

1-14-13

Date

Pay to the  
Order of

Mr. Advanced Coals

\$

1835913

One million eight hundred thirty-five  
thousand nine hundred thirteen

Dollars

For

advance coal

|:122105278|:

6724301068"

2400"

territory manager  
Cathy Rindal

1-14-13

Date

Pay to the  
Order of

Harry's Hydro

\$

3,063,978

three million sixty-three thousand nine  
hundred seventy-eight

Dollars

For

Hydro

|:122105278|:

6724301068"

2400"

territory manager  
Cathy Rindal

1/14/13

Date

Pay to the  
Order of

Garry's geothermal

\$

6,007,800

Six million Seven thousand eight hundred  
One hundred twenty

Dollars

For

Geothermal

|:122105278|:

6724301068"

2400"

territory manager  
Cathy Rindal

1/14/13

Date

Pay to the  
Order of

Uncle Wally's wind turbines

\$

4,145,382

four million one hundred forty-five thousand  
three hundred eighty-two

Dollars

Emm  
F.B.R.U.D.H.Y.Y.S

## Materials List

Check all that apply

T	S	Exceptional	T	S	Proficient	T	S	Not Yet Proficient	T	S	Experiencing Difficulty
✓	✓	Very organized and informative		✓	Organized and informative			Somewhat organized and informative	✓		Not organized or informative
✓		Materials are explained in full detail (Ex-size, shape, how much etc.)		✓	Materials are explained in detail			Materials are explained			Lacks explanation of materials
✓		Group members responsibilities are fully explained in terms of materials. (Ex- who will bring what, by when, how, etc.)		✓	Group members responsibilities are explained in terms of materials.			Some group members responsibilities are explained.			Lacking an explanation of group member responsibilities.
✓	✓	Draft of key is precise and thorough.			Draft of key is precise and mostly thorough.			Draft of key is somewhat precise and/or thorough			Draft of key is neither precise nor thorough

Comments:





95%

well done      Make sure to revise as things change!

Emma

PUE 16

## F. b. R. u. D. H. Y. Y. S. Materials List

Material Explanation	Quantity	Group Member Responsible	For Creation Of...	Symbol in Key
NOV PAPER	20	Noah Carter	Volcano	X
GREEN TAPE	1 roll	Amanda	inside volcano	✓X
blue tissue paper	1 pack	Carter	water	W
Flower	5 small bag	Amanda	Land	
aluminum foil	1 bag	Amanda	Jail	
egg cartons	5	Noah Carter	peaches	W
clay	1 bag	Emma	mountain	X
cardboard boxes	a few	Clair	hospitals	
peacher	1	Carter	paper masha	X
toilet paper rolls	abundant	Carter	stuff?	
paint	abundant	Ms. Perrin	coloring	all of stuff
clear wrapping	1 roll	Noah	water	W

# Team 1- Green

## Geography:

Geographic coordinates: 14° S, 170° W

Area: total: 199 sq km

land: 199 sq km

water: 0 sq km

Area - comparative: slightly larger than Washington, DC

Coastline: 116 km

Climate: tropical marine, moderated by southeast trade winds; annual rainfall averages about 3 m; rainy season (November to April), dry season (May to October); little seasonal temperature variation

Terrain: volcanic with rugged peaks and limited coastal plains, two coral atolls

Elevation extremes: lowest point: 0 m

highest point: 964 m

Natural hazards: typhoons common from December to March

volcanism: limited volcanic activity

Environment - current issues: limited natural freshwater resources; the water division of the government has spent substantial funds in the past few years to improve water catchments and pipelines

Geography - note: has one of the best natural deepwater harbors because it is sheltered by shape from rough seas and protected by peripheral mountains from high winds.

## People, Society, and Economy

Population: 54,947

Population growth rate: -0.44%

Gross Domestic Product: \$462.2 million

Taxes and other revenues: 33.6% of GDP (FY07)

## Energy at Present

Electricity - production: 190 million kWh

Electricity - consumption: 176.7 million kWh

Electricity - exports: 0 kWh

Electricity - imports: 0 kWh

Electricity - from fossil fuels: 100% of total installed capacity

Electricity - from nuclear fuels: 0% of total installed capacity

Electricity - from hydroelectric plants: 0% of total installed capacity

Electricity - from other renewable sources: 0% of total installed capacity

Crude oil - production: 0 bbl/day

Crude oil - exports: 0 bbl/day

Crude oil - imports: 0 bbl/day

Crude oil - proved reserves: 0 bbl

Refined petroleum products - production: 0 bbl/day

Refined petroleum products - consumption: 5,115 bbl/day

Refined petroleum products - exports: 0 bbl/day

Refined petroleum products - imports: 2,697 bbl/day

Natural gas - production: 0 cu m

Natural gas - consumption: 0 cu m

Natural gas - exports: 0 cu m

Natural gas - imports: 0 cu m

Natural gas - proved reserves: 0 cu m

Carbon dioxide emissions from consumption of energy: 688,800  
Metric tons

Green 1

87%

91%

# Budget Rubric

Check all that apply

T	S	Exceptional	T	S	Proficient	T	S	Not Yet Proficient	T	S	Experiencing Difficulty
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Very organized and informative	<input type="checkbox"/>	<input type="checkbox"/>	Organized and informative	<input type="checkbox"/>	<input type="checkbox"/>	Somewhat organized and informative	<input type="checkbox"/>	<input type="checkbox"/>	Not organized or informative
<input type="checkbox"/>	<input checked="" type="checkbox"/>	All statistics are completely accurate and taken from data provided to your group.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All statistics are accurate.	<input type="checkbox"/>	<input type="checkbox"/>	Most statistics are accurate.	<input type="checkbox"/>	<input type="checkbox"/>	Some statistics are inaccurate.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All math equations have been written out and are completely accurate.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All math equations are completely accurate.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Most math equations are accurate.	<input type="checkbox"/>	<input type="checkbox"/>	Math equations are lacking in accuracy.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	All purchases have been accounted for and are described in terms of cost.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Most purchases have been accounted for and are described in terms of cost.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Most purchases have been accounted for.	<input type="checkbox"/>	<input type="checkbox"/>	Some purchases have been accounted for, but some may be missing from budget.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Budget stays within means of spending, or loans have been applied for in a timely manner and received.	<input type="checkbox"/>	<input type="checkbox"/>	Budget stays within means of spending, or loans have been applied for and received.	<input type="checkbox"/>	<input type="checkbox"/>	Budget stays within means of spending, or loans have been attempted.	<input type="checkbox"/>	<input type="checkbox"/>	Budget does not stay within means.

Comments:

Your accounting sheet is off due to your balance being incorrectly recorded.

\* Great work with your math recorded on the last page  
\* Your entire balance sheet needs to be redone because of a mistake at the beginning

	Date	Transaction	Credit	Debit	Balance
1	1/11/13	Geo thermal		600 7800	9,563,718
2	1/11/13	Wind		4,145,382	5,418,336
3	1/11/13	hydro		3063978	2,354,358
4	1/11/13	Advanced coal		1835913	518,445
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

This #  
does not  
match your  
math on  
the next  
page

This is  
correct but  
you have  
started with  
the wrong #

Due 14

## Develop A Budget

Ideally cities develop a budget that is well within their means. If this project your group has been given a city to construct from scratch. It is rare that a city would build a power grid from the ground up.

As leaders of your city it is your responsibility to use only the funds available to you. Given that the cities revenues are the result of taxes.

And that your cities have expense outside of build a power grid. It is more then far to assume that 10% of your revenues are lost!

Group Number, Color & Name: Green FBKUDH YYS		
Population	541,947	
Growth	-0.449%	7
GDP	\$462.2 million	
Tax Revenues %	33.690	
Total Revenues: (Math: GDP *Tax)	15,571,518.00	
Electric Production kWh	199 million kWh	
Electric Consumption kWh	176.7 million kWh	

Divide Total Tax Revenue by 10 - To find budget

<b>Budget Available:</b>	1,557,151.80
--------------------------	--------------

Change kWh to Mega Watt divide by 1000

<b>MWh of Current Consumption:</b>	176,700
------------------------------------	---------

## Loans

If your city runs out of money then there is only one option apply for a loan from the Federal Reserve Bank. Loans are not just 'given' out. Loans must be justified. A team applying for a loan must prove that the money will be: 1) Well spent, 2) Not lost, 3) Wise, and 4) Profitable.

Geothermal 40% MWh 40% Geothermal MWh

$$176,700 \times 0.40 = 70,680$$

Main Energy source

\$6,007,800

Geothermal cost per MWh MWh Price

$$85 \times 70,680 = 6,007,800$$

Wind 30% MWh 30% Wind MWh

$$\text{Supplemental Energy source } 176,700 \times 0.30 = 53,010$$

\$4,145,382

Wind cost per MWh MWh Price

$$78.2 \times 53,010 = 4,145,382$$

Hydro 30% MWh 30% Hydro MWh

$$\text{Supplemental Energy source } 176,700 \times 0.30 = 53,010$$

\$3,063,978

Hydro cost per MWh MWh Price

$$57.8 \times 53,010 = 3,063,978$$

Advanced Coal 10% MWh 10% AC MWh

$$\text{Backup energy source } 176,700 \times 0.10 = 17,670$$

\$1,835,913

AC cost per MWh MWh Price

$$103.9 \times 17,670 = 1,835,913$$

Nice work!

Green uno

90%

Why do you think you're the teachers??

# Power Grid Plan

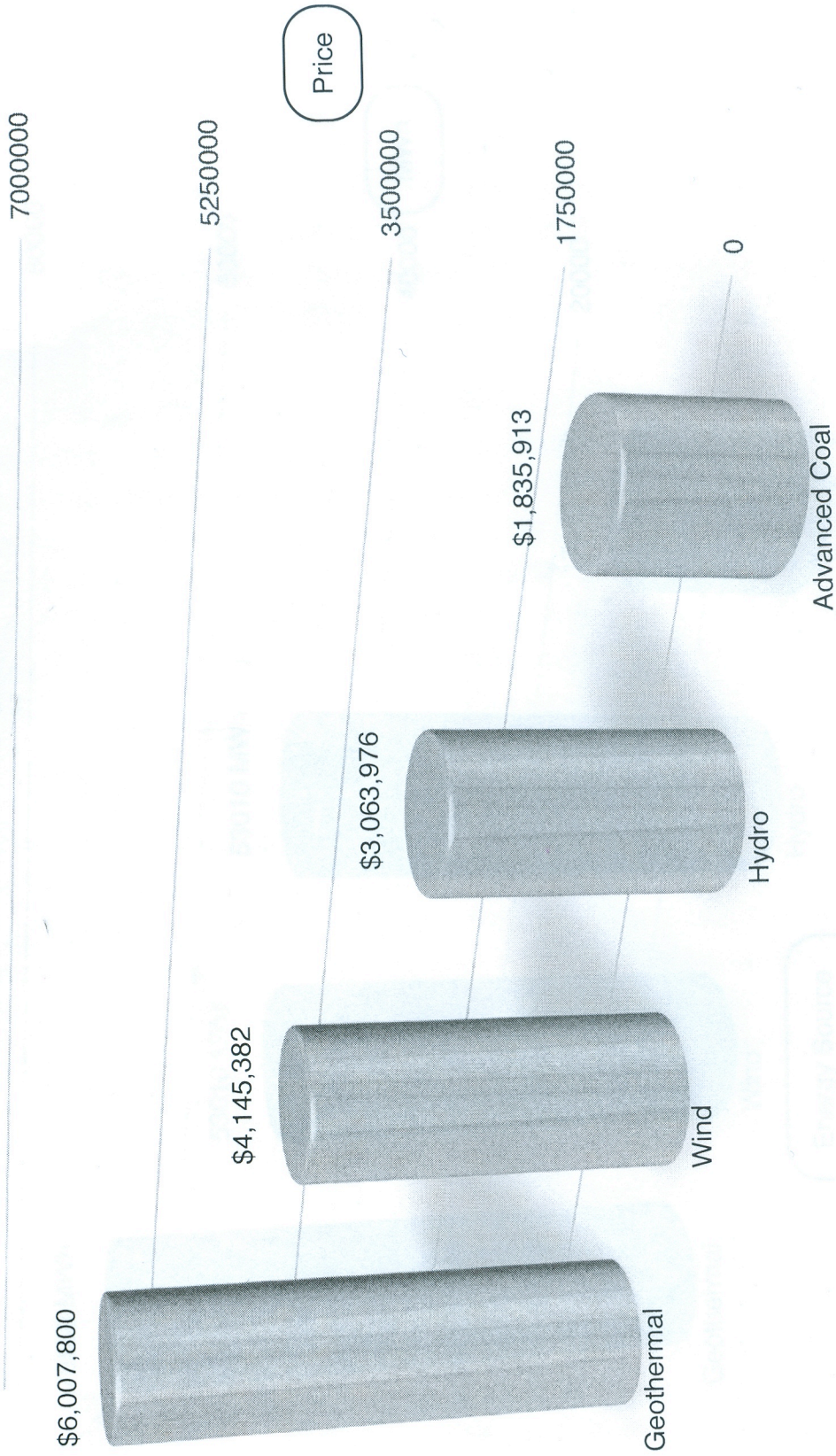
Check all that apply

T	S	Exceptional	T	S	Proficient	T	S	Not Yet Proficient	T	S	Experiencing Difficulty
	✓	Very organized and informative		✓	Organized and informative			Somewhat organized and informative			Not organized or informative
	✓	Energy production is accurately graphed by source and money spent.		✓	Energy production is graphed by source and money spent			Energy production is graph includes source or money spent			A graph has been attempted.
	✓	A detailed written report provides rationale for each source including advantages and disadvantages.		✓	A written report provides a rationale for chosen sources including advantages and disadvantages			A written report provides a rationale for chosen sources			A written report attempts to provide a rationale for chosen sources
		Illustrated blueprint of grid, including source production capacity, overlays geographic layout.		✓	Illustrated blueprint of grid overlays geographic layout			Illustrated blueprint of grid has been completed			Illustrated blueprint of grid has been attempted
	✓	Blueprint symbols and key are detailed, well thought out, and easily read.		✓	Blueprint symbols and key are detailed, and easily read.			Blueprint symbols and key are easily read.			Blueprint symbols and key are present.
		Blueprint is accurate and informative in terms of size, quantity and location of power sources.		✓	Blueprint is accurate in terms of size, quantity and location of power sources.			Blueprint attempts to show sources in terms of size, quantity or location.			Blueprint is missing size, quantity and location of power sources.

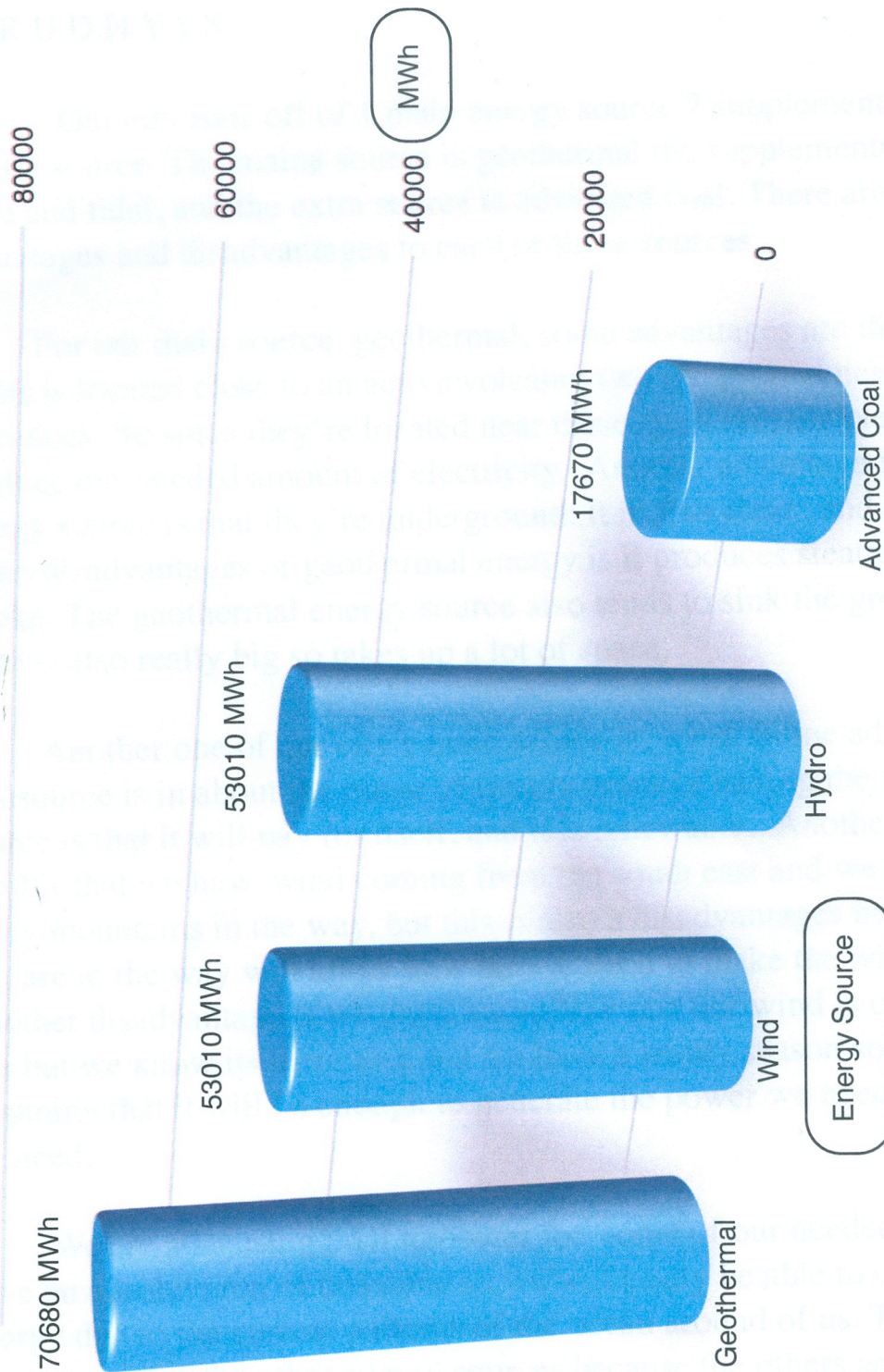
## Comments:

- \* Title Graph & label X-axis
- \* Possibly make your geothermal plants bigger in your board
- \* Why put tidal where your Coral Atoll is located?

Group 1 Green F.B.R.U.D.G.Y.Y.S



Group 1 Green F.B.R.U.D.H.Y.Y.S



## F.B.R.U.D.H.Y.Y.S

Our city runs off of 1 main energy source 2 supplemental sources and 1 extra source. The main source is geothermal the supplemental sources are wind and tidal, and the extra source is advanced coal. There are many advantages and disadvantages to each of these sources.

For our main source, geothermal, some advantages are that one of our 3 plants is located close to an active volcano, two are located near inactive volcanoes. So since they're located near these spots there is plenty of heat to produce our needed amount of electricity. Another advantage to using this energy source is that they're underground. It is also clean, and renewable. Some disadvantages of geothermal energy is it produces steam instead of smoke. The geothermal energy source also tends to sink the ground, The plant is also really big so takes up a lot of space.

Another one of our city's main source is, wind. Some advantages of this source is in about the range of twenty years of having the wind energy source is that it will pay for itself, and it is renewable. Another advantage of wind is that we have wind coming from the south east and we don't have too many mountains in the way, but this is also a disadvantages because the ones that are in the way will affect how big we need to make the wind farm. Another disadvantage is we don't know how fast our wind is or how constant it is but we know its there and that we have a windy season so we are assuming that it will be enough to generate the power we need to get the 30% we need.

We are also using tidal to power for some of our needed electricity. We have an absolute ton of coastline so we will easily be able to capture tidal energy due to the current patterns of the ocean around of us. This is a great advantage over the other energy sources because the others are more selective over where they can be placed. The disadvantage is that currents are not always gonna be in our favor so it is a little selective over where we can place our plants but this is still better then other sources.

Our last energy source is advanced coal, this has big advantages over conventional coal but still not the amount that other sources have. We are using this as a pure back up source so incase something would happen we would still have electricity to power the city. The disadvantages is that it still produces  $CO_2$  and harming the environment but this will be a drastically less number of pounds then before all of the changes.

- Comments:
- 1. Tell me what a label is and why
  - 2. How big must your questionnaire be? Is it larger or your source?
  - 3. How far back should you look? How far back?

Biweekly City Report 1/17

Group Name: F.B.R.U.D.K.S

Date: 1-16-13

Rate your group 1-10 (10 being the highest) on each item

We worked cooperatively.

10

We completed the assignments that were due.

9

We respected others and their opinions.

10

We used quiet voices.

6

We stayed on task.

9

We listened when others were talking.

10

We didn't bother others while they were working.

9

We all added information and posed questions while working.

9

We filled this sheet out thoughtfully.

10

This is what we learned in Green and Gold so far this week (give examples).

We learned in the Green group that the  
map on the board is much smaller than  
we thought it would be.

Describe exactly what your group have done in order to try and reach your goals since your last report.

we are doing our map and starting  
to put the volcano on the maps.  
~~And putting the volcano on the map~~  
And taping the volcano on the map *good*

Explain something that another member of your group has contributed to the project that you found interesting.

Something interesting is that we  
have to make the items smaller  
than we thought it would be

How do you all feel about the progress you are making on your project?

We feel that we are a little behind  
in the regions that we have to do.

☒ Ms. Hutt and Miss Pepin agree with this report

☐ Ms. Hutt and Miss Pepin disagree with this report and would like to conference with you about it.

Biweekly City Report 1/22

Group Name:

F.B.R.U.D.H.Y.Y.S

Date:

Rate your group 1-10 (10 being the highest) on each item

We worked cooperatively.

10

We completed the assignments that were due.

8

We respected others and their opinions.

10

We used quiet voices.

7

We stayed on task.

9

We listened when others were talking.

10

We didn't bother others while they were working.

10

We all added information and posed questions while working.

9

We filled this sheet out thoughtfully.

10

This is what we learned in Green and Gold so far this week (give examples).

The Green group we learned ~~so far~~  
that it's hard to make houses. "

Describe exactly what your group have done in order to try and reach your goals since your last report.

We have done everything else and  
now we are doing the houses and  
power plants and business area

Explain something that another member of your group has contributed to the project that you found interesting.

Something interesting is the water looks wavy  
and textured + tumultuous

How do you all feel about the progress you are making on your project?

We feel like we are a little behind.

Why? How can you catch up?



Ms. Hutt and Miss Pepin agree with this report

Ms. Hutt and Miss Pepin disagree with this report and would like to conference with you about it.

# Biweekly City Report 1/8

Group Name: F.B.R.U.D.H.Y.Y.S Date: 1-7-12

Rate your group 1-10 (10 being the highest) on each item

We worked cooperatively.

10

We completed the assignments that were due.

8

We respected others and their opinions.

10

We used quiet voices.

10

Oh no  
Quiet down!

We stayed on task.

8

We listened when others were talking.

6

Room for improvement  
here

We didn't bother others while they were working.

8

We all added information and posed questions while working.

10

We filled this sheet out thoughtfully.

10

This is what we learned in Green and Gold so far this week (give examples).

we learned there are two coral cmed 199 sq km  
SO what...

Describe exactly what your group have done in order to try and reach your goals since your last report.

We have done the island/place and started to do the  
scale on the map.

good

Explain something that another member of your group has contributed to the project that you found interesting.

Found a good describing of a coral

who contributed this?

How do you all feel about the progress you are making on your project?

We think it is going good.

Why?



Ms. Hutt and Miss Pepin agree with this report

Ms. Hutt and Miss Pepin disagree with this report and would like to conference with you about it.

Biweekly City Report 1/10

Group Name: E.B.R.O.D.H.Y.Y.S

Date: 1-9-12

Rate your group 1-10 (10 being the highest) on each item

We worked cooperatively.

We completed the assignments that were due.

We respected others and their opinions.

We used quiet voices.

We stayed on task.

We listened when others were talking.

We didn't bother others while they were working.

We all added information and posed questions while working.

We filled this sheet out thoughtfully.

9  
10  
10  
10  
10  
10  
9  
10  
10

Will work on this -> 2

This is what we learned in Green and Gold so far this week (give examples).

We learned in green group is that how many money we have that we can spend.  
And what did you find?

Describe exactly what your group have done in order to try and reach your goals since your last report.

We finished drawing the Map, and the Key and started to do the resources.

Explain something that another member of your group has contributed to the project that you found interesting.

We found out what we are going to use for resources And that is ...  
And why is it interesting

How do you all feel about the progress you are making on your project?

We are feeling confident and of the project  
Why?

\_\_\_\_\_ Ms. Hutt and Miss Pepin agree with this report

\_\_\_\_\_ Ms. Hutt and Miss Pepin disagree with this report and would like to conference with you about it.

Get more details from these answers

Green 7

Biweekly City Report 1/15

Group Name:

F.B.R.V.D.H.K.S

Date:

1-14-12

Rate your group 1-10 (10 being the highest) on each item

We worked cooperatively.

9

We completed the assignments that were due.

10

We respected others and their opinions.

10

We used quiet voices.

4

Shoot for  
a 10

We stayed on task.

8

We listened when others were talking.

9

We didn't bother others while they were working.

10

We all added information and posed questions while working.

10

We filled this sheet out thoughtfully.

10

10

10

This is what we learned in Green and Gold so far this week (give examples).

We learned in Green group is the amount  
for the MW in each power plant? mid specifically

Describe exactly what your group have done in order to try and reach your goals since your last report.

We have finished doing the checks, the  
chart graph, and also we finished the blue  
print. And we started the ~~adote~~ disadvantage and  
advantages.

Explain something that another member of your group has contributed to the project that you found interesting.

Something interesting in our is that ~~finished~~  
the ~~work~~ we made the power plant's places, and  
the warm water and why because there's a world pool.

How do you all feel about the progress you are making on your project?

We feel confident because we are on  
task, and on track on our work.

☒ Ms. Hutt and Miss Pepin agree with this report

☐ Ms. Hutt and Miss Pepin disagree with this report and would like to conference  
with you about it.