The Moorlands Primary Federation
Science Plan

School: The Valley Primary School **Class:** Class Three
Termly Learning Plan: The Titanic **Term**: Summer Term 1

Unit Overview: Children engage in a different approach to their science in this topic. They use their science and link it to an historical event in context; the sinking of the Titanic. This topic is based around applying the working scientifically skills that they have learned so far in their science lessons, to explore some of the scientific concepts behind the Titanic , e.g. floating and sinking. It can be used as a good opportunity to embed, assess and observe working scientifically skills, as well as laying foundations for transition to KS3 science.
STEAM: **<u>Invite into class</u>** STEM engineers – to set STEM challenges and work with children. Historian, e.g. from local University to talk about society around 1912. Reporter from local newspaper to give a masterclass in writing a newspaper article. Writer to provide creative writing workshop linked to the Titanic. **<u>Visit</u>** RNLI to interview lifeboat crew members. Maritime museum. Visit local radio, TV or newspaper to learn about reporting news.

Learning Sequence & Objectives	Working scientifically skills	Resources
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Use test results to	**Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Use test results to make predictions to set up further comparative and fair tests.** **Report and present findings from enquiries, including conclusions, causal relationships and explanations of and**	**Small oranges / satsumas** **Bowls** **Aluminium foil** **Household candles** **Plasticine or clay** **PowerPoint Slides 5–7**

make predictions to set up further comparative and fair tests. **(Floating and Sinking)** **Use test results to make predictions to set up further comparative and fair tests.** **(Water as a force)**	**degree of trust in results, in oral and written forms such as displays and other presentations**	**Chalk** **Bowls or aquariums** **Balloons** **Balloon pumps** **Force meters** **PowerPoint Slide 8**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **(Boat Building)**	**Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.**	**Plasticine** **Kitchen foil for each group** **Small weights** **Video clip of 'Launch of the Titanic' (see Useful Websites list on My Rising Stars)**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **(Sinking the Titanic)**	**Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.**	**Video clip: 'How Titanic sank' (see Useful Websites list on My Rising Stars)** **2 litre plastic bottles, e.g. empty soda or milk containers** **Bowls or aquariums** **Camera or tablet to record evidence** **PowerPoint Slides 9 and 10**
Take measurements, use a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **(Icebergs)**	**Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations**	**Video clip 'Iceberg calving' '(see Useful Websites list on My Rising Stars)** **Ice balloons** **Bowls or aquaria** **Digital thermometers** **Spirit thermometers** **Cameras or tablets** **PowerPoint Slide 11**

Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **(Beating Hypothermia)**	**Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.** **Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.**	**Small water bottles with a hole in their lid** **Digital or spirit thermometers** **Variety of materials, e.g. aluminium foil, cotton cloth, plastic sheeting etc.** **PowerPoint Slides 12 and 16**
Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **(Design and make a Titanic Life Jacket)**	**Identifying scientific evidence that has been used to support or refute ideas or arguments.**	**A range of waterproof and non-waterproof materials** **Fluorescent and reflective materials** **Polystyrene or foam blocks** **Tin cans or dolls (which could be borrowed from reception and nursery)** **Water tray or aquarium** **PowerPoint Slides 13 and 14**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **(Raising the Titanic)**	**Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.** **Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.**	**Large containers or aquariums filled with water** **Plastic tubing** **Transparent plastic bottles** **Sand or small stones** **Video clip: 'Helicopter rescue and the science of floating' (see Useful Websites list on My Rising Stars)** **PowerPoint Slides 15–16**
Activity Resources: 6.1: Keeping it afloat 6.2: Sinking the unsinkable 6.3: Staying alive **ONLINE RESOURCES:** Teaching slides (PowerPoint): The Titanic CPD video: The Titanic Pupil video: The Titanic Interactive activity: The Titanic Word mat: The Titanic Editable Planning: The Titanic Topic Test: The Titanic		
Cross-Curricular Activities: **English**		

Research the story of the Titanic; ask questions as part of planning and make notes. Read newspaper articles, e.g. about sinking of the Titanic. Draft and re-draft a newspaper article about the sinking of the Titanic. Use main and subheadings, quotes, eye-witness accounts. Send an SOS signal giving news about the Titanic in six words. Research an individual passenger from the Titanic's passenger list – write their autobiography. Based on research, design an advert for sailing on the Titanic. Read survivors' testimonies and use in role-play. Research and describe one room on the Titanic. Role-play interviewing survivors, developing character, emotion. Write a letter or post card, found in personal belongings. Debate alternative reasons for the Titanic sinking. Write a scientific report on reasons for Titanic sinking based on investigations.

Numeracy and mathematics

Create a display of the 'Titanic by numbers', e.g. calculate percentage of survivors from each deck, speed, time to sink, amount of wine, fruit, meat, miles travelled, time for hypothermia to set in. Work out how to show the size of the Titanic, e.g. whole ship, to scale. Explore angles of list in sinking of the Titanic. Compare the cost of holidays now and in 1912. Create line graphs of temperature over time.

Computing / ICT

Create an infographic showing statistics from 'Titanic by numbers' maths activities. Use the Internet safely to research the Titanic. Create newspaper front page article. Video role-play an interview with a Titanic survivor. Use digital thermometers. Use tablets or video cameras to record science activities, e.g. icebergs. Create a picture collage about the Titanic. Design and make a Titanic travel ticket.

Design and technology

Design, make, test and evaluate model boats. Design and make a 3D display of key information about the Titanic. Design, make and test a model Titanic made from recyclable materials.

Geography

Locate on a map or globe the key cities on the journey of the Titanic. Use longitude and latitude to plot the route and position the Titanic sank. Locate Harland and Wolff shipyard. Locate and map icebergs today. Compare number of icebergs today with 1912. Find out about shipping regulations today.

History

Research the story of the Titanic. Research the lives of a person or people from different classes in 1912. Create a timeline from the building of the Titanic to sinking. Research posters for travel for the Titanic. Research arguments for and against who was responsible for the Titanic sinking. Research other maritime disasters in history e.g. the rescue of the SS Forfarshire and Grace Darling.

Art

Paint the Titanic, e.g. at sea. Create a travel poster for the Titanic. Create a diorama of the sinking of the Titanic. Create sepia portraits of people who could have been passengers or crew.

Outdoor learning

Activities using water could be carried out in the school grounds.

Vocabulary:

- **buoyancy: the ability of an object to float in water**
- **density: how much matter (stuff) an object has to its volume**
- **floating: when an object stays on the surface of a liquid**
- **hypothermia: occurs when there's a dangerous drop in body temperature**
- **iceberg: large pieces of ice broken off from a glacier or large areas of floating ice**

- **sink: go below the surface of water thermal**
- **insulation: a material that decreases the flow of heat from a hot area to a cooler one**
- **upthrust: the force that pushes an object up and makes it seem to lose weight in a water**

Christian Distinctiveness:

John Harper ran to person to person passionately telling others about Christ.

Different faiths and beliefs on board the ship.

Jesus walking on water

Miracles