Summary

How We Organize Ourselves

Subject	Year	Start date	Duration
English, Science Lab, Social Studies	Fifth Grade	Week 1, September	5 weeks

Inquiry

Transdisciplinary Theme

How we organize ourselves

The Central Idea

Function depends on structure

Lines of Inquiry

- the structure of an idea
- the interdependence of function and structure
- functional changes related to structural changes

Teacher questions

- How does function relate to structure?
- What is the connection between function and structure?
- How do ideas promote purpose?

Learning Goals

Scope & Sequence

Social Studies

[CCGPS] Historical Understandings

Learning Outcomes

SS5H3 The student will describe how life changed in America at the turn of the century.

a. Describe the role of the cattle trails in the late 19th century; include the Black Cowboys of Texas, the Great Western Cattle Trail, and the Chisholm Trail.

b. Describe the impact on American life of the Wright brothers (flight), George Washington Carver (science), Alexander Graham Bell (communication), and Thomas Edison (electricity).

c. Explain how William McKinley and Theodore Roosevelt expanded America's role in the world; include the Spanish-American War and the building of the Panama Canal.

[CCGPS] Economic Understandings

Learning Outcomes

SS5E1 The student will use the basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity, and price incentives to illustrate historical events.

a. Describe opportunity costs and their relationship to decision-making across time (such as decisions to ration goods during WWII).

b. Explain how price incentives affect people's behavior and choices (such as decisions to participate in cattle trails because of increased beef prices).

d. Explain how voluntary exchange helps both buyers and sellers (such as how specialization leads to the need to exchange to get wants and needs).

e. Describe how trade promotes economic activity (such as how the Panama Canal increases trade between countries).

f. Give examples of technological advancements and their impact on business productivity during the continuing development of the United States (such as the development of the personal computer and the internet).

[IB] Human systems and economic activities

Conceptual Understandings

Formulate and ask questions about the past, the future, places and society

Learning Outcomes

examine the impact of particular technologies on sustainability

analyse ways that people adapt when they move from one place to another

identify the long-term and short-term effects of migration

assess settlement patterns and population distribution in selected regions, areas or countries

examine how the rights of a person in a particular society directly affect their responsibilities

identify the reasons why people feel compelled to explore the unknown

analyse how available technology influences people's abilities to navigate

identify and describe examples in which technology has changed the lives of people

describe the connection between human needs and wants and technological development

explain the relevance of various inventions in relation to the time period in which they were developed

reflect on the role of technology in his or her own life.

English

[CCGPS] Reading Informational

Learning Outcomes

Key Ideas and Details

ELACC5RI1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

ELACC5RI2. Determine two or more main ideas of a text and explain how they are supported by key details

Craft and Structure

ELACC5RI4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

[CCGPS] Writing

Learning Outcomes

Text Types and Purposes

ELACC5W3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

ELACC5W3.b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.

ELACC5W3.c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events.

Standards and benchmarks

Georgia State Standards
GSE: Science (2016)

Physical Science Grade 5

S5P2. Obtain, evaluate, and communicate information to investigate electricity.

a. Obtain and combine information from multiple sources to explain the difference between naturally occurring electricity (static) and human-harnessed electricity.

b. Design a complete, simple electric circuit, and explain all necessary components.

c. Plan and carry out investigations on common materials to determine if they are insulators or conductors of electricity.

GSE: Fine Arts: Music (2018)

General Music Grade 5

Creating
ESGM5.CR.1 Improvise melodies, variations, and accompaniments. Improvise rhythmic phrases.

a. Improvise melodies and accompaniments.

Performing
ESGM5.PR.1 Sing a varied repertoire of music, alone and with others.

a. Sing accompanied and unaccompanied melodies within an appropriate range using head voice.

ESGM5.PR.2 Perform a varied repertoire of music on instruments, alone and with others.

a. Perform rhythmic patterns with body percussion and a variety of instruments using appropriate technique.

c. Perform body percussion and instrumental parts, including ostinatos, while other students play or sing contrasting parts.

d. Perform multiple songs representing various genres, tonalities, meters, and cultures.

e. Perform instrumental parts expressively, following the cues of a conductor.

ESGM5.PR.3 Read and Notate music.

a. Read, notate, and identify, in various meters, iconic, and standard notation (e.g. quarter notes, quarter rests, barred eighth notes, half notes, half rests, dotted half notes, barred sixteenth notes, whole notes, whole rests, dotted quarter notes, single eighth notes, eighth rests, triplets).

Responding
ESGM5.RE.1 Listen to, analyze, and describe music.

a. Distinguish between repeating and contrasting sections, phrases, and formal structures (e.g. AB, ABA, verse/refrain, rondo, introduction, coda, theme/variations).

b. Describe music using appropriate vocabulary (e.g. fortissimo/pianissimo, presto/largo/moderato/allegro/adagio, legato/staccato, major/minor), intervals (e.g. step, skip, repeat, leap), timbre adjectives (e.g. dark/bright), and texture (e.g. unison/harmony).

c. Identify and classify (e.g. families, ensembles) classroom, orchestral, American folk and world instruments by sight and sound.

ESGM5.RE.2 Evaluate music and music performances.

a. Use teacher-provided and collaboratively developed criteria for evaluation of music and music performances (e.g. learned, student composed, improvised).

b. Use formal and/or informal criteria to evaluate music and musical performances by themselves and others.

c. Refine music performances by applying personal, peer, and teacher feedback.

ESGM5.RE.3 Move to a varied repertoire of music, alone and with others.

a. Respond to contrasts and events in music with locomotor and non-locomotor movement.

Connecting
ESGM5.CN.1 Connect music to the other fine arts and disciplines outside the arts.

b. Discuss connections between music and disciplines outside the fine arts.

ESGM5.CN.2 Connect music to history and culture.

a. Perform and respond to music from various historical periods and cultures.

GSE: Fine Arts: Visual Arts (2017)

Creating Grade 5

VA5.CR.1 Engage in the creative process to generate and visualize ideas by using subject matter and symbols to communicate meaning.

a. Utilize multiple approaches to plan works of art, incorporating imaginative ideas, universal themes, and symbolic images.

b. Apply available resources, tools, and technologies to investigate personal ideas through the process of making works of art.

c. Produce multiple prototypes in the planning stages for a work of art (e.g. sketches, 3D models).

VA5.CR.2 Create works of art based on selected themes.

b. Create works of art emphasizing multiple elements of art and/or principles of design.

c. Create representational works of art from direct observation (e.g. landscape, still life, portrait).

VA5.CR.3 Understand and apply media, techniques, processes, and concepts of twodimensional art.

a. Refine drawings and paintings with a variety of media (e.g. pencil, crayon, pastel, charcoal, tempera, watercolor, acrylic).

c. Utilize a variety of materials in creative ways to make works of art (e.g. mixed-media, collage, or use of available technology).

e. Apply multiple spatial concepts to create works of art (e.g. one point perspective, atmospheric perspective, positive and negative space).

VA5.CR.5 Demonstrate an understanding of the safe and appropriate use of materials, tools, and equipment for a variety of artistic processes.

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Responding Grade 5

VA5.RE.1 Use a variety of approaches for art criticism and to critique personal works of art and the artwork of others to enhance visual literacy.

b. Explain how selected elements and principles of design are used in works of art to convey meaning.

Connecting Grade 5

VA5CN.1 Investigate and discover the personal relationships of artists to community, culture, and the world through making and studying art.

b. Explore and interpret ideas, themes, and events from diverse cultures of the past and present to inform one's own work.

e. Investigate ways in which professional artists contribute to the development of their communities (e.g., architects, painters, photographers, interior and fashion designers, educators, museum educators).

VA5.CN.2 Integrate information from other disciplines to enhance the understanding and production of works of art.

a. Describe and discusses various art-related careers and how design impacts daily life (e.g. art historian, art critic, curator, web designer, game designer, fine artist).

VA5.CN.3 Develop life skills through the study and production of art (e.g. collaboration, creativity, critical thinking, communication).

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GSE: Physical Education (2018)

Fitness Grade 5

PE5.3 The physically educated student demonstrates knowledge and skills to help achieve and maintain a health-enhancing level of physical activity and fitness.

a. Summarizes the effects of physical activity on body systems.

c. Participates in the Georgia Fitness Assessment Program with teacher supervision.

d. Compares Georgia Fitness Assessment results to Health Fitness Zones (HFZ).

e. Identifies strategies to improve areas of need based on the Georgia Fitness Assessment results (with teacher assistance).

f. Reassesses health related fitness to determine improvement and/or non-improvement areas.

g. Engages in teacher-led and independent physical education class activities.

h. Analyzes opportunities for participating in physical activity outside physical education class for fitness benefits.

Personal and Social Behavior, Rules, Safety, and Etiquette Grade 5

PE5.5 The physically educated student recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

a. Compares the health benefits of participating in physical activity.

💡 Key and Related Concepts

Key Concepts

Key Concepts	Key questions and definition	Related concepts	Subject Focus
Form	**What is it like?** The understanding that everything has a form with recognizable features that can be observed, identified, described and categorized.		

Key Concepts	Key questions and definition	Related concepts	Subject Focus
Change	**How is it transforming?** The understanding that change is the process of movement from one state to another. It is universal and inevitable.		
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 individual element affect others.	conflict, conformity	Social Studies

Developing IB Learners

Learner Profile

Knowledgeable

Open-minded

Reflective

Description

Knowledgeable - Students will make a correlation between electricity and the turn of the century to demonstrate their understanding.

Open-Minded - Students will share various perspectives on how electricity and inventions inflenced life at the turn of the century.

Reflective - Students will be able to reflect on their knowledge and perspectives about how electricity and inventions improved life over time.

ATL Skills

Approaches to Learning

Description

Transdisciplinary Skills: Recording Data, Organizing Data, Interpreting Data, Application, Analysis, Synthesis, Evaluation, Listening, Speaking, Reading, Writing.

Social Skills

- Interpersonal relationships, social and emotional intelligence - developing positive interpersonal relationships and collaboration
    - Interpersonal relationships
        - Listen closely to others' perspectives and to instructions.
        - Be respectful to others.
        - Learn cooperatively in a group: being courteous, sharing, taking turns.
    - Social and Emotional Intelligence
        - Be aware of own and others' emotions.
        - Manage anger and resolve conflict.
        - Be self and socially aware.

Self-management Skills

- Organization - Managing time and tasks effectively
    - Plan short- and long-term tasks.
    - Set goals that are challenging and realistic.
    - Use time effectively and appropriately.
- States of mind - Using strategies that manage state of mind
    - Mindfulness
        - Use strategies to support concentration and overcome distractions.
        - Be aware of body–mind connections.
    - Emotional management
        - Take responsibility for one's own actions.
        - Use strategies to prevent and eliminate bullying.
        - Use strategies to reduce stress and anxiety.
        - Manage anger and resolve conflict.
    - Self-motivation
        - Practice positive thinking and language that reinforces self-motivation.
    - Resilience
        - Work through adversity.
        - Work through disappointment.

Action

Student-initiated Action

Social Studies: Students studied many different scientist that developed and created new inventions at the turn of the century that help lead the world into future at this time.

Assessment & Resources

Ongoing Assessment

IMG_4502.PNG Sep 20, 2021

Health_Fitness_Components_2021_-_Google_Forms.pdf Sep 20, 2021

What are the possible ways of assessing students' understanding of the central idea? What evidence, including student-initiated actions, will we look for? How do the standards help students understand that structure leads to sucessful function?

How We Organize Ourselves – Structure and Function

Central Idea: Function depends on structure

Note: Show a skit from Ellen

Goal: To participate in a talk show panel

Role: You are one of the following: Wright brothers, Alexander Graham Bell, Thomas Edison or other early 20th Century inventor, or talk show host. You are a member of a panel on the set of a talk show or the interviewer who will ask questions about the invention process.

Audience: Students in grades K-5, talk show audience

Situation: The talk show host will ask questions to show the progression of an idea going from the beginning stages all the way to a final, functioning object

Product: The group will develop questions to be asked by the interviewer and answered by the inventor participants. The questions/answers should reflect an understanding that the function of the object stems from the need for that object. Within the panel discussion, it should become clear that the function of an object depends on its structure and that before an invention successfully establishes itself in history, there are many trial and error attempts.

Standard: SS5CG1-CG3, SS5G2, SS5H1, SS5E1 , S5P2, S5P3, ELAGSE5SL1, ELAGSE5W2,

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

KWL, class discussion, hook activities, wonder chart

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Student Self-assessment and Peer Feedback

Music Class: https://docs.google.com/forms/...

Learning Experiences

Designing engaging Learning Experiences

Student-Friendly Rubric Sep 20, 2021

5th_Artifacts_Planner_1.pdf Sep 20, 2021

How we organize ourselves:

- Structure of an idea
  - Science:
    - Structure of circuits and electricity
  - Social Studies:
    - Structure of an assembly line and the military
- Interdependence
  - Science
    - Conductors and insulators -circuits
  - Social Studies
    - Building the whole car vs one job on assembly line
- Changes
  - Science:
    - Series vs parallel open vs closed
  - Social Studies
    - Whole car/assembly line, WWI countries alliance

Additional activities: use the story from Journeys and go into 4th grade classes to have them guess the historical figure

Music

Key Concepts: Change and Connection

Central Idea: Musicians depend on other musicians.

Students will analyze interdependence amongst instruments in an ensemble they are a part of.

Students will collaborate to develop a plan that helps them to successfully learn all instrumental parts of a given ensemble.

Students will participate in/create rhythm or melodic question answer phrases

Learner Profile: Students will develop risk-taking and communicating learner profiles by participating in instrumental ensembles and developing their instrumental skills, listening to new music and/or trying something new. They will develop attitudes of respect, curiosity, and cooperation working with others to perform songs.

Assessment:

-Performance-based assessment on repertoire completed

-Analysis assessment based on "success criteria" rubric students develop

Art Class Instruction:

Key Concepts: Form, change, connection

Students will focus on IB profiles: knowledgeable, open-minded, reflective by:

-creating works of art that display both elements of art: line and shape as well as color and form

-identifying how form can affect the look and feel of an artwork

-Making connections to other artists around the world through table talks, videos, and artistic exposure

-Studying the art of "Romero Britto" and executing his bold and colorful style.

-making connections to other disciplines - science, and math. Example: organic and geometric line

-reviewing "composition" and how it relates to multiple disciplines.

-Discussing in class how Romero Britto grew up, and what makes him "successful".

-participating in class discussions and problem solving to make artistic connections

-planning a rough draft, and executing their final designs.

Assessment: Romero Britto Inspired Initials

Physical Education:

Central Idea: Performing and understanding the Fitnessgram components

Key Concepts: Form, change, and connection

Learner Profile: Knowledgeable and reflective

Students will be knowledgeable about the techniques and requirements for performing the Fitnessgram components and how results rely on form.

Students will reflect on how physical activity and our life choices play a role in our physical wellbeing.

-performing the health fitness components using correct form

-creating a lifestyle with physical activity

-recognizing changes that occur to a body when it is well maintained or not

-identifying the Fitnessgram components and what they measure

Science Class Instruction:

Key Concepts: connection, form, change

- Students will experience science and engineering practices with an Art-bot STEAM design challenge. Students will learn first hand how function depends on structure.
- Students will investigate the form/structure of atoms, static electricity, human-harnessed electricity,circuits, magnetism, and electromagnetism. Virtual Learning Kits creaed for each student.
    - Students will utilize the FOSS electricity kits to create and investigate changes of series vs parallel open vs closed circuits and demonstrate the interdependence of conductors and insulators in creating functioning circuits.
    - Students will utilize FOSS kits to create experimental evidence of the functional differences between, magnets and electromagnets.
    - Students will then plan and carry out investigations to observe interactions between a magnetic field and magnetic object (SNAP circuits, lemon experiment, circuit testers, resistors)

Questioning: Does changing the structure of my circuit change the function

Unit of Study: electricity and magnetism (cannot attach file)

Spanish -

Key Concepts: Form, change, connection

Students will focus on IB profiles: knowledgeable, open-minded, reflective
Students will become knowledgeable about how accessing electricity functions around the world specifically in Spanish-

speaking countries.

Students will investigate by reading articles about students around the world use and gain access to energy and how it connects to lifestyle.

Social Studies:

Map Skills: Students must understand directional changes of the railroads/cattle drives as well as geographical locations (kitty hawk, Pittsburgh, etc- see standard for specifics). Use specific maps to locate key locations.

Inventors: Students understand that the inventors had to provide a structure for their invention and that the product are able to provide an understandng of the function of the invention.

Economics: Students must understand cattle had different economic value based on location. Students understand difference between GW Trail and Chisholm trail. Use of graphic organizer related to the two trails.

Novel Study Options: The Orphan of Ellis Island

Visible Thinking Strategy Options: 3-2-1 Bridge, Think-Puzzle, Explore

Reflections

General Reflections

Looking Back

Whitney Niles Dec 10, 2020 at 1:15 PM

-To monitor, document, and measure learning, we incorporated more virtual aspects including: Nearpod, Padlet, Google Slides, Google Jamboards, and Graphic Organizers.
-The evidence that we gathered about students' knowledge, conceptual understandings, and skills was collected through final projects and end of unit assessments.
-Students reflected on the learner profile through SEL. Students made reflections to the central idea through the use of the Turn of Century graphic organizer (structure and function of inventors/inventions & immigration stations). Students made reflections about the structure of electricity and demonstrated new knowledge by videotaping themselves creating types of circuits.

Marsha Cherichel Nov 30, 2021 at 3:44 PM

We tried to permeate the central idea of structure and function throughout our units. We discussed the structure and function of the two cattle drives, electricity and magnetism. Evidence included the talk show grasp, visible thinking strategies (CSI, Zoom in.) Students also completed a magnetic based project.

Marsha Cherichel Nov 30, 2021 at 3:46 PM

Students completed reflection evidence based questions at the end of the summative grasp/unit of study. In our science units students were required to complete trial/error experiments (magnetic) Students completed a table highlighting key information of inventors and their inventions

Looking Forward

Whitney Niles Dec 10, 2020 at 1:19 PM

-We discovered that virtual learning added a challenge to the implement planners successfully.
-We can strengthen transdisciplinary connections by maintaining a concept-based focus.
-Modify planners to fit virtual teaching and learning.

Marsha Cherichel Nov 30, 2021 at 3:50 PM

Next year we will add the learner profile to the unit of study grasp as well as the inventors table and the science project (magnets) To strengthen our units we will bring the verbiage more into math, writing and ELA. Specifically during Eureka module 2/place value. We will continue to include the central idea into literary elements such as theme main idea, etc (Home of the Brave novel study)

Additional Subject Specific Reflections

Marsha Cherichel Nov 30, 2021 at 3:51 PM

Narrative writing: structure and function of a narrative piece

Focus more on the place value charts and the structure they add to the value of the number. (Place determines the value)

Science: Building more background knowledge within the unit of magnets and electricity.

Stream & Resources

Resources

Note posted on Aug 15, 2019 at 9:48 AM

Discovery Education, BrainPop, AIMS materials, YouTube videos, TED-ED