proposed duration: number of weeks: 6

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?

Key Concepts: function and connection

Related Concepts: interdependence and cycle

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

*How plants and animals are dependent on systems to live.

*Natural and man-made systems

* How parts work together to make a system work

* Effects of systems breaking down

What teacher questions/provocations will drive these inquiries?

- - What weather patterns do you observe where we live?
 - What systems can you find in the world around you?
 - How many systems are you a part of?
 - Inventors and scientists can invent or improve systems

3. How might we know what we have learned?

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?

We will explore simple systems together, ie ball point pen, flashlight, clothespin, with hands-on discovery. Students will also explore what happens when a part is missing. In whole group, we will record how parts work together to make a system work. Then we will brainstorm a list of natural and humanmade systems that we already are aware of. This will be a chart left up in the room to add to later.

What are the possible ways of assessing student learning in the context of the lines of inquiry? What evidence will we look for?

Students will make connections about different types of systems and how their world depends on them.

Students will create a model of the water cycle and label the parts.

Students will create a diagram of the three branches of US government. Students will label the leaders of each branch and their responsibilities.

Students will write a response to what they would change about our government and why.

These projects will be assessed by a rubric.

4. How best might we learn?

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?

Students will engage in an oral discussion using the lines of inquiry. Students will identify the parts of a system and recognize that the whole system must have all the important parts in order to function. Students should be able to describe and demonstrate with a real world object what would be the effect of an important part missing or not functioning correctly. We use objects like flashlights, ball point pen and clothes pin to investigate how parts work together to make a system work..Also, as we learn about scientific concepts like weather and objects in the sky, students learn about natural systems.

Focus:

Students will be exposed to different types of systems.(see box 3)

Students will list types of systems.

Inquiry:

Students will observe a water cycle represented visually and written form.

Students will identify leaders in local, state, and federal government by making charts.

Discovery:

Students will compare salt water and fresh water.

Students will compare the purpose of the different government branches.

Reflecting:

IB Learner Profile: (reflective and knowledgeable) The students reflected on systems in the world around them and understood that certain parts were necessary for a system to work.

IB Attitudes: (curiosity, tolerant, creative) The students will use curiosity to explore systems and how they work/don't work. They will find creative ways to invent systems and solutions to broken systems.In studying different types of government systems students will discover the need for tolerance between governments.

A major focus will be on how civilizations are dependent on each other and the environment for

5. What resources need to be gathered?

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

Teachers will create a City of Houston mayorial timeline. The timeline will be hung in the hallway.

Students will use brainpopjr.com and brainpop.com to research topics of inquiry.

Classes will discoveryeducation.org to stream videos on topics related to the weather systems and the water cycle.

Classes will use ktrkweather.com to watch daily weather forecasts.

Teachers will collect materials to demonstrate the water cycle. (Hot plate, aluminium pan, cookie sheet, heating pad, water)

Classes will read books related to the water cycle, government, and weather systems on appropriate reading levels. Books will be gathered from the library.

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.

Students were able to identify a system, label the parts and describe what makes it a system at school, at home and at the Children's Museum. Students were able to apply the definition of a system in whole group discussions.

The assessments used were valid and students were able to show understanding. Assessment was done through rubric.

Some higher performing students were motivated by creating poetry about water cycles and art work to show their understanding of related vocabulary and illustrations.

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.

We should put a component where students identify man made and non man made systems. Students can show a man made and non man made system for the end of the unit assessment. They will label the parts of their systems and in the writing will express if it is man made or non man made.

Students can also identify which parts of the system can be removed and the system still work. Example- pencil missing an eraser.

2019 – we did the above. We added an example and steps of how to write about a system. Using that, the teacher will write an example with the class.

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

The students were able to see that the world is made up of various systems and they are part of some of the systems.

2020-2021: With the pandemic year, we altered this somewhat. We focused on scientists and inventors and students made biography reports.

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?" Key and related concepts are function, connection, interdependence and cycle. Through the experiences in Box 4.

As we study the water cycle students identified parts of the system and how they worked. Their knowledge was recorded in diagrams made.

Students were able to connect what they learned about the function of the water cycle to their own lives: what clothes they would wear or what activities they could do depending on the weather outside. This demonstrates interdependence between weather and human activity. Students learned that natural systems are cycles. Man-made systems have a function.

- demonstrate the learning and application of particular transdisciplinary skills?

Students were able to use research skills when completing their biography projects. We might move this project to a different planner. This is still being reflected on.

Students recorded, collected, and interpreted data when recording the temperature and observing the water cycle in class.

Students used thinking skills when working on the concept of duration of time and reading clocks.

Students used social skills during whole class discussion showing cooperation with their peers.

- develop particular attributes of the learner profile and/or attitudes?

In each case, explain your selection.

Students were inquirers and showed curiosity through research, observation, and questioning of systems in our world

Students showed appreciation of systems and cycles in their world.

In one classroom, a student was being a thinker showing risk taking and independent behavior when she made a connection with clocks and measuring time as a system we use in our world to help us in how we live.

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.

The realization that everything is a system or a part of a system.

At this point teachers should go back to box 2 "What do we want to learn?" and highlight the teacher questions/provocations that were most effective in driving the inquiries.

2020-2021 – we focused more contributions of scientists and inventors this time

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.

2020-2021 -Through research, students learned about scientists and inventors that helped them understand that people who act in positive, creative ways, have most of the IB profile attributes. There were not "actions" that directly came from this unit, but I think it probably taught students that their character can determine how they fit into a system, or change it for the better

9. Teacher notes

2019 – We will make this an on-going planner for the whole year. One hall bulletin board will be dedicated to this planner.

For next year, have a student government in each class. Each table group could be a district.

Everytime we discover an action, add it to the grade level bulletin board.

2020-2021 We didn't find a way to make some planners on-going in the pandemic year.

We did choose class presidents as a part of our study of government