How the World Works - As The World Turns

Dale Ioannides, Nicole Cheroff, Kellye Worlds, Kelley Jordan-Monne, Wendy Sanders, Jessica Weingart, Julie Chartier, Paul Hulsing, Lisa Alexander, Stephanie Berry, Katy Lucas, Adrienne Mather

Summary

How the World Works - As The World Turns

Subject	Year	Start date	Duration
English, Mathematics, Science Lab	Kindergarten	Week 4, November	5 weeks

Inquiry

Transdisciplinary Theme

How the world works

The Central Idea

The passing of time creates patterns.

Lines of Inquiry

- time patterns.
- effect of time patterns on our lives.
- the connection between time and location.

Teacher questions

- What is an example of a time pattern?
- How does time effect our lives?
- What is the connection between time and location?

Learning Goals

Scope & Sequence

English

[CCGPS] Writing

Learning Outcomes

Text Types and Purposes

ELACCKW2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

ELACCKW3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.

Mathematics

[CCGPS] Measurement And Data [MD]

Learning Outcomes

Cluster #2: Classify objects and count the number of objects in each category.

CCGPS.K.MD.3 Classify objects into given categories; count the numbers of objects ineach category and sort the categories by count. (Limit category counts to be less than orequal to 10.)

Standards and benchmarks

Georgia State Standards
GSE: Physical Education (2018)

Personal and Social Behavior, Rules, Safety, and Etiquette Kindergarten

PEK.4 The physically educated student exhibits responsible personal and social behavior that respects self and others in physical activity settings.

a. Follows directions individually and in a group setting (follows rules and takes turns).

b. Acknowledges responsibility for behavior when prompted.

c. Shares equipment and space with others.

d. Recognizes the established classroom procedures.

e. Follows teacher directions for safe participation and proper use of equipment with minimal reminders.

PEK.5 The physically educated student recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

a. Recognizes that physical activity is important for good health.

b. Acknowledges that some physical activities are challenging/difficult.

c. Identifies physical activities that are enjoyable.

d. Recognizes the enjoyment of playing with others.

e. Accepts and respects differences and similarities of physical abilities in self and others.

GSE: Science (2016)

Earth and Space Science Kindergarten

SKE1. Obtain, evaluate, and communicate observations about time patterns (day to night and night to day) and objects (sun, moon, stars) in the day and night sky.

a. Ask questions to classify objects according to those seen in the day sky, the night sky, and both.

b. Develop a model to communicate the changes that occur in the sky during the day, as day turns into night, during the night, and as night turns into day using pictures and words.

SKE2. Obtain, evaluate, and communicate information to describe the physical attributes of earth materials (soil, rocks, water, and air).

b. Construct an argument supported by evidence for how rocks can be grouped by physical attributes (size, weight, texture, color).

GSE: Social Studies (2016)

Historical Understandings Kindergarten

SSKH3 Correctly use words and phrases related to chronology and time. (Note: These elements should be integrated into discussions about historical events and figures.)

c. Today, tomorrow, yesterday

Key and Related Concepts

Key Concepts

Key Concepts	Key questions and definition	Rationale	Related concepts	Subject Focus
Causation	**Why is it as it is?** The understanding that things do not just happen; there are causal relationships at work, and that actions have consequences.	We will learn how time patterns affect our daily lives.		Science Lab
Change	**How is it transforming?** The understanding that change is the process of movement from one state to another. It is universal and inevitable.	We will learn about how changes occur in the sky during the day and night.		Science Lab
Connection	**How is it linked to other things?** The understanding that we live in a world of interacting systems in which the actions of any		patterns, cycles, geography	

Key Concepts	Key questions and definition	Rationale	Related concepts	Subject Focus
	individual element affect others.			

Developing IB Learners

Learner Profile

Inquirers

Knowledgeable

Description

Thinking Skills – Students used new vocabulary (orbit, rotation) when experimenting with globes/flashlights. – [acquisition of knowledge]; students read non-fiction texts and watched videos (YouTube, BrainPopJr) – [synthesis]; some students reported watching videos at home or by being more aware of the sun and moon. – [application];

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

Inquirer – When watching a NASA video of astronauts in the space shuttle, the students asked a lot of questions.

Commitment – Exploring shadows and the High Touch High Tech activities.

Curiosity – Exploring shadows and the High Touch High Tech activities.

ATL Skills

Approaches to Learning

Description

Thinking Skills – Students used new vocabulary (orbit, rotation) when experimenting with globes/flashlights. – [acquisition of knowledge]; students read non-fiction texts and watched videos (YouTube, BrainPopJr) – [synthesis]; some students reported watching videos at home or by being more aware of the sun and moon. – [application];

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

Inquirer – When watching a NASA video of astronauts in the space shuttle, the students asked a lot of questions.

Commitment – During their GRASP presentations students made connections to objects in the sky and weather patterns and changes. Students began to explain and demonstrate that the changes in the sky are based upon the rotation of the earth.

Curiosity – Students demonstrated curiosity by asking questions of their classmates' presentations.

Thinking Skills

- Critical thinking - Analysing and evaluating issues and ideas, and forming decisions

Analysing

Observe carefully in order to recognize problems.

Take knowledge or ideas apart by separating them into component parts.

Use models and simulations to explore complex systems and issues.

Evaluating

Consider ideas from multiple perspectives.

Forming Decisions

Revise understandings based on new information and evidence.

Draw conclusions and generalizations

- Creative Thinking - Generating novel ideas and considering new perspectives

Generating novel ideas

Use discussions and diagrams to generate new ideas and inquiries.

Practise “visible thinking” strategies and techniques.

- Information Transfer - Using skills and knowledge in multiple contexts

Combine knowledge, conceptual understandings and skills to create products or solutions.

Apply skills and knowledge in unfamiliar situations or outside of school.

- Reflection and Metacognition - Using thinking skills to reflect on the process of learning

Record thinking and reflection processes.

Reflect on their learning by asking questions.

Action

Student-initiated Action

Some students used props that they brought from home for their summative assessment.

Assessment & Resources

Ongoing Assessment

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

Grasp Assessment:

Goal: describe the changes/objects that appear in the sky in a 24 hour period.

Role: You are TV news person.

Audience: People at home watching TV.

Scenario: Act as TV news person to describe day and night cycle for a 24 hour period. SW dress up for a news segment and use a calendar/or other props to incorporate phrases such as: yesterday/last night/today, etc.

Product: Create and label drawings showing the changes in a 24 hour cycle. (i.e., "sky pizza.")

What are the possible ways of assessing students' prior knowledge and skills? What evidence will we look for?

- KWL chart
- Teacher observation
- Student participation

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

Grasp Assessment:

Goal: describe the changes/objects that appear in the sky in a 24 hour period.

Role: You are TV news person.

Audience: People at home watching TV.

Scenario: Act as TV news person to describe day and night cycle for a 24 hour period. SW dress up for a news segment and use a calendar/or other props to incorporate phrases such as: yesterday/last night/today, etc.

Product: Create and label drawings showing the changes in a 24 hour cycle. (i.e., "sky pizza.")

What are the possible ways of assessing students' prior knowledge and skills? What evidence will we look for?

- KWL chart
- Teacher observation
- Student participation

Learning Experiences

Designing engaging Learning Experiences

Draw pictures of things they do during the day and night.

-Chart with labels for different times of day.

-Model the movement of the Earth around the sun and the movement of the moon around the Earth.

-Sequence daily events.

-Groundhog Day legend and activities.

-Sorting activities (objects in sky, when activities occur, etc.)

-Non-fiction texts and videos about day and night sky

Music

Key Concepts: Causation, Change

Central Idea: Music is Tuneful

Students will:

-Songs about seasons, explaining patterns

-Songs about day and night, explaining patterns

- Perform and recognize melodic or rhythm patterns in music.

Learner Profile: Students will develop their knowledgeable, reflective, and communicator profiles learning about other cultures, their music, and patterns in their music.

Assessment: Students will be assessed according to the performance assessment rubric, students will analyze music

Art Class Instruction:

Cental Idea: Art mood can be dictated by color

Key Concepts: Causation, Change, Connection

-Draw & Paint "Starry Night" inspired by Vincent Van Gogh's painting

-Draw pictures of one does during the day and night, and what animals one might expect to see
-Draw the Moon and who/what you imagine lives on the moon

-Drawings of the light and dark side of the moon, what is seen and not seen

Science

Key Concepts: Change, Causation, Connection

-Students will classify artifacts and realia according to whether observed in the day, night , or both.

-Students will use spheres, globes, and light sources to model the sun, earth , moon system and connect to the passing of time.

-Students will observe spheres, classify their movements with mini-roller coasters of clay and marble.

-Students will compare and describe different physical attributes of 3-D shapes to determine the types of motions they can produce. (Motion-stations: 3-d shapes, roll, slide, push, pull, spin, bounce)

Physical Education:

Central Idea: Connecting real life environments and situations to playful holiday activities.

Key Concept: Responsibility, reflection

Learner Profile: Balance, Caring

Students will take part in holiday activities allowing them to cooperate with each other and work together to accomplish a common goal. Student's heart rate should increase throughout activity giving them maximum cardiovascular fitness.

Spanish:
Key Concepts: Change, Causation, Connection

Central Idea: Connecting greetings to different parts of the day

-Students will learn a song about time in Spanish.

-Students will make connections with how numbers are used to tell time

-Students will learn greetings used throughout the day on time.

Provocations

VTR - Zoom-In Activity - Teacher will slowly reveal a calendar. After each reveal, the teacher will ask students what they notice/ observations. When entire page is revealed, teacher will help guide students to the Central Idea.

Reflections

General Reflections

Looking Back

Adrienne Mather May 18, 2022 at 9:47 AM

Students created displays to document their understanding of how the sky changes in a 24-hour period. Students presented their projects. Other students had the opportinity to provide peer feedback (compliment, question, suggestion for improvement). Several students took action to bring in books about objects in the sky. Several students commented about how they were noticing the moon in the sky and how it changed appearance.

Looking Forward

Adrienne Mather May 18, 2022 at 9:49 AM

We would like to find a way to make learning more relevant and meaningful so it well deepen their understanding and make the learning more long-lasting.

Stream & Resources

Resources

Note posted on Aug 15, 2019 at 9:49 AM

What people, places, audio-visual materials, related literature, music, art, computer software, etc, will be available?

globes, fiction and non-fiction texts (time patterns, time, seasons, changes/objects in the sky, nocturnal animals, Groundhog Day), Internet videos

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

Teachers will have a variety of fiction and non-fiction texts available to students. Teachers will also use various resources such as picture cards, flash lights, etc. to facilitate the inquiry. Specialists will support the planner through art, science experiments, games, and songs. High Touch High Tech activities for “Me and My Planet” are great for frontloading.