East Renfrewshire Council: Education Department
Practitioner Moderation Template
St Luke's Cluster
Moderation session 1 2018/2019

School	T
Practitioner	S95
Curriculum Area(s)	Science and Maths
Level	Second Level
Stage(s)	Primary 7
Specific subject (if applicable)	Space and Data Handling

Experiences and Outcomes:

- I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way. MNU 2-20b

- By observing and researching features of our solar system, I can use simple models to communicate my understanding of size, scale, time and relative motion within it. SCN 2-06a

Learning Intentions:

- To research features of the solar system.

- To collate, organise and communicate the results of an investigation in an appropriate way.

Success Criteria:

- I can gather information by taking notes from a video.
- I can gather information by searching websites on the internet.
- I can collate my information in an organised table with appropriate headings using a spreadsheet.
- I can use a spreadsheet to create a bar graph with an appropriate title, scale, and axis labels.
- I can write a paragraph describing the results of my investigation.
- I can create a display communicating the results of my investigation clearly in at least 3 different ways.

Briefly outline the context and range of quality learning experiences that could be provided making reference to the chosen design principles.

- Overarching Design Principles:
    - Breadth and depth – Numeracy and Mathematics skills were used in an IDL context whilst developing knowledge and skills in Scientific research and analysis, Literacy and English (note taking), and ICT.
    - Personalisation and choice – each individual chose the aspect of space they wished to focus on.

- Enjoyment – heavily ICT based lessons catering to class' interests.
- Coherence – opportunities were created by making links across a variety of curricular areas as mentioned above.
- Relevance – pupils had been discussing

- Lesson 1
  Design Principles:
  Challenge – gathering research information from videos.
  Pupils had to use note-taking skills to gather information (at least 3/4/5 pieces of info per video depending on literacy groups) on the solar system from Tig-Tag videos.
  Children then worked in small groups to create a mind map of the different types of information they had gathered.
  Groups reported back to the class and a class mind map was created.

- Lesson 2
  Design Principles:
  Challenge – through class discussion, pupils were to identify a number of methods for displaying information and communicating results of research. Children identified table, graph/chart and a written summary.
  After displaying an example table, graph and summary on how long a day is on each planet, children were asked to: use the internet to research how long a year is on each planet; collate the results in a table using a spreadsheet; create a clear and appropriate graph/chart to communicate the results; and write a summary paragraph on the results.
  Application – applying previous knowledge of tables to create an appropriate one to collate the information gathered using a spreadsheet.
  Challenge – children were required to use problem solving skills to overcome challenges such as:
    - Converting gathered data to a common unit of measurement to overcome formatting issues and ensure their graphs were not misleading.
    - Further formatting issues.

- Lesson 3
  Design Principles:
  Challenge – children were introduced to comparative graphs and asked to consider their positives and negatives. Children were then challenged to consider how and whether any of two comparative graphs were misleading, reinforcing the need for clarity and appropriate features in charts.
  Application – children were asked to create a display (one slide) of completed work (investigation question, table, chart and summary paragraph, etc) ensuring that all clearly communicated their results without being misleading.
  Challenge – children were additionally challenged to consider where they could add a comparative element to their charts.

  The pupils later had the idea of combining all of their slides into a whole-class slide show presentation to communicate their research findings.

Record the range of assessment evidence that could be gathered to meet the success criteria (Say, Write, Make, and Do) considering breadth, challenge and application.

- Write – research notes from a variety of sources.
- Say - Collaborative working during group discussion and mind-map exercise. Discuss possible focus areas for research and name appropriate methods to communicate the results.

- Do - carry out research using internet search engines.
- Make – an organised table with appropriate headings (using spreadsheet)
- Make – a graph with an appropriate title, scale and axis labels (using spreadsheet).
- Write – a short summary paragraph to communicate research results.
- Say – identify how certain graphs may be misleading.
- Make – a display showing at least 3 methods of communicating the results of research.

Lesson 2 graphs, tables and summaries were assessed based on success criteria through a mixture of teacher assessment, peer-assessment and self-assessment. Some were assessed on-screen by the class as a whole based on the success criteria.

Continuous oral feedback and support offered throughout lessons. Scaffolding for pupils and focussed teacher support provided differentiation. Next steps and written feedback provided on completion of tasks.

Pupil Voice: How could you capture pupil voice?

- Pupils discussed learning intentions and created their own success criteria through a "fill in the blanks" scaffolded method.
- Pupils chose their own individual focus area for their research.
- The pupils had the idea of combining all their slides into a whole-class slide show presentation to communicate their research findings as a whole.

What have you learned?

"I have definitely learned the elements of all eight planets. I have learned how to turn basic notes and information from a lot of different sources into a poster with a graph, a table and a paragraph."

How did you learn?

"We went through a presentation then we used our research skill on different websites. We collaborated as a class. Going through a few different examples of graphs helped me see which way is best to show my information clearly.

"I had to overcome turning my data from days into years and make sure the computer recognised it as a number."

What skills have you developed?

"I have definitely developed my research skills. I think I'm better at finding good sources and I have developed my skills using Google Sheets and Google Slides. I have also developed my skills to organise my table and graph into one poster with a paragraph. I think my poster's layout was well laid out. It helped me communicate my information clearly to the class."

Lesson 1

Space

4th December 2018

LI: to research features of the solar System.
8 Planets

- Mercury
- 58,000,000
- Smallest Planet
- Night -180° Day 450°
- Iron & Rocks

The 4 closest Rocky Planets
Earth

- Mostly Water
- Only planet with Life
- 71% Water
- 29% Land
- Unpredictable Whether

Gas Giants

Jupiter
- 778,000,000km
- Largest
- Mas Greater than all planets
- Storm GRS bigger than Earth

Venus
- No Water
- Volcanoes
- E-W oppisite
- Closest to Earth
- Hottest
- 108,000,000

Excellent notes!
You have gathered great info.
What would you like to research further?

Mars
- Red Planet because of Dust
- Huge volcano x2 to Everest
- Cannoen 2 days to drive it's Lenght
- Men

Satern
- 2nd biggest Made of Gas
- Water, Ice, Rocks small-G
- 2 Rings

Uranus
- -224° coldest
- Made of Gas

Neptune
- 4.5 billion km 165 years to Orbit
- Wind faster than any hurricane on Earth

Lesson 2

fx | Orbit

	A	B	C	D	E	F	G	H	I	J
1	Orbit	Planets								
2	0.24 years	Mercury								
3	0.62 years	Venus								
4	1 years	Earth								
5	1.9 years	Mars								
6	12 years	Jupiter								
7	29 years	Saturn								
8	84 years	Uranus								
9	165 years	Neptune								
10										
11										
12										
13										
14										
15										
16										
17										
18										

No data

Pupil used numeracy and problem-solving skills to realise that all orbit periods needed to be measured in the same units to ensure accuracy. Successfully converted first 4 entries from days to years.

Pupil required support to overcome formatting problem of having text in one field.

After feedback the graph below was produced.

	A	B	C	D	E	F	G	H	I
1	Earth Years	Planets							
2	0.24	Mercury							
3	0.62	Venus							
4	1	Earth							
5	1.9	Mars							
6	12	Jupiter							
7	29	Saturn							
8	84	Uranus							
9	165	Neptune							
10									
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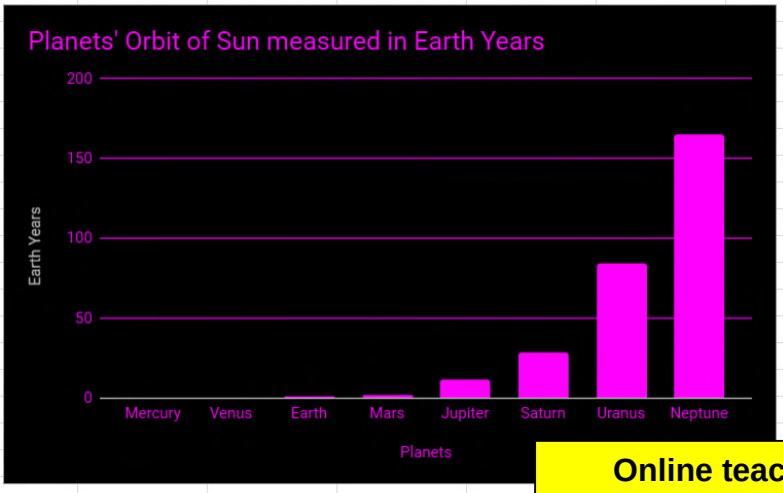


Online teacher feedback

Length of a Year on Each Planet **17th December 2018**

LI:

- **To research features of the solar system.**
- **To collate, organise and communicate the results of an investigation in an appropriate way.**

The Length of a year on each planet I actually measured in Eearth years ~~so~~ Ffirst Mercury is 88 days which is 0.24 years to orbit the Sun. Next Mars ~~Next~~ is 0.9 years in our time and with Venus it is 0.62 measured in our time. We all know A year is 365 days and Jupiter takes 12 years to orbit the Sun. After that Saturn is 29 years, ~~t~~Then Uranus 84 years and last is Neptune which takes the longest and is 165 years.

D Farrell 21:14 Today
Replace: *"f"* with *"F"*

D Farrell 21:11 Today
Add: *"Next"*

D Farrell 21:11 Today
Delete: *"Nex"*

D Farrell 21:13 Today
Replace: *"T"* with *"t"*

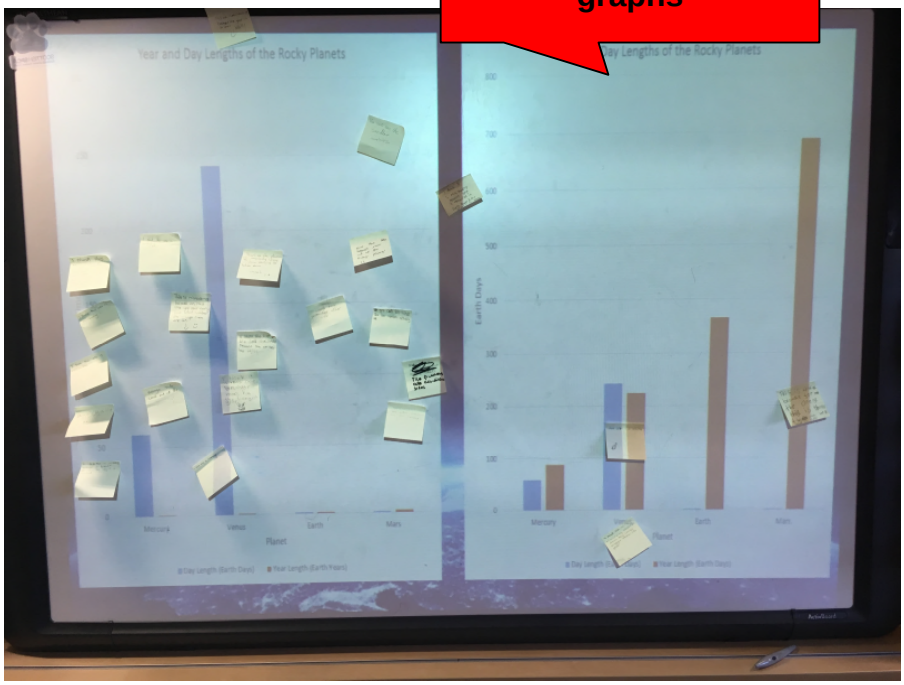
Fantastic! You have a well-laid out table with suitable headings.

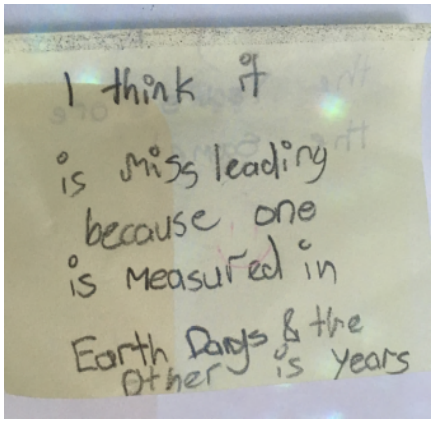
Your graph is very clear with all of the necessary features. Next time think about using your investigation question as the heading.

Your summary paragraph is excellent! Why do you think the orbit time gets longer as you move through the planets in order?

Lesson 3

Identifying misleading graphs





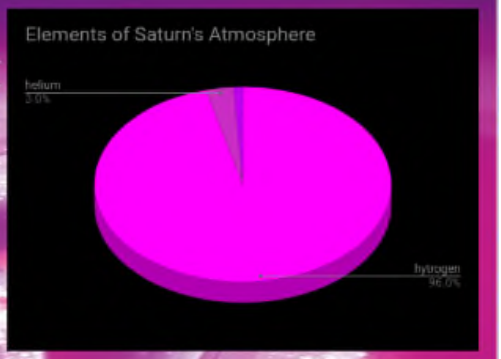
Final Display

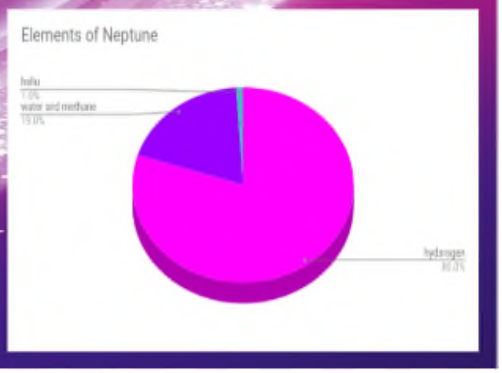
Elements Of Saturn vs Neptune

Elements of Saturn	Percentage
Hydrogen	96%
Helium	3%
Other	1%
Elements of Neptune	Percentage
Hydrogen	80%
Water and Mathane	19%
Helium	1%

Elements of Saturn are not solid they are Gas because Saturn is a Gas Giant not a rocky planet. Saturn is made up of 96% hydrogen, 3% helium and 1% other.

The Elements Of Neptune are not solid they are liquid and a gas because Neptune is a Gas Giant not a rocky planet and made up of 80% hydrogen, 19% water and methane and 1% helium.





Online teacher feedback

D Farrell 21:19

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