St. Louise de Marillac Primary School

Geography and Science Plan
3rd to 6th Class

1. Introductory Statement

This Geography and Science plan, which incorporates Geography and Science from 3rd to 6th Class, was drawn up by the staff of St. Louise de Marillac Primary School. It was prepared following a consultative process with teachers and parents and will be reviewed on an ongoing basis.

2. Vision

At St. Louise de Marillac Primary School, we believe that the Geography and Science Curriculum should awaken an interest in and promote an enjoyment of Geography and Science. We endeavour to take a hands-on approach to the teaching of Geography and Science in a fun and interesting environment. The underlying principle of this SESE (Social, Environmental and Scientific Education) Plan is to provide a coherent approach to the teaching of the subjects across the senior classes of our school. We want to ensure that pupils are given every opportunity to develop the skills and the understanding of concepts as envisaged in the Primary School Curriculum. Teaching centres around developing the pupils' existing knowledge and ideas, ensuring that learning relates to their everyday experiences. Geography/Science promotes an understanding of and respect for different cultures and ways of life. By the end of 6th class, we hope that the children will be motivated to formulate their own questions and ideas about the world around them and we endeavour to foster children's responsibility for the immediate and wider environments.

3. Aims

We endorse the aims of the Primary School Curriculum for Geography:

- To develop knowledge and understanding of local, regional and wider environments and their interrelationships

- To encourage an understanding and appreciation of the variety of natural and human conditions on the Earth
- To develop empathy with people from diverse environments and an understanding of human interdependence
- To develop the ability to use a range of communicative methods, especially those concerned with the development of graphicacy
- To encourage the development of a sense of place and spatial awareness
- To encourage the development of caring attitudes and responsible behaviour towards the environment, and involvement in the identification, discussion, resolution and avoidance of environmental problems
- To develop an understanding of appropriate geographical concepts

We endorse the aims of the Primary School Curriculum for Science:

- To develop knowledge & understanding of scientific & technological concepts through the exploration of human, natural & physical aspects of the environment

- To develop a scientific approach to problem-solving, which emphasises understanding & constructive thinking

- To encourage the child to explore, develop & apply scientific ideas & concepts through designing & making activities

- To foster the child's natural curiosity, so encouraging independent enquiry & creative action

- To help the child to appreciate the contribution of science & technology to the social, economic, cultural and other dimensions of society

- To cultivate an appreciation of, and respect for, the diversity of living and non-living things, their interdependence & interactions

- To encourage the child to behave responsibility to protect, improve and cherish the environment and to become involved in the identification, discussion, resolution and avoidance of environmental problems and so promote sustainable development

- To enable the child to communicate ideas, present work and report findings using a variety of media

  Further aims:
  - Further development of the Green Flag initiative across the school with children from 1st -6th class forming a committee and driving the activities on a school-wide basis.

Content of Plan

1. Children's ideas
2. Approaches and methodologies
3. Linkage and integration
4. Assessment
5. Children with different needs
6. ICT
7. Resources
8. Health and safety
9. Places of Geographic and scientific interest
10. Balance between knowledge and skill
11. Content of Science / Geography Plan
12. Equality of participation and access

Appendix A – list of science equipment
Appendix B - Content for each class level

1. Children's Ideas

Children's ideas are used as a starting point for all geographic and scientific activity. Children's existing knowledge is ascertained through some of the following approaches:

- Oral brainstorming
- Questioning
- Listening
- Drawings
- Concept maps
- Play scenarios
- Problem solving tasks
- Teacher designed tasks and tests

2. Approaches and Methodologies

Our Geography and Science programme aims to use a variety of techniques and classroom approaches in order to be successful. In these approaches the children are:

- encouraged to visit and explore the environment
- ask questions
- engage in research and practical investigations (using a themed approach at each class level)

The following methodologies are also used in the teaching of the SESE programme:

- active learning
- problem solving
- developing skills through content
- talk and discussion
- co-operative learning
- use of the environment
- guided and discovery learning

2.1 Practical Investigations:

Practical investigations are encouraged at all class levels. Such investigations involve group work, where children work together as part of a team. This facilitates differentiation to meet the needs of children with specific learning needs. Children are given time for the exploration

of materials before carrying out the investigation. The children are provided with opportunities to apply the geographical and scientific concepts explored to everyday situations using a combination of closed and open ended activities.

Closed activities help the children discover or learn a pre-determined idea or procedure. Open investigations encourage the children to work scientifically to raise their own questions, which will be tested or investigated. The idea of a fair test or investigation is constantly emphasised.

3. Linkage and Integration

The teaching of Geography and Science naturally allows linkage within other aspects of both subjects. Although the curriculum is presented in many strands, almost all geographical and scientific studies will encompass elements from at least two and perhaps more of these strands. The study of the locality and other environments will normally include the examination of both human and natural features and these studies may also give rise to the discussion of environmental issues and concerns.
There is a lot of scope also for cross-curricular integration in the Geography and Science programme. Key areas of integration are as follows:

- SESE: History – it complements the growth of the child's historical and scientific learning. All three subjects contribute to the wider social and environmental education of the child. Integrated themes and topics will be used throughout primary school to teach the three subjects.

- SPHE - defining a sense of citizenship in the child and also exploring the child's personal growth and development. Both these curricular areas encourage the child to take ownership of their personal community and take care of the locality.

- Visual Arts – developing aesthetic awareness in the environment and during construction activities (design and make & junk art). Visual arts also allow the child to develop awareness of colour and texture.

- PE – outdoor and adventure activities complement map work and the development of the child's sense of place and space.

- Maths – spatial awareness, classifying and matching, shape and space, measure, comparing and ordering, graphicacy and mapping.

- English – specific language development related to the topic being explored, literacy in recording information in different ways, writing reports on a given country.

- ICT – the use of the internet and ipads to compile studies on a specific country / topic or research a project.

4. Assessment

The Purposes of Assessment:

As teachers we recognise that assessment can

- help to identify what pupils know, understand and can do
- show the different rates of progress that children are making
- help to check learning outcomes against teaching objectives
- help to plan future learning experiences
- identify areas of difficulty in order to respond to the learning needs of the child
- facilitate communication between teachers about pupils
- provide the basis for reporting to and communicating with parents and others
- provide information for the transfer of pupils between primary and post-primary schools
- help teachers and schools to make decisions about the development and implementation of the curriculum.

Assessment Tools

In order to achieve a broad and balanced picture of the child's progress in the acquisition of knowledge and skills and in the development of important attitudes, we will endeavour to employ a variety of assessment tools. We will select from the following recommended tools:

- Teacher observation: the details of children's learning, which teachers notice, as the content of the Geography and Science programme are explored and taught.

- Teacher-designed tasks and tests: the wide range of activities in which children will be engaged while studying geographical and scientific topics.
- Work samples, portfolios and projects: in which samples of the children's work completed during some of the tasks above will be compiled.
- Curriculum profiles: a means of assessing and recording the child's progress using indicators that would include a summary description of the knowledge, skills and attitudes to be expected at various levels in the curriculum.

Assessment will help our staff to clarify the learning achieved by our pupils and so assist teachers in planning future learning.

Assessment and the aims and objectives of the curriculum

Teachers will be guided in the selection of assessment tools by the need for assessment to reflect the aims and objectives of the curriculum, particularly the importance attached to the development of geographical and scientific skills and concepts as well as knowledge and attitudes.

Recording and reporting; continuity and progression

The communication of information about the child's learning to parents and others will be facilitated by the use of a pupil profile, i.e. a means of recording the results of the child's learning and assessment each year. Geography and Science would form one section of this evaluation of the child's progress.

5. Children with Different Needs

Providing a broad and differentiated curriculum is necessary to fulfil the social and learning needs of individual children. To ensure that the needs of children with general and specific learning disabilities are met, it may be necessary to provide less challenging activities on the same topic. Where an SNA is assigned to a class, he/she or the teacher will normally oversee the work of the group within which the child with special learning needs is working. Children who are exceptionally able can be further challenged with the assignment of more practical work, which is designed to enable them to think and work more independently.

A number of techniques may be used to provide a range of learning activities appropriate to the individual needs of pupils. For example:

- Using a mixture of whole-class teaching and focused group work
- Opportunities provided for alternative investigation work for the more/less able
- Using a range of questions and providing a range of tasks
- Planning for the use of a wide use of communication skills

6. ICT

Information and communication technologies can be an enriching resource in the teaching and learning of Geography and Science. Among the ways in which they can be used are the following:

- Data-handling programs can be used by children to record and analyse records or bodies of information
- Programs to introduce children to mapping concepts
- Word processing and drawing programs
- Internet used to explore topics / themes e.g. http://kids.nationalgeographic.com/ & http://www.science.ie/

7. Resources

A variety of resources are available in marked folders and equipment boxes, currently stored in the storage area off Room 22. These include Bee Bot mapping tool and folders related to geographical and scientific topics. A variety of science equipment is available. (see Appendix A)

8. Health and Safety

Ensuring the adequate supervision of children as they are working in the environment is of vital importance. A checklist for teachers working in the environment is available in both the Teachers Guidelines for Geography and Science and online at www.curriculumonline.ie.

9. Places of Geographical and Scientific Interest in the Locality

- School grounds & garden
- Glenaulin Park

- Garda Station
- Ballyfermot Library
- California Hills
- Local Shops
- Cherry Orchard
- Local churches
- Civic Centre
- Canal

10. Balance between Knowledge & Skills

Primary Science and Geography requires a balance between knowledge and skills. Scientific and geographical skills are fostered and developed through engaging in a planned way with Science and Geography content. These scientific skills are:

- Questioning
- Observing
- Predicting
- Investigating and experimenting
- Estimation and measuring
- Analysing
- Recording and communicating

These skills will be developed in a class-appropriate manner.

Designing and making is an important part of the Science programme. It starts with the exploration of available material in structured and unstructured situations, followed by planning, making and evaluating. Projects are class-appropriate.

11. Content for Each Class Level

The content to be taught at each class level can be found in Appendix B.

12. Equality of Participation and Access

Within the school we provide equal opportunities for both girls and boys to participate in class activities. Boys and girls are given equal opportunities to experience all strands. We will adapt and differentiate the content of this plan for children whose first language is not English when necessary.

Ratification and Communication

The staff of St. Louise de Marillac Primary School has an agreed systematic cycle of review of policies, whereby new policies are reviewed after one year and subsequently every three years.

This policy was reviewed by a sub-committee during the school year 2017/18 and was presented to the staff, discussed and reviewed by the staff at a meeting in September 2018.

This policy was ratified by the Board of Management of St. Louise de Marillac Primary School on 18/9/2018. .

Signed: Sr. Claire McKiernan
(Chairperson, Board of Management)

Date: 18/9/18

Appendix A

SCIENCE EQUIPMENT

Living Things:

- 20 Mirrors
- 2 Teacher magnifying glasses
- 20 Pupil magnifying glasses
- 10 Bug viewers
- 3 Wormeries
- 5 Forehead Thermometers
- 2 Dial a bug cards
- 20 Tweezers
- 10 Bug hunters
- 2 Stethoscopes
- Life cycle bag
- Bathroom scales
- 2 10m Windup Tapes

Light:

- 1 Large plastic mirror
- 10 Flat plastic mirrors
- 10 Curved plastic mirrors
- 5 Red torches
- 6 White torches
- 1 Kaleidoscope
- 2 Large torches
- 2 Prisms
- Colour filter paddles

Heat:

- Classroom thermometers
- 5 Infant thermometers
- 6 Numeric thermometers
- 6 Descriptive thermometers

Sound:

- 5 Tuning forks
- Rubber bands (different sizes & thicknesses)

Magnetism & Electricity:

- 4 Bar magnets
- 16 Wand magnets
- 10 Ring magnets
- 2 Horse-shoe magnets
- 100 Marble magnets
- 6x Iron/ Magnetic filings
- 40 Light bulbs
- 20 Bulb holders
- 8 Battery holders
- 5 Screwdrivers
- 10 strips 20m wire cable
- Wire strippers

Forces:

- Measuring jugs – 8oz, 16oz, 30oz
- 2 Measuring cups – 50ml, 125ml, 250ml
- 2 Measuring cups – 1ml, 2ml, 5ml, 15ml, 25ml
- 5 Mini fans
- 1 Teacher compass
- Pupil compasses
- 2 Stopwatches
- TTS slope pack
- 4 TTS slope cars
- 2 Balloon pumps
- Balloons – round & long balloons
- Sand-timers – $\frac{1}{2}$ min, 1 min, 5min
- 4 Tube spring scales – blue(2.5N), green(5N), brown(10N), yellow(50N)

Materials:

- Materials pack

Environment Awareness & Care:

- Pupil garden forks & shovels