Rush Common School Professional Practice Document ("PPD") for Science

1) Rationale

To develop in pupils, curiosity, enjoyment, skills and a growing understanding of science knowledge, through an approach in which pupils raise questions and investigate the world in which they live.

2) Aims

Our aim is to encourage children to

- deliver the Science Programmes of Study of the National Curriculum.
- promote learning through a wide variety of teaching and learning styles.
- develop investigational skills through relevant practical tasks.
- promote positive attitudes to the learning of science.
- Question the world around them.

3) Teaching and Learning

3.1) All children have access to National Curriculum Science. There is a long term science curriculum plan outlining coverage of Science. Our schemes of work show how each unit of science in the plan is developed including Sc1 (scientific enquiry) and the breadth of study as outlined in the new National Curriculum. Unit specific scientific vocabulary, and the vocabulary associated with fair testing should be taught with an emphasis on investigation rather than illustrative activities. Most science teaching is with the whole class, but in addition to these children will have opportunities to work both individually and in small groups. Group size will be determined by age, task and ability of pupils.

3.2) We encourage children to work in the following ways, so that they will ultimately gain confidence to ask their own questions and devise investigations to answer them

- in an active and creative learning environment.
- from first-hand experience.
- asking questions.
- actively involved in exploration and investigation.
- working co-operatively.
- discussing with each other and adults.
- devising and conducting their own investigations.
- choosing their own materials and equipment.
- recording their findings in a variety of ways.
- drawing conclusions from their findings.
- showing enjoyment in the activities they are undertaking,

4) Science 1 (scientific enquiry)

4.1) The skills of science are developed through:

- Individual skill activities e.g. measuring with a thermometer.

- Directed activities (e.g. dissolving) where children are asked to use particular skills e.g. predict, fair test etc.
- A range of investigations including whole investigations.
- Higher Order Thinking questions

4.2) In our science activities we plan to develop the following skills:
Observing, raising questions, predicting, hypothesising, planning, controlling variables (fair testing), measuring, collecting and interpreting data, constructing tables and graphs, explaining, communicating and evaluating findings, researching information.

5) Attitudes

Through science we endeavour to foster the following qualities:
curiosity, an enquiring mind, perseverance, open-mindedness, self- discipline, sensitivity to others, independence, adaptability, co-operation and care for living things.

6) Equal Opportunities

All children are given equal opportunities in all areas of science – see Equal Opportunities Policy.

7) Progression

We recognise that our curriculum planning must allow for children to gain a progressively deeper level of knowledge and understanding and skill competency as they move through the school. This is achieved through our schemes of work, which will have progression built into them. Activities and expectations are adjusted to meet the particular needs of individuals of groups of children in weekly or daily planning and all children, regardless of ability are challenged and supported to meet their full potential.

8) Information Communications Technology

We see ICT as an important tool in science teaching and children research, communicate, collect and interrogate data in a variety of ways. All children have access to secondary sources such as computer software and internet sites. In addition, older children are taught to use sensors to gather data in a variety of ways.

9) Records and Assessment

Assessment of children's development is made through a combination of ongoing teacher assessment, formal tasks, end of unit assessments, and end of key stage tests. A record is kept of children's achievements in science through teacher's own notes and end of year assessment data is entered into the school tracking system and then analysed by the science coordinator.

10) Safety

It is important that children are taught the rules of safety when undertaking experiments and investigations. Materials and equipment need to be handled sensibly and safe handling should be modelled by all members of the class, including both children and adults. The document published by the Association for Science Education with the title 'Be Safe' can be found on the wall of the Science cupboard. It is teachers' responsibility to make sure that all helpers

(T.A.s, parents, etc.) are aware of safety implications connected with any science activity they are undertaking.

11) Monitoring

The science curriculum is monitored by the science co-ordinator through staff meetings, observing teaching, looking at plans, looking at children's work, talking to children, target setting and analysing assessment data.

12) Resources

All resources are kept in the Science cupboard.

13) Review of this PPD

The Senior Leadership Team reviews the PPD every 3 years. It may however review the PPD earlier, if required.

Approved by the Senior Leadership Team meeting on 4th July 2014

Signed…… Headteacher

Review Date: July 2017