

St. Clare's P.S.

Whole School Plan for Science :

SCIENCE WHOLE SCHOOL PLAN (We have a two year programme in Science, Year 1 of the plan will be done in the years starting September 12/13 etc. and Year 2 will be done in the years starting September 13/14

Vision Statement:

Our Science programme aims to help children to work scientifically and involves the development of a broad range of skills of enquiry, the cultivation of important attitudes and the acquisition of scientific knowledge and concepts about the biological and physical aspects of the world.

General Aims:

The aims of science education are:

- To develop knowledge and understanding of scientific and technological concepts through the exploration of human, natural and physical aspects of the environment.
- To encourage the child to explore, develop and apply scientific ideas and concepts through designing and making activities
- To foster the child's natural curiosity, so encouraging independent enquiry and creative action
- To cultivate the appreciation and respect for the diversity of living and non-living things, their interdependence and interactions
- To encourage the child to behave responsibly, to protect, improve and cherish the environment

Particular Aims:

In St Clare's P.S. we hope that science curriculum should enable each child to;

1. Develop an interest in and curiosity about the world through the exploration and study of living and non-living things.
2. Develop a knowledge and understanding of scientific ideas through the study of living things and the environments in which they live.
3. Observe, ask questions, discern patterns, hypothesise, plan, experiment, design, make, measure, discuss, analyse and evaluate results and so develop a scientific approach to problem-solving.
4. Understand the application of some basic scientific ideas and concepts in everyday situations.
5. Understand the interdependence of a wide variety of living things and their environments, recognise the importance of conserving habitats and environments.

CURRICULUM PLANNING

STRANDS	STRAND UNITS
Living Things	Human Life Plants and Animals
Energy and Forces	Light Sound Heat Magnetism and Electricity Forces
Materials	Properties and characteristics of materials Materials and change
Environmental Awareness and Care	Environmental awareness Science and the environment Caring for the environment

All teachers are expected to be familiar with the strands, strand units and content objectives for their class levels as outlined in the Curriculum Handbooks. Teachers should refer to the curriculum objectives in their own planning, Assessment and Monthly reports. The Objectives will be covered for each class level over two years as outlined in the curriculum. The two year programme was drafted by the staff in St Clare's School based on current practice,

How we teach Science

Use Children's Ideas: Teachers elicit at the start of every science lesson what the children know already and use the children's ideas as a starting point for all scientific activity.

1. Children are encouraged to pose their own questions. During scientific activities children are encouraged to discuss, question, listen and problem solve through activities that 'try out', challenge, change or replace ideas.
2. Practical Investigations: Teachers use practical investigations to motivate and excite the children when learning about Science.
3. Classroom Management: Teachers refer to the curriculum books for advice on how best to manage the implementation of Science in their classrooms.

Methodologies:

as outlined on pgs. 20 – 23, 36 – 40, 56 – 60, 78 – 82 Curriculum Statement

- Using the environment
- Active learning
- Guided and discovery learning
- Free exploration of materials
- Spiral nature of the curriculum – opportunities to return to earlier learning and to extend and enhance it
- Learning through language
- Differentiation

Using the Environment

The range of habitats and features of the local natural and built environment incorporated into the Science programme are:

The School Bird Table/Raised beds/Grass/Stones/Trees in School Environs, The school Garden/pond/wildflower and garden plots are accessible to all classes

- Children will be exposed to observations of broader global environments, stimulated through the integration of Foreign Nationals in our school/visits to our school by those from varied environments/ exposure to media coverage of diverse elements of general interests
- Local sites were identified by teachers and allocated to different class levels. Environmental Trails will be designed and developed annually by teachers for all class levels from September 2010 co-ordinated Ms Kelly.
- Our school was a member of Green Schools' Project – is fortunate to have access to the support of related external bodies e.g. Leitrim County Council, Heritage Group, Manorhamilton Tidy Towns
- Any visits by external bodies to the school is always undertaken with full knowledge/ consent of the Principal or Deputy Principal
- We actively participate in many projects based on annual (curricular/time/finance) cost benefit analysis to foster environmental awareness and care; Garden Project Green Schools, Recycling, Composting, Energy Efficient Policies

We strive to actively model good environmental practice in relation to litter tidiness and recycling.

WE try and encourage members of the school Community to

1) THINK TIDY: Stopping spread of litter.

- Each class 1st to 6th gets a turn at a litter pick up of school grounds.
- All classes 3rd to 6th are actively taught to tidy up their own rooms daily.

2) BIN IT:

Binning waste makes a difference to the appearance of our school. We have 3 bins, waste, recycling and Compost.

3) SPEAK OUT:

It is our environment that is being damaged by litter. So – we will comment politely but firmly should we see people being litter louts

4) PROMOTE 3 Rs:

We will encourage our family and friends to avail of our local recycling facilities and reuse and repair when possible

5) CONSERVE ENERGY:

Switch off lights and appliances when not in use

6) BE ECO FRIENDLY:

Encourage interest in birds, trees, flowers and earth around us

WASTE MANAGEMENT

CLASSROOM BINS

Each classroom has 3 colour coded bins red, blue and grey

1. Red Waste Bin: Plastic Wrapping/Packaging/Floor Waste/Newsprint/Aeroboard/Cling film/tin foil.
2. Grey Compost Bin: Pencil Parings/Fruit Wastage/Withered Flowers/Leaves/ Nature table waste.
3. Blue Recycling Bin: Torn-up paper/glossy magazines/Clean Newsprint/Used envelopes/paper/Pieces of flattened cardboard and other Recyclable materials.

TERMS AND CONDITIONS WHICH APPLY

- Large cardboard boxes etc. to be flattened/ minimised as compact as possible and placed neatly behind bins in veranda.
- Lunch and break wrappings/containers replaced in lunch box and must be taken home
- All sheets of paper must be torn in halves/quarters, before being put into bins
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EMPTYING BINS

- Compost bins will be emptied by three pupils in 3rd class at 12.55 on Wednesdays and Fridays and they will dispose of waste in the appropriate bin at the waste area at the side of the school.
- Garden, Flower Boxes and Plants are watered by three 5th children at 12.55 on Wednesdays only
- Waste and recycling bins are emptied on Tuesday and Thursday mornings at 10:55 following a rota, by three 3rd class children. They get sacks from Frank and are encouraged to reuse the black bags, if possible.
- Waste Pickers (4th Class) following a rota, work in 2 pairs on Mondays, Wednesdays and Fridays to pick up papers on yard – one student has the pickers and one the black bag, each taking turns.

Assessment –

Looking at Children's Work / Environmental and behavioural Impact.

ORGANISATIONAL PLANNING

Time-table.

- Science is timetabled as an integral part of the S.E.S.E. time allocation of three hours per week
- The senior classes will take part in the *Discover Primary Science*/Knix Engineering Challenge /Leitrim Floral Pride and Tidy Towns Events.

Resources and Equipment

Equipment:

Science resources are stored in a room outside the principal's office.

Equipment should be returned when finished with neatly and carefully.

A list of equipment is affixed to the door of the room, beside the shelf on which that resource may be found. Some resources would mainly be used by one particular

class level and will therefore, remain in that room. They will however, be listed in the equipment press and its location given, in the event of another teacher requiring its use.

Access to the science room is for teachers only and they are asked to record when they borrow and return the equipment in the Record Sheet found on the door.

If teachers wish to pre-book the use of equipment this can be done by writing their name and desired date/time of use in the equipment copy.

If equipment is damaged or insufficient, teacher's area asked to contact Frank or John as soon as possible.

SESE Textbooks:

Textbooks are not encouraged. A number of schemes are available in the classrooms as resource books but classes are expected to plan from the curriculum books in line with the whole school plan allocations for classes and year cycles.

Safety

Safety comes first in the teachings of Science and children must observe safety procedures during all tasks.

Outdoor Work:

Outdoor work should be based in areas that are accessible for children, teachers and helpers and that are safe. Preliminary visits by teachers to places to be visited must be used to identify potential hazards. Adequate supervision should be given to the children at all times. It will be necessary for a number of adults to accompany each class. These adults should be aware of procedures to be adopted in the event of emergencies.

Light:

When planning a unit of work on light the teacher will ensure that the children are aware of and adhere to the following safety procedures:

- Do not look at the sun or very bright beams of light
- Plastic mirrors should be used and glass mirrors avoided
- Never look at the sun through lenses
- Children should be made aware of the dangers of sunburn

Electricity:

Work on the topic of electricity and magnetism will provide opportunities for children to learn about the safe use of electricity. It is important that children realise the dangers of mains electricity and become aware of and discuss safety issues associated with use of mains electricity and electrical appliances. Batteries should be used for activities based on electric current. Mains electricity should never be used during science investigations. The children should be aware of the following safety considerations:

- the dangers of touching the bare metal of a plug or a switch especially when hands are wet
- the importance of not using electrical appliances without adult supervision
- the dangers associated with flying kites or using fishing rods near overhead wires

- the risks attached to playing near electricity sub stations

Safety and care of equipment

Work on electricity at all levels will involve the use of batteries. The following safety procedures should be observed:

- Batteries must not be cut open
- Batteries should be disposed of in a safe manner