



COMPASS LESSON PLAN

Grade 2 UOI: Sharing the Planet

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Subject: Science / Humanities / Social Studies

Context: Mini-unit

Topic: Human impact on living and non-living things

Length of Lesson: 5-6 activities, ideally each lesson is completed in 1-hour blocks.

SYSTEMS TOOL(S)

- Sustainability Compass
- Systems Iceberg
- Behavior Over Time Graphs
- Systems Mapping

PURPOSE OF USING TOOL(S)

- Generating Questions
- Synthesizing Thinking
- Guiding Discussion

MATERIALS & SETTING

iPad, internet access, Explain EDU app, Sustainability Compass, Systems Iceberg, Epic app

LEARNING OBJECTIVES

The learning objective of this mini unit was to help students make connections around the lines of inquiry in our UOI Sharing the Planet. Summarized, the lines of inquiry were about the human impact on living and nonliving things. Students aimed to understand that their actions affected more than just them, and they have a responsibility for the environment around them.

LESSON STEPS

This mini-unit of 1 week ended up being strung across three weeks (with a school break and student conferences in between). As a result, the nature or topics of some of the activities changed due to time constraints or subject matter being covered in the Unit of Inquiry at that time. Below is a reflection of how each activity was implemented, changed, and received in a second-grade classroom.

Activity 1: Introduce the concept of interdependence of an ecosystem through a game.

This activity of food chain tag served to engage the students in the content of the UOI. They began to make connections that survival in the game was harder as the boundaries were reduced. Students took this understanding back to the classroom and applied it while discussing human impact and responsibility on living things and the environment.

Activity 2: Conduct research into how ecosystems work.

This activity served to give the students a foundation to build upon for the six-week unit. With this knowledge, students would be able to discern between balanced and unbalanced ecosystems, as well as the negative and positive human impact on certain ecosystems. Students were quick to recognize the difference between living and nonliving things and were able to complete a picture sort showing their learning. Students were also able to describe how small and big changes could affect an ecosystem.

LESSON STEPS

Activity 3A: Introduce the Compass Model using the healthy rainforest biome as an example.

The introduction to the compass model went better than I had originally anticipated. I was unsure if students would be able to understand the meaning of the categories, so I gave them different words to use: economy=money, society=people, well-being=healthy. Students were then given multiple photos of the rainforests around the world and were instructed to sort them. Some pictures were easy for the students (a toucan in a tree, for instance). Others were a little more difficult (a woman harvested medicinal plants). Once the students had decided upon one category for each picture, we then discussed that some pictures could go into more than one category. It was here I introduced the concept of interdependence within the compass model. (I should mention that interdependence within an ecosystem had already been introduced, so students drew upon prior knowledge to make this connection). The concept was easily understood, and arrows were drawn to exemplify that.

Activity 3B: Make connections in the Compass Model using a rainforest destroyed by deforestation.

Students were given the opportunity to fill in their own compass model with words and phrases, rather than pictures. Brainstorming took place as a whole group, and students were instructed to fill out their model after the group discussion. Note: The topic was originally supposed to be deforestation in the rainforest, however, that was covered in a class discussion earlier. The new topic – Human Impact on the Ocean – fit with the subject matter being taught at that point in UOI.

Activity 4: Introduce systems maps using food webs, with the rainforest as an example.

The original intention of this activity was to introduce systems map to further the idea of interdependence within the rainforest ecosystem. Students were taught how to make connections between living and nonliving things in the ecosystem they were researching for their UOI project. Students were successful in identifying the words and pictures to represent the elements and could draw arrows to show the relationship between elements. Furthering their learning using the plus and minus signs to show causal change was too complex at this point. Instead, we discussed this as a whole class using the wolves of Yellowstone as an example: as the population of wolves went down, the population of elk went up. Most students understood this concept with teacher guidance, and I would use the plus and minus signs within their systems map as an extension in the future.

Activity 5: Introduce the Iceberg Model using the event of habitat loss in the rainforest as an example.

The plan for this activity to also be about the rainforest was changed to human impact on the ocean to offer more variety in lesson topics and to draw upon relevant experiences (as this lesson was given the day we came back from Spring Break, and most students had traveled). As a whole group, we discussed the impact the pandemic has had on our habits, and how our habits were affecting the ocean even if we did not intend for that to happen. Students discussed the unseen or unintended impacts of mask littering. Through teacher guided discussion, students also recognized the correlation in two behavior over time graphs regarding plastic use and waste. They were able to think about the unseen human impact and discuss their thoughts in small groups before adding to the class Iceberg Model. Furthering their learning using the four categories in the iceberg model was too complex at this point, and was changed to just Seen/Unseen.

In conclusion, I would say that introducing the many components of compass education to this second-grade class was a success. It was a pleasure to see how quickly they could make connections and see the interplay between different elements.

REFLECTION

Plusses:

The students showed an almost immediate aptitude for making connections across categories. At first, without the use of the compass model as a visual tool, students would limit their thinking (ie: in a picture sort in the compass model, each picture had to be in only one category). As they began to understand that everything is interconnected, they naturally sorted their thinking hierarchically (ie: THIS picture is more nature than wellbeing, and only a little bit of society; THAT picture is only economy and society, not wellbeing or nature).

Challenges:

While the models were a helpful visual tool, sometimes they were overwhelming, because so much information can be put into them. A systems map is also a little confusing for second-graders, as there is so much going on in one space. I would give more time for understanding - perhaps 2 lessons per activity. I would also try to guide less. Most of these activities were modeled and guided, less independent.

SUGGESTIONS FOR OTHER PRACTITIONERS/EDUCATORS

My original intent was to do all of the suggested activities to explore one ecosystem and then have them replicate our learning with their own chosen ecosystem. This was reaching quite high, however with enough time and planning, I believe they could have achieved this independently.

PHOTO(S)

