

Project-Based Learning Made Easy

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What is Project-Based Learning?

Project-based learning (PBL) is “a systematic teaching method that engages students in learning essential knowledge and life-enhancing skills through an extended, student-influenced inquiry process structured around complex authentic questions and carefully designed products and tasks” (“What is Project-Based Learning?”). It is “the use of classroom projects, intended to bring about deep learning, where students use technology and inquiry to engage with issues and questions that are relevant to their lives . . . an approach for classroom activity that emphasizes learning activities that are long-term, interdisciplinary and student-centered” (Wikipedia).

According to the multimedia presentation, “Project-Based Learning: Bridging the Gap Between Education and Technology”, the distinguishing components of PBL are: 1) “a driving question that serves to organize the activities” and, 2) “a concrete product or multiple representations . . . that meaningfully address the driving question”. Its elements are:

- “an essential question that frames the problem and focuses the students”;
- “learning objectives to be attained”;
- “specific learning activities and tasks to attain the objectives”;
- A definite ending point resulting in a tangible and useful product or outcome;
- “the products address the questions and demonstrate the learning that took place”;
- “assessment of progress is built into the activities, the process, and the final product”;
- Expectations regarding outcomes are stated;
- Combination of group and individual work; and,
- Reflections on a regular basis.

Another good thing about PBL is that besides content, it teaches students 21st Century skills. “These skills include communication and presentation skills, organization and time management skills, research and inquiry skills, self-assessment and reflection skills, and group participation and leadership skills” (“What is Project-Based Learning?”).

How PBL is Integrated in the CED Curriculum

PBL is one of the four approaches that our pre-service teachers, i.e., students of the College of Education (CED), MSU-Iligan Institute of Technology, are expected to apply in the unit plans of unit portfolios that they develop in the Educational Technology courses, Ed 105A and Ed 105B.

Those who enroll in Ed 105A are Second or Third Year students when they are either still enrolled in or are just through with the general education courses. Moreover, they enroll in Principles of Teaching (Ed 107N) at the same time as Ed 105A. They are already expected to apply a teaching approach such as PBL when they have, as yet, a little exposure to real classroom situations and when they are still beginning to learn the principles and methods of

teaching. So, the first challenge to me as their Ed 105A teacher was: how can I make PBL real and easy for them?

How I Taught PBL

In Ed 105A, PBL is introduced after students have already formulated the curriculum-framing questions (CFQs) of their unit plans, that is, when they are about to design their learning activities.

In the four years that I had taught Ed 105A, this was how I taught PBL:

1. introduce it using the ready-made multimedia presentation, “Project-Based Learning: Bridging the Gap Between Education and Technology”;
2. tell my students to come up with project-based activities; and,
3. tell them to plan the technology support for these activities.

And, that was it. Consequently, I never had a student who was able to integrate PBL, in the real sense of the word, in his unit plan. Often, the activities that they designed were the traditional teacher-centered and –directed activities. Please refer to Appendices A-C for samples of these.

During the second semester of school year 2007-2008, I had the chance to handle Ed 105B, Educational Technology 2, where our students are expected to enhance and complete the unit portfolios that they started to develop in Ed 105A. Thus, at the start of the semester, we evaluated their unit portfolios. After which, we had enhancement activities.

One of these was the enhancement activity on “PBL Units” where: first, they were instructed to turn sample activities into PBL, and later, to develop their own PBL ideas. Please refer to Appendix D. The sample activities required them to think of a PBL idea in terms of the roles that their students would take and the task(s) they are expected to do, on the basis of the given curriculum framing questions (CFQs) and lesson descriptions.

In developing their own PBL ideas for their unit plans, they were instructed to select a unit topic and think of the:

1. goal of the unit
2. role their students will be playing
3. task(s) they are required to do
4. technology-based end products they will be developing.

Still, a PBL activity seemed something abstract to my Ed 105B students and this enhancement activity was of no effect.

It was when I conducted the activities for designing web-enhanced learning activities in conjunction with the last topic of Ed 105B on online treasure hunts and web quests, that they were able to develop PBL activities for their unit plans. These activities for designing web-enhanced learning activities were so designed that in one-week’s time, they were able to design WebQuests, and consequently, PBL activities. Please refer to Appendix E for the activities on “Designing WebQuests”.

Is a WebQuest a PBL Activity?

A WebQuest is “an inquiry-based activity developed by Bernie Dodge and Tom March in 1995 at the San Diego State University” (“WebQuests: An Overview”). Bernie Dodge defines it as "an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet, optionally supplemented with videoconferencing" (Dodge).

There are short term WebQuests and long term WebQuests. The short term WebQuest is designed to be completed in one to three class periods with just knowledge acquisition and integration as its instructional goal. The long term WebQuest is designed to be completed within one week to one month with the following as its instructional goals: deep analysis of a body of knowledge, transforming it in some way, and demonstrating an understanding of the material by creating something, i.e., a product, that others can respond to (Dodge).

The elements of a WebQuest are the:

- introduction which sets the stage or establishes the context
- task or a doable and interesting “mission” that revolves around an open-ended question
- process which consists of detailed, sequential steps that students must follow to accomplish the task
- resources which may consist of web and other resources for use of the students in order to accomplish the task
- evaluation which explains to them how their work will be evaluated
- conclusion or a closing statement

A comparison of these elements with the elements of PBL and with the steps of the activity on developing their own PBL ideas (see paragraph 6, page 2) shows that a WebQuest is essentially PBL and that both:

1. are inquiry-based and technology-based;
2. involve learners in taking roles and doing tasks;
3. promote collaboration and cooperative learning;
4. expect learners to create products;
5. have built-in assessment and reflection activities;
6. teach learners 21st century skills; and,
7. target higher order thinking skills, i.e., analysis, synthesis, evaluation.

The activities for designing a WebQuest that I conducted were so complete, logically arranged, and structured that in a short time my students were able to create WebQuests. (Please refer to Appendices F-G) The following is a list of its features that I find worthy of note:

1. using WebQuests to introduce and evaluate WebQuests;
2. dividing the process of designing a WebQuest into four small step-by-step parts (see Appendix F);
3. self-evaluation and peer evaluation activities;
4. sharing of, evaluation and revision of products and support materials created; and,
5. reflection and sharing of reflection activities.

Reflections

The reflections of my students show that almost all of them:

1. thought that using WebQuests in the classroom would definitely change the way they will teach;
2. realized that their role would have to shift from being a traditional teacher whose learning activities are teacher-directed and -centered to being a facilitator/guide/mentor; and,
3. accepted that their role would, consequently, be very different from the role they would play in a conventional classroom setting.

To them, these are some of the challenges in a web-based and technology-supported learning activity such as the WebQuest:

1. teachers have to be creative and patient in designing WebQuests;
2. they have to be lifelong learners and researchers;
3. they have to be not just computer-literate but even be the first ones to “open the door” and introduce learners in opening “new portals of information”; and,
4. there is need to provide the necessary facilities for and sustaining technology-supported learning activities that are challenging, enjoyable and fascinating.

On my part, what I found most challenging was how to reprogram these web-enhanced learning activities that were designed for Philippine high school teachers to be completed in three days, eight hours a day, so that pre-service teachers such as my Ed 105B students could accomplish the same in one week, with only five hours of actual contact hours a week. I had to decide which activities could be done in the classroom/laboratory and which had to be done outside. Activities such as designing, reflection and revisions that did not require the use of computers and the internet were done outside class/laboratory. To save time and energy, the rubrics and other support materials that they created for the WebQuests became also support materials for their unit portfolios.

If I were to teach PBL again, I would use these web-enhanced learning activities on “Designing WebQuests” not in Ed 105B but in Ed 105A, immediately after the multimedia presentation on PBL when students will be planning how to apply PBL in their unit plans and the technology support for it.

Works Cited

Arinto, Patricia B. “WebQuests: An Overview”. Web_Enhanced Learning Activities: An Instructional Design Workshop. FIT-ED, 2005.

Dodge, Bernie. “Some Thoughts About WebQuests”. 1997. San Diego State University. 18 Aug 2008 <http://webquest.sdsu.edu/about_webquests.html>

“Project-Based Learning”. Wikipedia, The Free Encyclopedia. 12 Aug 2008. 13 Aug 2008

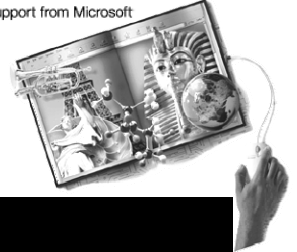
<http://en.wikipedia.org/wiki/Project-based_learning>

“Project-Based Learning: Bridging the Gap Between Education and Technology”. Intel Teach to the Future: Pre-service Curriculum (v. 2.0). Intel Corporation, 2005.

“What is Project-Based Learning?”. 18 Aug 2008 <<http://pbl-online.org/About/whatisPBL.htm>>

Appendix A

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WORK AND ENERGY

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Unit Overview

Unit Plan Title: The Transformers

Curriculum-Framing Questions

Essential Question	How does man improves his life but endangers it in return? What enables humans, animals and objects particularly engines to move?
Unit Questions	What is the relationship among force, power, work and energy? How do these terms relate to transportation vehicles? What are the different transformations of energy?
Content Questions	How is potential energy related to kinetic energy? What does the law of conservation of mechanical energy states? What laws that govern the mechanisms of engines?

Unit Summary:

The lesson will cover the relationship among force, power, work and energy in relation to transportation. The unit will start with a demonstration combined with question-and-answer portion. After which, the students will watch a film about the different means of transportation. The teacher then will use other strategies such as multimedia presentation (PowerPoint entitled "Meet Ms. Pure Energy") to support discussion, a group demonstration on energy transformation and assignments. These strategies actively involve the students in the learning process. They will then prepare multimedia presentation on the theme "Transportation: The Past, Present and Future" using PowerPoint. The last activity will involve two-day group investigation wherein students are expected to report cases of violation of Clean Air Act among drivers. Then they are going to put their write-ups in a newsletter discussing the results of the group investigation. All of the activities are in lieu with the Basic Education Curriculum competencies which will develop the skills and understanding of the fourth year students about energy, particularly on energy in transportation.

Subject Area(s): Click box(es) of the subject(s) that your Unit targets

- | | | |
|---|--|--|
| <input type="checkbox"/> Business Education | <input type="checkbox"/> Drama | <input checked="" type="checkbox"/> Other: English |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Foreign Language | <input type="checkbox"/> Other: Filipino |
| <input type="checkbox"/> Home Economics | <input type="checkbox"/> Industrial Technology | <input type="checkbox"/> Other: Makabayan |
| <input type="checkbox"/> Language Arts | <input type="checkbox"/> Mathematics | |
| <input type="checkbox"/> Music | <input checked="" type="checkbox"/> Physical Education | |
| <input type="checkbox"/> School to Career | <input checked="" type="checkbox"/> Science | |
| <input type="checkbox"/> Social Studies | <input checked="" type="checkbox"/> Technology | |

Grade Level: Click box(es) of the grade level(s) that your Unit targets

- | | | |
|---|--|--|
| <input type="checkbox"/> Kindergarten | <input type="checkbox"/> 2 nd Year High School | <input type="checkbox"/> Gifted and Talented |
| <input type="checkbox"/> Grade 1 -3 | <input type="checkbox"/> 3 rd Year High School | <input type="checkbox"/> Resource |
| <input type="checkbox"/> Grade 4 - 6 | <input checked="" type="checkbox"/> 4 th Year High School | <input type="checkbox"/> Other |
| <input type="checkbox"/> 1 st Year High School | <input type="checkbox"/> English as a Second Language | |

Targeted Philippine Basic Education Curriculum Competencies

Demonstrate understanding of the relationship among force, power, work and energy.

- a. Explain the relationship of kinetic energy and potential energy to work and cite applications
- b. Apply the Law of Conservation of Mechanical Energy in different situations.
- c. Discuss the Laws of Thermodynamics as applied to heat engines

Student Objectives/Learning Outcomes:

1. Relate force, power, work and energy
2. Differentiate potential energy from kinetic energy
3. Construct ideas on how energy transforms from one form to another
4. Apply the concepts on work and energy in problem-solving
5. Compare the Law of Conservation of Mechanical Energy and the First Law of Thermodynamics
6. Criticize the Second Law of Thermodynamics
7. Summarize how man's ingenuity revolutionized the means of transportation through a PowerPoint presentation
8. Conduct a two-day group investigation concerning the Clean Air Act implementation
9. Create a newsletter containing results of the group investigation
10. Demonstrate how energy can be transformed from one form to another

Procedures:

Day 1

Pose the unit question: What enables humans, animals and objects particularly engines to move?

Then, the teacher will demonstrate few situations explaining the relationship among force, power, work and energy.

After which, the students will watch a film on the different means of transportation either land, air or water. The movie titles are "iRobot" and "Around the World in 80 Days".

Day 2

The teacher will present the content of the lesson through a PowerPoint presentation entitled "Meet Ms. Pure Energy"

Day 3

The students will perform a group demonstration on energy transformation which will use low cost materials.

Shortly after, the teacher will assign every group of five members to create a multimedia presentation on the theme "Transportation: The Past, Present and Future.

Day 4- 6

The teacher will give the last activity which is the action research.

- a. Students use a camera to take pictures of the violation of Anti-Smoke Belching Act
- b. Students infer on how the Clean Air Act Policy is being implemented by the government
- c. Students create a newsletter about the group investigation

Day 7

Presentation of newsletter and multimedia presentation

Approximate Time Needed:

Seven 80-minute (for science) class periods

Prerequisite Skills:

1. Knowledge on Newton's laws of motions
2. Knowledge on simple news writing
3. Skill on using the camera
4. Skill in using Microsoft Publisher

Materials and Resources Required For Unit

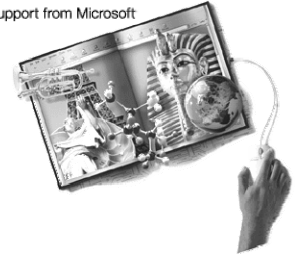
Technology – Hardware: (Click boxes of all equipment needed)

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Camera | <input type="checkbox"/> Laser Disk | <input checked="" type="checkbox"/> VCR |
| <input checked="" type="checkbox"/> Computer(s) | <input type="checkbox"/> Printer | <input checked="" type="checkbox"/> Video Camera |
| <input type="checkbox"/> Digital Camera | <input checked="" type="checkbox"/> Projection System | <input type="checkbox"/> Video Conferencing Equipment. |
| <input type="checkbox"/> DVD Player | <input type="checkbox"/> Scanner | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Internet Connection | <input type="checkbox"/> Television | |

Technology – Software: (Click boxes of all software needed.)

- | | | |
|---|--|---|
| <input type="checkbox"/> Database/Spreadsheet | <input checked="" type="checkbox"/> Multimedia | <input type="checkbox"/> Web Browser |
| <input type="checkbox"/> Web Page Development | <input type="checkbox"/> E-mail Software | <input type="checkbox"/> Desktop Publishing |
| <input type="checkbox"/> Image Processing | <input type="checkbox"/> Word Processing | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Encyclopedia on CD-ROM | | |

Printed Materials:	<p>Physics by Antonio G. Tayao, Gil Nonato . Santos, et.al.</p> <p>Physics by Delia C. Navaga, Bienvenido J. Valdez, et. al.</p> <p>Science and Technology by Lilia M. Rabago, Cresencia C. Joaquin, et.al.</p> <p>University Physics by Hugh Young and Roger Freedman</p>
Supplies:	1. Computer
Internet Resources:	<p>http://www.physicsclassroom.com/mmedia/energy/pe.html</p> <p>http://en.wikipedia.org/wiki/Laws_of_thermodynamics</p> <p>http://en.wikipedia.org/wiki/Forms_of_transport</p> <p>http://www.physicsclassroom.com/mmedia/energy/pe.html</p>
Others:	
Accommodations for Differentiated Instruction	
Resource Student:	This course is geared for the resource student. He will be asked to observe how the group is doing the investigation and to do a simple paper work on this. A separate type of test will be given to the student which will accommodate his level of understanding.
Non-Native English Speaker:	Provide physics vocabulary definitions and verbally check for understanding. Oral speaking activities may be shortened or more practice time may be allowed.
Gifted Student:	Complete the laboratory activity with mathematical functions. The student will conduct an interview with prominent local officials.
Student Assessment:	Group tests, lab reports, project assessment (see Brochure Rubric, PowerPoint Rubric) and a test for the resource student
Key Word Search:	Work, energy, force, power, thermodynamics, real world application



Unit Plan Template

Note: Type in the gray areas. Click on any descriptive text, then type your own.

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Country:	PHILIPPINES

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Unit Overview

Unit Plan Title: The World Beyond

Curriculum-Framing Questions

- | | |
|--------------------|--|
| Essential Question | What do you see in the sky during day and night? |
| Unit Questions | What make-up the solar system? |
| Content Questions | What is solar system? |
| | What is at the center of our solar system? |
| | What are the other interplanetary matters in the solar system? |
| | What are Jovian planet and its members? |
| | What are terrestrial planet and its members? |

Unit Summary:

The students will able to recognize that the sun, planets and other interplanetary matter comprise the solar system through the support of video clippings, multimedia presentation, pictures, visual presentation, a song ,mock up or Model of solar system etc.

Subject Area(s): Click box(es) of the subject(s) that your Unit targets

- | | | |
|--|--|--|
| <input type="checkbox"/> Business Education | <input type="checkbox"/> Drama | <input checked="" type="checkbox"/> Other: English |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Foreign Language | <input type="checkbox"/> Other: Filipino |
| <input type="checkbox"/> Home Economics | <input type="checkbox"/> Industrial Technology | <input type="checkbox"/> Other: Makabayan |
| <input type="checkbox"/> Language Arts | <input type="checkbox"/> Mathematics | |
| <input checked="" type="checkbox"/> Music | <input type="checkbox"/> Physical Education | |
| <input type="checkbox"/> School to Career | <input checked="" type="checkbox"/> Science | |
| <input checked="" type="checkbox"/> Social Studies | <input checked="" type="checkbox"/> Technology | |

Grade Level: Click box(es) of the grade level(s) that your Unit targets

- | | | |
|---|---|---|
| <input type="checkbox"/> Kindergarten | <input type="checkbox"/> 2 nd Year High School | <input checked="" type="checkbox"/> Gifted and Talented |
| <input type="checkbox"/> Grade 1 -3 | <input type="checkbox"/> 3 rd Year High School | <input type="checkbox"/> Resource |
| <input checked="" type="checkbox"/> Grade 4 - 6 | <input type="checkbox"/> 4 th Year High School | <input checked="" type="checkbox"/> Other |
| <input type="checkbox"/> 1 st Year High School | <input type="checkbox"/> English as a Second Language | |

Targeted Philippine Basic Education Curriculum Competencies

- Identify the members of the solar system.
Describe each member of the solar system.

Student Objectives/Learning Outcomes:

At the end of this lesson, the students will able to :

- > Familiarized the importance factual information about the solar system.
- > Recognized the members of the solar system in the song activity entitled "The Solar System I'm Rhyme".
- > Show the order of the planets and other interplanetary matters on their orbits around the sun through model presentation.

Procedures:

Day 1

Review past lesson and relate it into the new topic.

Discussion about the solar system through the used of power point presentation and illustration of pictures, charts etc.(sun, inner and outer planets, asteroids and comets)

Day 2

Review previous discussion and give an introduction song entitled “The Solar System I’m Rhyme” at the same time an evaluation that they have learned in the past lesson. Each pupils would be provided a photocopy of a song and they will answer (the missing part) blank space provided. The after that It would be checked and the teacher will instruct how to sing the song. The class will be divided into four groups; each group will have an oral recitation. Before the class ended, the teacher would give an introduction about their next activity, making a model of solar system and assign each group to bring the needed materials for tomorrow. Also, the students are told to make a power point presentation about the solar system feature and it will be reported at the end of the week.

Day 3

The teacher would provide them the copy of their activity as well as the rubric of how they would perform it by group. They will do their activity in a whole period.

Day 4

Presentation of their activity. The members of the group would report individually and present their output to the class.(Solar System model and power point presentation)

Approximate Time Needed:

3 hours or 180 minutes (for science) class periods (4 days).

Prerequisite Skills:

The student must already be able to know some concepts about the outer space. He\She must not have an IQ below 0 or mentally retarded person. He\She must be Grade IV or up. Also, must carry a tone specially doing a singing activity. Moreover, must be creative, resourceful and diligent in making a project or an activity.

Materials and Resources Required For Unit

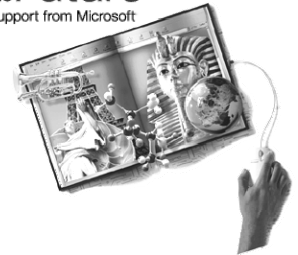
Technology – Hardware: (Click boxes of all equipment needed)

- | | | |
|---|--|--|
| <input type="checkbox"/> Camera | <input type="checkbox"/> Laser Disk | <input type="checkbox"/> VCR |
| <input checked="" type="checkbox"/> Computer(s) | <input type="checkbox"/> Printer | <input type="checkbox"/> Video Camera |
| <input type="checkbox"/> Digital Camera | <input type="checkbox"/> Projection System | <input type="checkbox"/> Video Conferencing Equipment. |
| <input checked="" type="checkbox"/> DVD Player | <input type="checkbox"/> Scanner | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Internet Connection | <input checked="" type="checkbox"/> Television | |

Technology – Software: (Click boxes of all software needed.)

- | | | |
|--|--|---|
| <input type="checkbox"/> Database/Spreadsheet | <input type="checkbox"/> Multimedia | <input checked="" type="checkbox"/> Web Browser |
| <input type="checkbox"/> Web Page Development | <input type="checkbox"/> E-mail Software | <input type="checkbox"/> Desktop Publishing |
| <input type="checkbox"/> Image Processing | <input type="checkbox"/> Word Processing | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Encyclopedia on CD-ROM | | |

Printed Materials:	Textbook, hand-outs, picture-illustration, charts, science journal
Supplies:	A mock-up or model of the solar system, DVD tapes about solar system etc.
Internet Resources:	www.kidsastronomy.com/solar_system.htm www.bbc.co.uk/science/space/solarsystem http://imagine.gsfc.nasa.gov/docs/ask_astro/solar_system.htm/ www.secds.org/nineplanets/nineplanets/ http://en.wikipedia.org/wiki/Solar_System
Others:	Group and oral activities
Accommodations for Differentiated Instruction	
Resource Student:	Film showing and reading other available resources or references.
Gifted Student:	Make a research; conduct a project, portfolio and exposed in an exhibit related to the solar system.
Student Assessment:	Quizzes, oral recitation, illustrate solar system through drawings and mock up ,doing a class activity
Key Word Search:	Interplanetary matters Jovian planets Terrestrial planets Solar system Comets Asteroids



Unit Plan Template

Note: Type in the gray areas. Click on any descriptive text, then type your own.

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Unit Overview

Unit Plan Title: Health is Wealth

Curriculum-Framing Questions

- | | |
|--------------------|---|
| Essential Question | What makes us healthy? |
| Unit Questions | <ol style="list-style-type: none">1. When is a child physically healthy?2. Has everyone ever told you that a baby should be fat to be healthy?3. How each food nutrients helps our body? |
| Content Questions | <ol style="list-style-type: none">1. What is health?2. What are the essential nutrients needed by the body?3. Which nutrient was present in the most of the food you eat?4. What is balance diet?5. Why should we have physical exercise and rest?6. How can you keep healthy mind and feelings? |

Unit Summary:

A person is healthy when his/her mind; body and feelings are in good condition. Carbohydrates, fats, protein, minerals, vitamins and water are the nutrients needed by our body. Exercise and rest are also important. A healthy body helps develop a healthy mind and feelings. People should take care of their physical, mental, and emotional health.

Subject Area(s): Click box(es) of the subject(s) that your Unit targets

- | | | |
|--|--|--|
| <input type="checkbox"/> Business Education | <input type="checkbox"/> Drama | <input type="checkbox"/> Other: English |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Foreign Language | <input type="checkbox"/> Other: Filipino |
| <input checked="" type="checkbox"/> Home Economics | <input type="checkbox"/> Industrial Technology | <input checked="" type="checkbox"/> Other: Makabayan |
| <input type="checkbox"/> Language Arts | <input type="checkbox"/> Mathematics | |
| <input type="checkbox"/> Music | <input checked="" type="checkbox"/> Physical Education | |
| <input type="checkbox"/> School to Career | <input checked="" type="checkbox"/> Science | |
| <input checked="" type="checkbox"/> Social Studies | <input type="checkbox"/> Technology | |

Grade Level: Click box(es) of the grade level(s) that your Unit targets

- | | | |
|--|--|--|
| <input type="checkbox"/> Kindergarten | <input checked="" type="checkbox"/> 2 nd Year High School | <input type="checkbox"/> Gifted and Talented |
| <input checked="" type="checkbox"/> Grade 1 -3 | <input type="checkbox"/> 3 rd Year High School | <input type="checkbox"/> Resource |
| <input checked="" type="checkbox"/> Grade 4 - 6 | <input type="checkbox"/> 4 th Year High School | <input type="checkbox"/> Other |
| <input checked="" type="checkbox"/> 1 st Year High School | <input type="checkbox"/> English as a Second Language | |

Targeted Philippine Basic Education Curriculum Competencies

Elementary Education

- Science and Health
- MSEP
- T.H.E.

Student Objectives/Learning Outcomes:

At the end of our unit, the pupils will be able to

1. Define what health is.
2. Enumerate the nutrients needed by the body.
3. Discuss the importance of exercise and rest
4. Impart what makes a healthy mind.

Procedures:

Day 1:

1. A teacher introducing her unit through PowerPoint;
2. The teacher first discusses the definition of health.
3. Discuss the importance of nutrients in our body.
4. At the end of the period, the teacher will give assignment to the pupils about nutritious foods.

Day 2

1. The teacher will be asked to pass the assignment given to them.
2. The teacher will discuss the different classification of nutrients.
4. Show pictures and give examples.
5. The pupils will classify the foods they listed in their assignment; the teacher will then check their papers.
6. The pupils will list the food they ate for the day and list the nutrients their body gets.

Day 3

1. The teacher will collect their assignment.
2. The teacher will discuss the definition of malnutrition.
3. The teacher shows pictures of malnourished children.
4. The pupils will then give their opinion why children being showed are malnourished.

Day 4

1. The class will perform an exercise before stating the lesson.
2. The teacher will ask the pupils about the importance of exercise in our body.
3. The teacher then will discuss the importance of exercise and rest in our body.
4. The pupils will be grouped into 5 and everyday before they will start their lesson, every group will present an exercise, to be performed by the class.

Day 5

1. The teacher will discuss on what makes up a healthy mind.
2. Let the student have their own reflection on the mirror, they will observe their physical appearance.
3. The students then will share to the whole class what they have observed.
4. The teacher will give an interpretation based on their answers.
5. The teacher will give an assignment on how to keep healthy minds and feelings.

1 week(for science lesson)45 mins/day
2 days(for T.H.E.Lesson) 1hr./day
2 days(for MSEP Lesson) 1hr./day

Prerequisite Skills:

Health awareness,

Materials and Resources Required For Unit

Technology – Hardware: (Click boxes of all equipment needed)

- | | | |
|---|---|---|
| <input type="checkbox"/> Camera | <input type="checkbox"/> Laser Disk | <input type="checkbox"/> VCR |
| <input checked="" type="checkbox"/> Computer(s) | <input type="checkbox"/> Printer | <input type="checkbox"/> Video Camera |
| <input type="checkbox"/> Digital Camera | <input checked="" type="checkbox"/> Projection System | <input type="checkbox"/> Video Conferencing
Equipment. |
| <input checked="" type="checkbox"/> DVD Player | <input type="checkbox"/> Scanner | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Internet Connection | <input checked="" type="checkbox"/> Television | |

Technology – Software: (Click boxes of all software needed.)

- | | | |
|--|---|---|
| <input type="checkbox"/> Database/Spreadsheet | <input type="checkbox"/> Multimedia | <input checked="" type="checkbox"/> Web Browser |
| <input type="checkbox"/> Web Page Development | <input type="checkbox"/> E-mail Software | <input type="checkbox"/> Desktop Publishing |
| <input checked="" type="checkbox"/> Image Processing | <input checked="" type="checkbox"/> Word Processing | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Encyclopedia on CD-ROM | | |

Printed Materials:	Science and health textbook, pictures, charts, poster
Supplies:	Tools for exercise and sample food
Internet Resources:	www.ask.com www.yahoo.com www.google.com www.msn.com
Others:	Guest speakers, poster making, exhibit, jingle test
Accommodations for Differentiated Instruction	
Resource Student:	More requirements, extended work time
Gifted Student:	More challenging task, extended investigation related to the topic.
Student Assessment:	During the discussion you will conduct oral recitation to test whether they have the stock knowledge for the particular subject matter. When we will reach the topic about exercise, we will let the student to do some exercise. We can also make quizzes after discussion and after the whole topic we will conduct long quiz.
Key Word Search:	Health, nutrients, balanced diet, exercise, carbohydrates, vitamins, minerals, proteins, fats, essential nutrients, rest, water, food, feelings

Activity 7: PBL Units

Step 1: Turning Activities into PBL

Below you will find some lessons that are activity-based. Your job is to look at the questions and lesson description and develop a PBL idea. Please add your idea in the last column,

The role my students will take is . . .

The task they will complete is . . .

EXAMPLE: Our Environment – High School			
Essential Question	Content and Unit Questions	Lesson Description	PBL Idea
How can we keep our world healthy?	<p>What is pollution?</p> <p>What are different types of pollution?</p>	<p>Students complete labs that show effects of different kinds of pollution. They identify components of each and identify where these different kinds of pollution could be found.</p>	<p>Role: Students take on the roles of environmentalists, chemists, biologists, health scientists</p> <p>Task: In their role, students will research on environmental problem that exists in their area. The group will devise a presentation to inform others about the problem as well as present a plan for combating this problem.</p>
The Plant World - Elementary			
Essential Question	Content Questions	Lesson Description	PBL Idea
How do plants and people help each other?	<p>What do plants need to grow and thrive?</p> <p>How do the seasons affect planting?</p>	<p>Various labs are set up showing how plants grow. The results are showcased in PowerPoint presentation. A</p>	<p>Role:</p> <p>Task:</p>

		Newsletter will state what we use plants for and a Web site will showcase plants of our area.	
Mathematics for Life – High School			
Essential Question	Unit Questions	Lesson Description	PBL Idea
How can we use mathematics to help us understand our daily life?	How do statistical comparisons help us understand the game of soccer/cricket/baseball? How are comparisons of soccer/cricket/baseball statistics used to make decisions?	Students give a presentation of the history of their sport in their country. They then compile a list of the greatest players of all times, and give a presentation on the different aspects of mathematics of the sport.	Role: Task:
Politics in our Country – High School			
Essential Question	Content Question	Lesson Description	PBL Idea
How did history give rise to the political system of today?	What was the early political system like? Who played roles in the evolution of the political system and what were those roles?	Students report on the political system of their country from a historical point of view. They give reports on the various people who have controlled the political parties of their country.	Role: Task:

Step 2: Group Share

Share your ideas and provide feedback on the units presented.

Step 3: Developing PBL Ideas

You have selected some unit topics. For the topics selected develop a PBL idea.

Topic:

Goal of the Unit:

Role the students will be playing:

Audience the students would be addressing

Task that they are required to do:

Technology-based End Products they will be developing

Step 4: Group Share

Share your PBL idea with your group.

Web-Enhanced Learning Activities

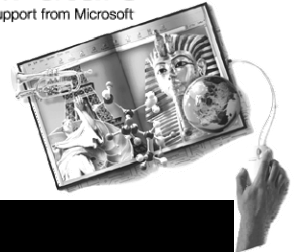
Schedule of Activities

DAY 3	Activity	Time Allotment
3.1	Sharing of Reflections	30 minutes
3.2	Assessing Student Learning: Principles and Methods	30 minutes
3.3	Developing Checklists and Rubrics	1 hour
3.4	Introduction to WebQuests	1½ hours
3.5	Designing WebQuests (Part 1)	1½ hours
	1: Choosing a Unit and Setting the Learning Objectives	
	Step 2: Brainstorming the WebQuest Scenario & Task	
	Step 3: Planning the Evaluation of the WebQuest Product (Creating Rubrics)	
3,6	Designing WebQuests (Part 2)	1½ hours
3.7	Sharing of WebQuest Scenario, Task and Rubric For Evaluating the WebQuest Product	1 hour
	Take-Home Activity: Revision of WebQuest Scenario, Task, And Rubric for Evaluating the WebQuest Product	
	Reflection Activity	

Day 4	Activity	Time Allotment
4.1	Sharing of Reflections	30 minutes
4.2	Designing WebQuests (Part 3)	4 hours
	Step 4: Articulating the Process	
	Step 5: Compiling the Resource List	
	Step 6: Scaffolding Student Learning (Creating Student Support Materials)	
4.3	Designing WebQuests (Part 4)	2 hours
4.4	Sharing of WebQuest Process, Resource List, and Student Support Materials	1 hour
	Take-Home Activity: Revision of WebQuest Process, Resource List and Evaluation Tools	
	Reflection Activity	

DAY 5	Activity	Time Allotment
5.1	Sharing of Reflections	30 minutes

5.2	Designing WebQuests (Part 5) Step 7: Planning the Evaluation of the WebQuest Process (Creating Self- and Peer Assessment Tools)	1½ hours
5.3	Planning the Implementation of WebQuests (Implementation Checklist)	1½ hours
5.4	Showcasing Your WebQuests	2½ hours
5.5	Preparing and Saving the Workshop Portfolio	30 minutes
5.6	Evaluating the Workshop	45 minutes
5.7	Wrapping Up	15 minutes



WORK AND ENERGY

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Unit Overview

Unit Plan Title: Work and Energy

Curriculum-Framing Questions

Essential Question	How does man improve his life but endanger it in return? What enables humans, animals and objects particularly engines to move?
Unit Questions	What is the relationship among force, power, work and energy? How do these terms relate to transportation vehicles? How can we conserve energy? What are the different transformations of energy? What does the law of conservation of mechanical energy states?
Content Questions	What laws that govern the mechanism of engines? What are the means of conserving energy in our homes? What is the inevitable effect of the second law of thermodynamics?

Unit Summary:

The lesson will cover the relationship among force, power, work and energy in relation to transportation. The unit will start with a demonstration combined with question-and-answer portion. After which, the students will watch a film about the different means of transportation. The teacher then will use other strategies such as multimedia presentation (PowerPoint entitled "Meet Ms. Pure Energy") to support discussion and a laboratory activity on Work-Energy Theorem. These strategies actively involve the students in the learning process. They will then prepare multimedia presentation on the theme "Transportation: The Past, Present and Future" using PowerPoint. Activities about energy conservation include a prepared audio recorded lesson and an online treasure hunt as means of integrating technology in the classroom. The last activity is a Web Quest on the Second Law of Thermodynamics interconnecting physics, industrial technology and health. Students are expected to report cases of violation of Clean Air Act among drivers in relation to thermodynamics. Then they are going to put their write-ups in a newsletter discussing the results of the group investigation. All of the activities are in lieu with the Basic Education Curriculum competencies which will develop the skills and understanding of the fourth year students as well as the second year students, about energy, particularly on energy in transportation.

Subject Area(s): Click box(es) of the subject(s) that your Unit targets

- | | | |
|---|--|--|
| <input type="checkbox"/> Business Education | <input type="checkbox"/> Drama | <input type="checkbox"/> Other: English |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Foreign Language | <input type="checkbox"/> Other: Filipino |
| <input type="checkbox"/> Home Economics | <input type="checkbox"/> Industrial Technology | <input checked="" type="checkbox"/> Other: Makabayan |
| <input type="checkbox"/> Language Arts | <input type="checkbox"/> Mathematics | |
| <input type="checkbox"/> Music | <input type="checkbox"/> Physical Education | |

<input type="checkbox"/> School to Career	<input checked="" type="checkbox"/> Science	
<input type="checkbox"/> Social Studies	<input checked="" type="checkbox"/> Technology	
Grade Level: Click box(es) of the grade level(s) that your Unit targets		
<input type="checkbox"/> Kindergarten	<input checked="" type="checkbox"/> 2 nd Year High School	<input type="checkbox"/> Gifted and Talented
<input type="checkbox"/> Grade 1 -3	<input type="checkbox"/> 3 rd Year High School	<input type="checkbox"/> Resource
<input type="checkbox"/> Grade 4 - 6	<input checked="" type="checkbox"/> 4 th Year High School	<input type="checkbox"/> Other
<input type="checkbox"/> 1 st Year High School	<input type="checkbox"/> English as a Second Language	

Targeted Philippine Basic Education Curriculum Competencies

Physics:

Energy in Transportation

Demonstrate understanding of the relationship among force, power, work and energy.

- a. Explain the relationship of kinetic energy and potential energy to work and cite applications
- b. Apply the Law of Conservation of Mechanical Energy in different situations.
- c. Discuss the Laws of Thermodynamics as applied to heat engines

Edukasyong Pangkalusugan (Ikalawang Taon):

Pagsusuri ng Kalisigan at Edukasyong Pampopulasyon (Ugnayan ng Pop. Resources at Environment (PRE) sa Pagpapanatili ng Kalusugan at Kaunlaran)

1. Napahahalagahan ang ugnayan ng Populasyon, Resources at Environment sa Pagpapanatili ng Kalusugan at Kaunlaran
 - 1.1 Naipiliwanag ang kahalagahan ng pagsusuri ng kalusugan
 - 1.2 Naipaliliwanag ang ugnayan ng pop. Resources at environment sa pagpapanatili ng kalusugan at kaunlaran

**SINING PANG-INDUSTRIYA (Ikalawang Taon):
(General Shop)**

Sa loob ng isang markahang pag-aaral sa Sining Pang-Industriya, inaasahang matatamo ng mga mag-aaral ang sumusunod:

Elektrisidad

- 1.6 Naipakikita ang kakayahan sa paggamit ng batayang kaalaman sa elektrisidad
- 1.7 Natutukoy ang mga devices at aplayans na elektrikal
- 1.8 Nagagamit ng maayos ang mga pangunahing kasangkapan at instrumentong elektrikal

Student Objectives/Learning Outcomes:

Physics:

Energy in Transportation

11. To relate force, power, work and energy
12. To differentiate potential energy from kinetic energy

13. To construct ideas on how energy transforms from one form to another
14. To apply the concepts on work and energy in problem-solving
15. To compare the Law of Conservation of Mechanical Energy and the First Law of Thermodynamics
16. To criticize the Second Law of Thermodynamics
17. To summarize how man's ingenuity revolutionized the means of transportation through a PowerPoint presentation

Edukasyong Pangkalusugan (Ikalawang Taon):

Pagsusuri ng Kalisigan at Edukasyong Pam populasyon (Ugnayan ng Pop. Resources at Environment (PRE) sa Pagpapanatili ng Kalusugan at Kaunlaran)

18. To conduct a five-day group investigation following the processes given in the Web Quest
19. To create a newsletter containing results of the Web Quest
20. To explain how the inevitable results of second law of thermodynamics affects one's health

SINING PANG-INDUSTRIYA (Ikalawang Taon):

(General Shop)

21. To write an essay about the means of conserving energy particularly electrical energy in homes

Procedures:

Day 1

Pose the unit question: What enables humans, animals and objects particularly engines to move?

Then, the teacher will demonstrate few situations explaining the relationship among force, power, work and energy.

After which, the students will watch a film on the different means of transportation either land, air or water. The movie title is "Around the World in 80 Days". Shortly after, the teacher will assign every group of five members to create a multimedia presentation on the theme "Transportation: The Past, Present and Future.

Day 2

The teacher will present the content of the lesson through a PowerPoint presentation entitled "Meet Ms. Pure Energy"

Day 3-4

The students will perform a laboratory activity on Work-Energy Theorem.

Day 5-7

The teacher will present an audio recorded lesson on energy conservation. After which, the

students will do the online treasure hunt about energy conservation.

Day 8-12 The teacher will give the last activity which is the [Web Quest](#)

- a. Conduct actual investigation on the streets spotting smoke-belching vehicles
- b. Take photographs of the drivers of smoke-belching vehicles
- c. Research on the Clean Air Act Police
- d. Interview health officers about the effects of air pollution on the health of the people living in your city.
- e. Students create a newsletter about the group investigation

Day 13 Presentation of newsletter and multimedia presentation

Approximate Time Needed:

Twenty-one hours (for science) class periods

Prerequisite Skills:

5. Knowledge on Newton's laws of motions
6. Knowledge on simple news writing
7. Skill on using the camera
8. Skill in using Microsoft Publisher

Materials and Resources Required For Unit

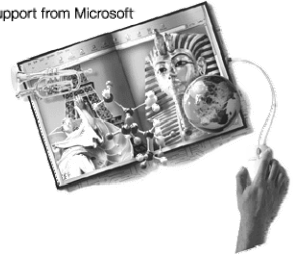
Technology – Hardware: (Click boxes of all equipment needed)

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Camera | <input type="checkbox"/> Laser Disk | <input checked="" type="checkbox"/> VCR |
| <input checked="" type="checkbox"/> Computer(s) | <input type="checkbox"/> Printer | <input checked="" type="checkbox"/> Video Camera |
| <input type="checkbox"/> Digital Camera | <input checked="" type="checkbox"/> Projection System | <input type="checkbox"/> Video Conferencing Equipment. |
| <input type="checkbox"/> DVD Player | <input type="checkbox"/> Scanner | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Internet Connection | <input type="checkbox"/> Television | |

Technology – Software: (Click boxes of all software needed.)

- | | | |
|---|---|---|
| <input type="checkbox"/> Database/Spreadsheet | <input checked="" type="checkbox"/> Multimedia | <input type="checkbox"/> Web Browser |
| <input type="checkbox"/> Web Page Development | <input type="checkbox"/> E-mail Software | <input type="checkbox"/> Desktop Publishing |
| <input type="checkbox"/> Image Processing | <input checked="" type="checkbox"/> Word Processing | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Encyclopedia on CD-ROM | | |

Printed Materials:	<p>Physics by Antonio G. Tayao, Gil Nonato . Santos, et.al.</p> <p>Physics by Delia C. Navaga, Bienvenido J. Valdez, et. al.</p> <p>Science and Technology by Lilia M. Rabago, Cresencia C. Joaquin, et.al.</p> <p>University Physics by Hugh Young and Roger Freedman</p>
Supplies:	2. Computer Units
Internet Resources:	<p>http://www.physicsclassroom.com/mmedia/energy/pe.html</p> <p>http://en.wikipedia.org/wiki/Laws_of_thermodynamics</p> <p>http://en.wikipedia.org/wiki/Forms_of_transport</p> <p>http://www.physicsclassroom.com/mmedia/energy/pe.html</p>
Others:	
Accommodations for Differentiated Instruction	
Resource Student:	This course is geared for the resource student. He will be asked to observe how the group is doing the investigation and to do a simple paper work on this. A separate type of test will be given to the student which will accommodate his level of understanding.
Non-Native English Speaker:	Provide physics vocabulary definitions and verbally check for understanding. Oral speaking activities may be shortened or more practice time may be allowed.
Gifted Student:	Complete the laboratory activity with mathematical functions. The student will conduct an interview with prominent local officials.
Student Assessment:	Group tests, lab reports, project assessment (see Brochure Rubric, PowerPoint Rubric) and a test for the resource student
Key Word Search:	Work, energy, force, power, thermodynamics, real world application



The World Beyond

Note: Type in the gray areas. Click on any descriptive text, then type your own.

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Country:	PHILIPPINES

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Unit Overview	
Unit Plan Title:	The World Beyond
Curriculum-Framing Questions	
Essential Question	<p>How far does our life take?</p> <p>What make-up the solar system?</p> <p>Mathematics</p> <p>How much would you weigh on another planet?</p> <p>Which parts of the solar system have more gravitational force than earth? Which parts have less?</p> <p>What are the velocities of planets around the sun?</p> <p>English</p> <p>If you want to find out more about things that you observe, what will you do?</p> <p>Do you try to seek answers to your questions?</p> <p>Are you resourceful in locating information?</p> <p>History</p> <p>How sun and planets formed?</p> <p>What is the origin of our solar system?</p> <p>Where is our solar system?</p> <p>What is solar system?</p> <p>What is at the center of our solar system?</p> <p>What are the other interplanetary matters in the solar system?</p> <p>What are Jovian planet and its members?</p> <p>What are terrestrial planet and its members?</p>
Unit Questions	
Content Questions	
Unit Summary:	
<p>The students will able to recognize that the sun, planets and other interplanetary matter comprise the solar system through the support of multimedia presentation, pictures, visual presentation, a song ,poem, mock up or Model of solar system, publication, online treasure hunt and the webquest.</p>	
Subject Area(s): Click box(es) of the subject(s) that your Unit targets	
<input type="checkbox"/> Business Education <input type="checkbox"/> Engineering <input type="checkbox"/> Home Economics <input type="checkbox"/> Language Arts <input type="checkbox"/> Music <input type="checkbox"/> School to Career <input checked="" type="checkbox"/> Social Studies	<input type="checkbox"/> Drama <input type="checkbox"/> Foreign Language <input type="checkbox"/> Industrial Technology <input checked="" type="checkbox"/> Mathematics <input type="checkbox"/> Physical Education <input checked="" type="checkbox"/> Science <input checked="" type="checkbox"/> Technology
<input checked="" type="checkbox"/> Other: English <input type="checkbox"/> Other: Filipino <input type="checkbox"/> Other: Makabayan	
Grade Level: Click box(es) of the grade level(s) that your Unit targets	
<input type="checkbox"/> Kindergarten <input type="checkbox"/> 2 nd Year High School	<input checked="" type="checkbox"/> Gifted and Talented

<input type="checkbox"/> Grade 1 -3	<input type="checkbox"/> 3 rd Year High School	<input type="checkbox"/> Resource
<input checked="" type="checkbox"/> Grade 4 - 6	<input type="checkbox"/> 4 th Year High School	<input checked="" type="checkbox"/> Other
<input type="checkbox"/> 1 st Year High School	<input type="checkbox"/> English as a Second Language	

Targeted Philippine Basic Education Curriculum Competencies

Identify the members of the solar system.

Describe each member of the solar system.

English

Reading, Study Skills

MSEP

Illustrating the solar system

GMRC

Resourcefulness in finding answers to questions/problems

Student Objectives/Learning Outcomes:

At the end of this lesson, the students will able to :

- Familiarize the importance factual information about the solar system.
- Recognize the members of the solar system.
- Describe each member of the solar system.
- Show the order of the planets and other interplanetary matters on their orbits.

Procedures:

Day 1

Review past lesson and relate it into the new topic. For the motivation, the students will sing a [song about the solar system](#) provided a printed copy of the teacher.

Discussion about the solar system through the used of [power point presentation](#) and illustration of pictures, charts etc.(sun, inner and outer planets, asteroids and comets).

Day 2

Review previous discussion and give an introduction poem entitled "[The Solar System I'm Rhyme](#)" at the same time an evaluation that they have learned in the past lesson. Each pupils would be provided a photocopy of a song and they will answer (the missing part) blank space provided. The after that It would be checked and the teacher will instruct how to states the poem. The class will be divided into four groups; each group will have an oral recitation. Before the class ended, the teacher would give an introduction about their next activity, making a model of solar system and assign each group to bring the needed materials for tomorrow.

Day 3

The teacher would provide them the copy of their activity "[Model of Solar System](#)" as well as the [rubric of the model presentation](#) of how they would perform it by group. They will do

their activity in a whole period. As their assignment, they are supposed to make a power point presentation or additional information about the solar system.

Day 4

Presentation of their model activity. The members of the group would report individually and present their output to the class at the same time report about the solar system through their [student PowerPoint presentation](#). It would be graded base on the [Rubric for PowerPoint Presentation](#).

Day 5

The teacher will give a [quiz](#) about their past lesson. After that, another individual activity will be introducing to the student the making a brochure regarding their previous lesson. The student is given the freedom to choose one of the members of the solar system and create .from that a [brochure](#). Provided with the [rubric for brochure presentation](#) in how to grade their output. It will be past next meeting.

Day 6

The teacher will let the student do the [online treasure](#) hunt for their next activity. They will be group by their teacher. They will conduct their class in the computer laboratory. The students will be inform of the [computer uses/rules](#) and the [computer sign up sheet](#) before going to their respected unit. Also, their online treasure hunt output is expected to submit next meeting.

Day 7

After collecting the online treasure hunt output, the students again go to the computer laboratory for their last activity. In this activity entitled the "[Trip Discovery Webquest](#)" the students follows the instruction specify for their obligation in this activity. It will take this activity for 10 days or approximately 2 weeks. So the 10 days meetings will be all about the webquest.

Day 8

The last activity which will expose the pupil to conduct an observation regarding their over all lesson. The activity is "[Observing the Planets](#)" this can be done by themselves provided a printed copy of the activity on how to perform. It can be done for at least three days if the weather is good. In the end they are expected to a write a planet report of what they have learned and reaction of the said activity.

Approximate Time Needed:

35 hours or 2040 minutes (for science) class periods (17 meetings).

Prerequisite Skills:

The student must already be able to know some concepts about the outer space. He\She must not have an IQ below 0 or mentally retarded person. He\She must be Grade IV or up. Also, must carry a tone specially doing a singing activity. Moreover, must be creative, resourceful and diligent in making a project or an activity. The student must have knowledge

about computers in doing their activity.

Materials and Resources Required For Unit

Technology – Hardware: (Click boxes of all equipment needed)

- | | | |
|---|--|---|
| <input type="checkbox"/> Camera | <input type="checkbox"/> Laser Disk | <input type="checkbox"/> VCR |
| <input checked="" type="checkbox"/> Computer(s) | <input type="checkbox"/> Printer | <input type="checkbox"/> Video Camera |
| <input type="checkbox"/> Digital Camera | <input type="checkbox"/> Projection System | <input type="checkbox"/> Video Conferencing
Equipment. |
| <input checked="" type="checkbox"/> DVD Player | <input type="checkbox"/> Scanner | <input checked="" type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Internet Connection | <input checked="" type="checkbox"/> Television | |

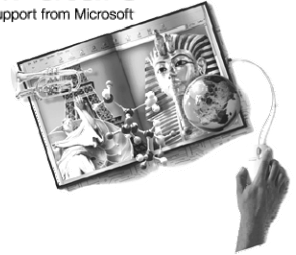
Technology – Software: (Click boxes of all software needed.)

- | | | |
|--|---|---|
| <input type="checkbox"/> Database/Spreadsheet | <input checked="" type="checkbox"/> Multimedia | <input checked="" type="checkbox"/> Web Browser |
| <input type="checkbox"/> Web Page Development | <input type="checkbox"/> E-mail Software | <input type="checkbox"/> Desktop Publishing |
| <input type="checkbox"/> Image Processing | <input checked="" type="checkbox"/> Word Processing | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Encyclopedia on CD-ROM | | |

Printed Materials:	Textbook, hand-outs, forms, picture-illustration, charts, science journal, song and poem activity and model activity.
Supplies:	A mock-up or model of the solar system, DVD tapes about solar system, computers etc.
Internet Resources:	www.kidsastronomy.com/solar_system.htm www.bbc.co.uk/science/space/solarsystem http://en.wikipedia.org/wiki/Solar_System http://www.enchantedlearning.com/subjects/astronomy/ http://solarsystem.nasa.gov/planets/index.cfm www.solarviews.com
Others:	Group and oral activities
Accommodations for Differentiated Instruction	
Resource Student:	Film showing and reading other available resources or references.
Gifted Student:	Make a research; conduct a project, portfolio and exposed in an exhibit related to the solar system.
Student Assessment:	Quizzes, oral recitation, illustrate solar system through drawings and mock up ,doing a class activity, rubric etc.

Key Word Search:

Interplanetary matters
Jovian planets
Terrestrial planets
Solar system
Comets
Asteroids
Meteoroids
Planets
Terrestrial planets



Health is Wealth

Note: Type in the gray areas. Click on any descriptive text, then type your own.

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Unit Overview

Unit Plan Title: **Health is Wealth**

Curriculum-Framing Questions

Essential Question

What make us fit?

Unit Questions

Content Questions

1. When is a child physically healthy?
2. Has anyone ever told you that a baby should be fat to be healthy?
3. How each food nutrient helps our body?
4. How are stories made?
1. What is health?
2. What are the essential nutrients needed by the body?
3. Which nutrient was present in the most of the food you eat?
4. What is balance diet?
5. Why should we have physical exercise and rest?
6. How can you keep healthy mind and feelings?
7. What are the steps in making a story?
8. What are the characteristics of a good story?

Unit Summary:

This unit will cover Science and Health and English subject. The pupils are expected to know the importance of being fit emotionally, mentally and most of all physically by doing some activities. They will perform the online treasure hunt activity, web quest activity and make an audio recording to understand more the topic. They will also pass a brochure as their student publication.

Subject Area(s): Click box(es) of the subject(s) that your Unit targets

- | | | |
|---|--|--|
| <input type="checkbox"/> Business Education | <input type="checkbox"/> Drama | <input checked="" type="checkbox"/> Other: English |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Foreign Language | <input type="checkbox"/> Other: Filipino |
| <input type="checkbox"/> Home Economics | <input type="checkbox"/> Industrial Technology | <input type="checkbox"/> Other: Makabayan |
| <input type="checkbox"/> Language Arts | <input type="checkbox"/> Mathematics | |
| <input type="checkbox"/> Music | <input type="checkbox"/> Physical Education | |
| <input type="checkbox"/> School to Career | <input checked="" type="checkbox"/> Science | |
| <input type="checkbox"/> Social Studies | <input type="checkbox"/> Technology | |

Grade Level: Click box(es) of the grade level(s) that your Unit targets

- | | | |
|---|---|--|
| <input type="checkbox"/> Kindergarten | <input type="checkbox"/> 2 nd Year High School | <input type="checkbox"/> Gifted and Talented |
| <input type="checkbox"/> Grade 1 -3 | <input type="checkbox"/> 3 rd Year High School | <input type="checkbox"/> Resource |
| <input checked="" type="checkbox"/> Grade 4 - 6 | <input type="checkbox"/> 4 th Year High School | <input type="checkbox"/> Other |
| <input type="checkbox"/> 1 st Year High School | <input type="checkbox"/> English as a Second Language | |

Targeted Philippine Basic Education Curriculum Competencies

Elementary Education

- Science and Health
- English

Student Objectives/Learning Outcomes:

At the end of our unit, the pupils will be able to:

Science

5. Define what health is.
6. Enumerate the nutrients needed by the body.
7. Discuss the importance of exercise and rest
8. Impart what makes a healthy mind.

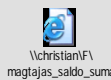
English

1. Identify the steps in making a story.
2. Enumerate the characteristics of a good story.
3. Make a story about being fit emotionally, mentally and most of all physically.

Procedures:

Day 1:

1. The teacher will introduce the unit in a [PowerPoint presentation](#).
2. The teacher first discusses the definition of health.
3. Discuss the importance of nutrients in our body.
4. Discuss what malnutrition is.



5. The pupils will do the online treasure hunt activity.
4. At the end of the period, the teacher will give assignment to the pupils.

Day 2

1. The pupils will pass the assignment through a [PowerPoint](#) presentation.
2. The teacher will discuss the different classification of nutrients.
3. Show pictures and give examples.

Day 3

5. The class will perform an exercise before starting the lesson.
6. The teacher will ask the pupil's about the importance of exercise in our body.
7. The teacher then will discuss the importance of exercise and rest in our body.
8. The pupils will be group into 5 and everyday before they will start their lesson, every group will present an exercise, to be performed by the class

Day 4

6. The teacher will discuss on what makes up a healthy mind.
7. Let the student have their own reflection on the mirror, they will observe their physical appearance.
8. The students then will share to the whole class what they have observed.
9. The teacher will give an interpretation based on their answers.
10. The teacher will give an assignment on how to keep healthy minds and feelings.

Day 5

1. The teacher will teach the pupils on how to make a brochure.
2. The pupils will be group into 4 groups.
3. Each group will make a [brochure](#).

English

Day 1-5

1. The Teacher will discuss what story is.
2. The teacher will give story samples.
3. The pupils will do the [web quest activity](#).

Day 6

1. The pupils will pass their audio recorded story.
2. The teacher will choose the best story among the group.
3. The chosen group will be given an award.

*1 week(for science lesson)45 mins/day
1 week(for English lesson)45 mins/day*

Prerequisite Skills:

Health awareness, Computer literacy, audio-recording

Materials and Resources Required For Unit

Technology – Hardware: (Click boxes of all equipment needed)

- | | | |
|---|--|---|
| <input type="checkbox"/> Camera | <input type="checkbox"/> Laser Disk | <input type="checkbox"/> VCR |
| <input checked="" type="checkbox"/> Computer(s) | <input type="checkbox"/> Printer | <input type="checkbox"/> Video Camera |
| <input type="checkbox"/> Digital Camera | <input type="checkbox"/> Projection System | <input type="checkbox"/> Video Conferencing Equipment. |
| <input type="checkbox"/> DVD Player | <input type="checkbox"/> Scanner | <input checked="" type="checkbox"/> Other: cassette, tape, microphone |
| <input checked="" type="checkbox"/> Internet Connection | <input checked="" type="checkbox"/> Television | |

Technology – Software: (Click boxes of all software needed.)

- | | | |
|--|---|---|
| <input type="checkbox"/> Database/Spreadsheet | <input type="checkbox"/> Multimedia | <input checked="" type="checkbox"/> Web Browser |
| <input type="checkbox"/> Web Page Development | <input type="checkbox"/> E-mail Software | <input type="checkbox"/> Desktop Publishing |
| <input type="checkbox"/> Image Processing | <input checked="" type="checkbox"/> Word Processing | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Encyclopedia on CD-ROM | | |

Printed Materials:	Science and health textbook, pictures, charts, poster, English textbook
Supplies:	Tools for exercise and sample food, computer, Television, microphone, cassette, tape.
Internet Resources:	www.ask.com www.yahoo.com www.google.com www.msn.com
Others:	Guest speakers,
Accommodations for Differentiated Instruction	
Resource Student:	More requirements, extended work time
Gifted Student:	Will lead the group in every activity.
Student Assessment:	During the discussion you will conduct oral recitation to test whether they have the stock knowledge for the particular subject matter. When we will reach the topic about exercise, we will let the student to do some exercise. We can also make quizzes after discussion and after the whole topic we will conduct long quiz. The teacher will use the rubric in rating their audio-recorded story.
Key Word Search:	Health, nutrients, balanced diet, exercise, carbohydrates, vitamins, minerals, proteins, fats, essential nutrients, rest, water, food, feelings, audio-recording, story