

Tentative Task for Lesson Study on Cross Border Education in Relation to STEM and Energy Efficiency

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Goal of Lesson Study

To develop students' mathematical thinking and appreciation of the importance of energy efficiency and conservation

Philippines



Luzon

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KAMUNING Q. C.-KAMUNING METRO MANILA

KAMUNING BUS CENTER
 EPIFANIO DE LOS SANTOS AVE
 Q. C.-KAMUNING
 Tel. No. 924-1000
 TIN -000-101-528-000-VAT
 95515

MERALCO
 Ang liwanag ng bukas

FR OF PR K7-401
 3332R03643 31400000100
 INV NO.314112130471
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Service Info

Service ID Number : 513655801-5
 Rate : Residential
 Contract in the name of :
 Service Address :
 KAMUNING, Q. C.-KAMUNING
 METRO MANILA

Billing Info

Bill Date : 12 DEC 2011
 Billing Period : 12 NOV 2011 to 12 DEC 2011
 Due Date : 21 DEC 2011
 Total kWh : 111
 Total Current Amount : ₱ 1,196.65

Billing Summary

BILL SUBGROUP	SUBTOTAL	PERCENTAGE
Generation	617.51	51.6%
Transmission	128.42	10.7%
System Loss	74.43	6.2%
Distribution (Meralco)	238.53	19.9%
Subsidies	15.98	1.3%
Government Taxes	108.58	9.1%
Universal Charges	13.19	1.1%
Other Charges	0.00	0.0%
Total	1,196.65	100.0%

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Your monthly electricity consumption chart

Average Usage for 12 month/s
 119 kWh per month
 ₱ 38.94 per day

Study the two electric bills. Formulate different questions whose answers may be based on the data from the electric bills.

Visayas

No : 48XXXXX
 Call Center : (032) 230-8326
 E-mail : info@veco.com.ph

VECO

No 33XXXXF
 Date : 01-19-2009
 Batch: 4/928.0/27720/0301442 R
 D. Jakosalem Street, Cebu City

VAT REG. TIN: 000-XXXX-XXXX-000
 Collection Ref. Code : 1813-XX-XXX-X
 Account Number : 146XXXXA

Customer Information
 JUAN DELA CRUZ T.
 LABOGON, MANDAUE CITY

Metering Information
 Period To : 01-15-2009 Prev. Rtg : 2722.1
 Period From : 12-16-2008 Prev. Rtg : 2702
 No of Days : 30 Diff Rtg : 20.1
 Avg kWh/Day : 53.60 Registered : 1608
 Conn Load : 16783.9 Billed kWhr : 1608

Power Metering Information
 Meter No : 128XXXXX Pole No : 80XXXXX
 Serial No : 281XXXXX M/A : 80
 Demand : Prev Reading : 40.103 Prev Reading : 39.449 Consumption : 52.320
 kWhr : 2722.100 2702.000 1608.000
 Billed Demand : 52.320 Billed KVAR :

Rate Schedule : 50 Type : Schedule V-P: Bulk Power

PREVIOUS BALANCE 0.00

CURRENT CHARGES 8

Generation & Transmission		
Generation Charge	3.2837/kwh	5,280.19
Transmission Charge	222.39/kw	11,635.44
System Loss Charge	0.2382/kwh	383.03
Sub-Total		17,298.66
Distribution Revenues		
Distribution Charge	151.09/kw	7,905.03
Supply Charge	128.26/month	128.26
Metering Charge	661.93/month	661.93
CERA	0.0034/kwh	5.47
ICERA	0.027/kwh	43.42
Sub-Total		8,744.11
Others		
Subsidy on Lifeline Charge	0.0831/kwh	133.62
Income Tax Refund	-0.0346/kwh	-55.64
Sub-Total		77.98
Government Revenues		
Franchise Tax - Local		120.60
Value Added Tax		
Generation		255.70
Transmission		1,326.17
System Loss		23.58
Distribution		1,043.42
Others		25.02
Universal Charge		
Missionary Electrification	0.0373/kwh	59.98
Environmental Charge	0.0025/kwh	4.02
Sub-Total		2,868.49
CURRENT BILL - JANUARY 2009		26,989.24
TOTAL AMOUNT DUE		26,989.24
Please Pay on Due Date - 02/03/2009		
LAST PAYMENT - JANUARY 5, 2009	40,904.38	

For error-free and fast transactions, please present your VECO bill upon making payment for barcode scanning.

Scanning your barcode will accurately system generate your account number, which will prevent the posting of your payment to other accounts, likewise resulting to the faster processing of your payment. ... a courtesy for others waiting in line.

Thank you.

Your monthly electricity consumption chart

AVG Monthly Usage : 4,910.77 kWh/month

Study the two electric bills. Formulate different questions whose answers may be based on the data from the electric bills.

Task: Electric Bill Analysis

- A. Within the Philippines (Luzon and Visayas)
 1. Compare the components of the bill where the sources of the electric supply are different.
 2. Describe the components of the electric bill.
 3. Show how the bill is computed.
 4. Reflect on the implications of their findings to their daily practice related to use of electricity.

- B. Possible Cross Border Education with Thailand and Malaysia

Electric Bill Charges

- Generation charge – the cost of generating electricity. This goes to the power generators
- Transmission charge – the cost of delivering electricity from generators
- Systems Loss – recovery of power lost due to technical and non-technical systems losses
- Taxes, subsidies and universal charges (VAT)