

East Renfrewshire Council: Education Department
Practitioner Moderation Template



Prior to the moderation exercise, please complete the following information and submit it to your facilitator with assessment evidence from one learner that you judge to have successfully attained the Es' and Os'.

Experiences and Outcomes:

SCN 3-13a Using a microscope, I have developed my understanding of the structure and variety of cells and their functions

SCN 3-13b I have contributed to investigations into the different types of microorganisms and can explain how their growth can be controlled.

SCN 3-13c I have explored how the body defends itself against disease and can describe how vaccines can provide protection.

Inquiry and investigative skills

- Plan and design scientific investigations and enquiries
- Carry out practical activities
- Analyse, interpret and evaluate scientific findings
- Presents scientific findings

Learning Intentions:

- Discover the structure, function and variety of cells.
- Investigate microorganisms and their growth.
- Explore how we can defend ourselves against disease.

Success Criteria (S.C.):

S.C. 1: Identify the structure and function of plant and animal cells.

S.C. 2: Select and present information, about how the structure of specialised cells helps them to carry out their specialised functions.

S.C. 3: Investigate the conditions and chemicals that can promote and restrict the growth of micro-organisms.

S.C. 4: Research and present information about disease, infection, the immune system and how vaccinations work to protect us from diseases and infections.

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

Task 1 for S.C. 1 This task follows a series of lessons looking at the structure of plant and animal cells, and the functions of cell organelles. Pupils were tasked with making a model cell from any materials found at home. Differentiated success criteria were given for the model, as seen from 'Evidence for S.C. 1.'

Task 2 for S.C. 2 Pupils took part in an active learning task 'Cells Careers Fair' where they were to select relevant information about the structure and function of specialised cells and write the correct facts on their record sheet.

Task 3 for S.C. 3 Pupils planned and carried out scientific inquiry into the effect of toothpaste on growth of microbes. Pupils identified variables, with prompts, and planned a valid test. Pupils then carried out the investigation, following a method and collected their results. Results were displayed in a graph and analysed, forming conclusions. The investigation was evaluated together in the form of a discussion, and pupils recorded the key ideas.

Task 4 for S.C. 4 Pupils firstly carried out a structured research task, as detailed in 'Task information for S.C. 4' and then presented their information, one to one, at a Cells Conference. Pupils engaged in a self-assessment task of their research product and then evaluated each other's work following their presentation carousel. Pupils were encouraged to ask each other questions when assessing each other.

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

Task 1 for S.C. 1 - Make a model cell and describe the structure and function of cell organelles - verbally or written. A creative task to incorporate application of knowledge.



★ Peer Assessment of Model Cells ★

Reviewer	Reviewer	Reviewer	Reviewer	Reviewer	Score
David	✓	✓	✓	✓	3
Ali	✓	✓	✓	✓	4
Robbie	✓	✓	✓	✓	4
Robert	✓	✓	✓	✓	4
Michael	✓	✓	✓	✓	3/4
Michael	✓	✓	✓	✓	3/4
Amelia	✓	✓	✓	✓	4/4

★ Peer Assessment of Model Cells ★

Two Stars and a Wish Comments

Reviewer	Reviewer	Reviewer	Reviewer
Robbie	Very creative, colorful and smart.		
Robbie	Very creative, colorful and smart.		
Michael	Very creative & smart. Really nice model.		
Amelia	Great job.		
Ali	Very creative and smart.		

Creativity shown in producing the model cell. All structures are correctly identified. Descriptions have been peer assessed.

Task 2 for S.C. 2 - Select appropriate information and write down, and draw, the structure and function of specialised cells. Literacy skills used to find out new information, adding depth and building on basic knowledge of cell structure and function.



Appropriate information has been selected from the materials provided by peers. The special features show good explanation of the relationship between structure and function.



Cells Careers Fair

STAND 1: Transport

Name of specialised Cell: Red blood cells.

Job description: Make up part of the blood. Main role is to carry oxygen. Oxygen is needed by all cells to carry out respiration which releases energy.

Special features:

- Shaped like a donut, no nucleus.
- Increases surface area that allows the cell to carry more oxygen.

Diagram:



Structure & function explained

STAND 2: Communication

Name of specialised Cell: Nerve Cells

Job description: Nerve cells carry signals to and from the brain and the body. They receive signals from the body and send them to the brain. The brain decides on what needs to happen and sends a message to tell the body.

Special features:

- Long and thin
- It carries signals quickly
- Spread all over the body.

Diagram:



Structure & function

STAND 3: Manufacturing

Name of specialised Cell: Leaf Cell

Job description: Makes food for the plant by using CO_2 and water using chlorophyll and that reaction is called photosynthesis.

Special features:

- The chloroplasts attract sunlight to make food for the plant.
- Cells live up on the surface of the leaf.
- Cell wall keeps shape of cell.

Diagram:



Structure & function

Task 3 for S.C. 3 - A full scientific inquiry = say, make, write and do. Scientific literacy skills developed, putting new terms into context of a scientific investigation. Skills based task adding depth and breadth to knowledge of microbes.

Hypothesis tested
 Cell Metabolism identified
 Scientific inquiry & investigation skills
 Planned investigation
 Validated not practical activity
 Analysis & interpretation of results
 Health implications (linking with members)

Step 1: ...
 Step 2: ...
 Step 3: ...
 Step 4: ...

Disc	Toothpaste Brand	Distance from Bacteria (mm)
A	Fluoride	20mm
B	Aquafresh	30mm
C	Teeth Whitening	10mm
D	None	0mm

Validated
 Health implications (linking with members)

All success criteria has been met (see annotations) depth added to answers and understanding was demonstrated through verbal discussions about the results.

Task 4 for S.C. 4 - Write down key facts and make an appropriate visual tool to present to peers. Pupils were challenged to meet the success criteria of the task and demonstrate their own knowledge and understanding by assessing their peers.

Vaccinations

One of the best ways of preventing diseases is to give people a vaccination.

Self-assessment
I have included all the success criteria in my presentation.

Edward Jenner is known for his discovery of vaccination. He discovered that cowpox could protect against smallpox.

Smallpox is a very dangerous disease. It has been eradicated by scientists. It is a virus that causes a rash. It is very contagious. It can be spread through the air. It can also be spread through contact with an infected person. It can also be spread through contact with an infected object.

There are many other diseases that can be prevented by vaccination. These include measles, mumps, rubella, diphtheria, tetanus, and polio.



Edward Jenner

☆ Self Assessment : A3 Poster

Name: Jodie Reith
Title of presentation: Vaccinations



You must have included..

- 1. Background information about your topic
- 2. The science behind your topic

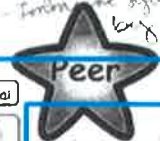
You should have included..

- 3. Interesting facts
- 4. Reference your sources of information

You could have included..

- 5. Any future developments relating to your topic
- 6. Any relevant news articles

☆ Peer Assessment Poster Presentation



You must include..

- 1. Background information about your topic

Tally Mark Total 5

- 2. The science behind your topic

Tally Mark Total 5

You should include..

- 3. Interesting facts

Tally Mark Total 5

- 4. Reference your sources of information

Tally Mark Total 5

You could include..

- 5. Any future developments relating to your topic

Tally Mark Total 5

- 6. Any relevant news articles

Tally Mark Total 0

Overall Score 25

Understanding of
- disease
- infection
- immune system
- bugs

Listening to
peer presentations
one on one
Next steps
Can you tell me
what you learned
from others?



All success criteria has been met (see annotations) depth was added by pupil dialogue during the peer assessment and skills highlighted.

Briefly outline the oral/written feedback given to the pupil on progress and next steps, referring to the learning intention and success criteria.

In addition to the annotations on each piece of evidence:

The pupil was encouraged to describe the function of the cell organelles they had correctly identified on the model cell. The pupil required few prompts and could confidently make the comparison between plant and animal cells following the task feedback.

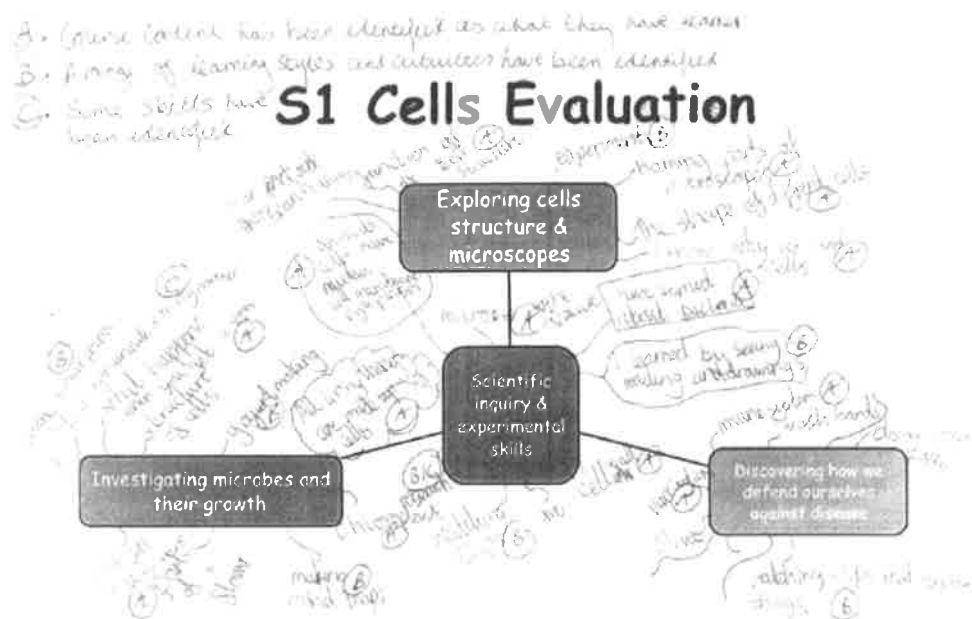
The pupil had correctly selected appropriate information to describe and explain the structure and function of specialised cells. It was discussed why specialised cells were different, and not all the same.

The pupil engaged well with the scientific inquiry task, with support and prompts. Drawing conclusions from the results was a basic description of the results. Following discussion the pupil could give reasons why the toothpaste prevented the growth of bacteria. The evaluation of the investigation was appreciated by the pupil, allowing discussions with a peer. Further depth was added to show an appreciation of the health and safety aspects of working with microbes.

Following supported research into vaccinations, the pupil produced a visual tool that met most of the success criteria and helped support her presentation of facts to her peers. Through self-evaluation the pupil realised what was needed to fully achieve the success criteria, which was supported by the peer and teacher assessment.

Pupil Voice:

What have you learned? How did you learn? What skills have you developed?



From the pupil voice evidence, completed at the end of the unit of work it can be seen that the pupil has an appreciation for the breadth and depth of knowledge that has been developed, having highlighted their understanding of the learning intentions without prompts or discussion. This is supported by the evidence from assessment tools detailed above.

The pupil has given some examples of skills that they believe to have developed, but may need support in identifying a wider range of new skills and understanding that these skills are transferrable to learning, life and work.

Did the learner successfully attain the outcomes? YES