IB Inquirer 5

It's Electric! – Unit 1

Transdisciplinary Theme:

Sharing the Planet – access to equal opportunities

Central Idea:

Access to resources influences quality of life.

A study into (**lines of inquiry**):

- Access to electric power *(connection)*
- How we function with and without electricity *(function)*
- Alternate sources of electrical energy *(responsibility)*

Background:

After a provocation unit including experiments using electricity & magnets, students will study various forms of electricity. They will investigate the pros and cons of alternative energy sources, and relate these to accessibility – and our rights/responsibilities in sharing these resources.

Student Final Project:

Students will investigate different sources of electricity (wind, solar, nuclear, geothermal, coal, hydroelectric, etc.). Using their research, they will create a presentation to convince their classmates that their energy source is the most effective. Classes will vote for the "winning" energy source.

Technology Tie-In:

During this unit, students will be working on research using internet sources (including note taking and evaluating a site as a good source).

Field Experiences:
Students will travel to the Conard Energy Lab and will host town Energy Specialist Catherine Diviney for an informational visit.

Learner Profiles & Attitudes:
Students will be *creative thinkers* as they investigate alternate energies & possibilities to improve lives. Through their opinion pieces, they will be *committed* to caring about the earth and its future – and use *integrity* when making decisions about the use of electricity. They will be *curious* and become *knowledgeable* about finding global solutions to energy problems.

Key Concepts:
Students will examine how access to energy *connects* to lifestyle; they will learn the *function* of the various energy sources; and they will discover their *responsibility* in utilizing the earth's finite resources.

Approaches to Learning:
Throughout the unit, students will use their *self-management skills* by working with their team to plan and organize their research; using their time effectively; and following the essential agreements of the group.

They will also use their *thinking skills* when they think creatively about solving real-world problems through the use of alternative energy sources.

TRY THIS!

- ***Spend a day with no electricity. What's it like? Write about your experience.***
- ***Come up with a plan for saving electricity at home.***
- ***Read the newspaper together and find articles about alternate energy projects in the news.***

Websites:
http://www.woodlands-junior.kent.sch.uk/revision/Science/electricity.htm

http://www.engineeringinteract.org/resources/siliconspies/flash/concepts/buildingcircuits.htm

PARENTS: Additionally, on the Media Center webpage, for each unit there will be suggested titles for more reading on the topics and ideas in the units. These books are available in the school library.

IB AT HOME

Name _____

Teacher _____

Parents: please fill out any that apply and return to your child's teacher.

My child is displaying the **learner profiles** from his/her IB unit (thinking, knowledgeable). Here are some examples:

_____

_____

_____

Here is how my child is showing the IB **attitudes** (commitment, curiosity, creativity, integrity):

_____

_____

_____

My child has been demonstrating the **approaches to learning** (thinking, self-management) by:

_____

_____

_____

My child has taken **action** (additional investigations, trying to make a difference, reading more about the subject, doing an independent project, teaching others, etc.) regarding this unit. Here's how:

_____

_____

_____

IB Elements that Grade 5 students are focusing on during Unit 1/Sharing the Planet:

Approaches to Learning

Thinking Skills

- Acquisition of Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation
- Dialectical Thought (thinking about different points of view)
- Metacognition (thinking about how you think and learn)

Self-Management Skills

- Gross Motor Skills
- Fine Motor Skills
- Spatial Awareness
- Organizational Skills
- Time Management
- Personal Safety
- Healthy Lifestyle
- Codes of Behavior
- Making Informed Choices

Attitudes

Curiosity

We are curious about the nature of learning. We also wonder about the world, its people, and cultures.

Integrity

We have a firm sense of fairness and honesty.

Commitment

We are committed to learning, persevering, and showing self-discipline and responsibility.

Creativity

We are creative and imaginative in our thinking, and in our approach to problem-solving.

Learner Profiles

KNOWLEDGEABLE

I try to learn about a variety of things.

I explore many different ideas. I can tell you about/show you what I've learned. I am interested in issues that have local and global significance.

THINKER

I connect the things I know.

I am thoughtful and creative. I try to solve problems and make good decisions. I keep persisting if work gets difficult.

Key Concepts

CONNECTION

How is it connected to other things?

We live in a world of interacting systems in which the actions of any individual element affects others.

How is _____ connected to _____?
How is _____ related to _____?
How does _____ help us understand _____?
What are the similarities or differences between _____ and _____?

FUNCTION

How does it work?

Everything has a purpose, a role, or a way of behaving which can be investigated.

How important is _____?
How do they work together?
What do we use _____ for?
Why do we _____?
How do we use _____?
How or why does it _____?

RESPONSIBILITY

What is our responsibility?

We are not passive observers of events. We can and must make choices and, by doing so, we can make a difference.

Why is it important to …?
Why should we respect …?
What might be the consequences of …?
Does everyone have the right to …?
How does _____ influence our view of _____?