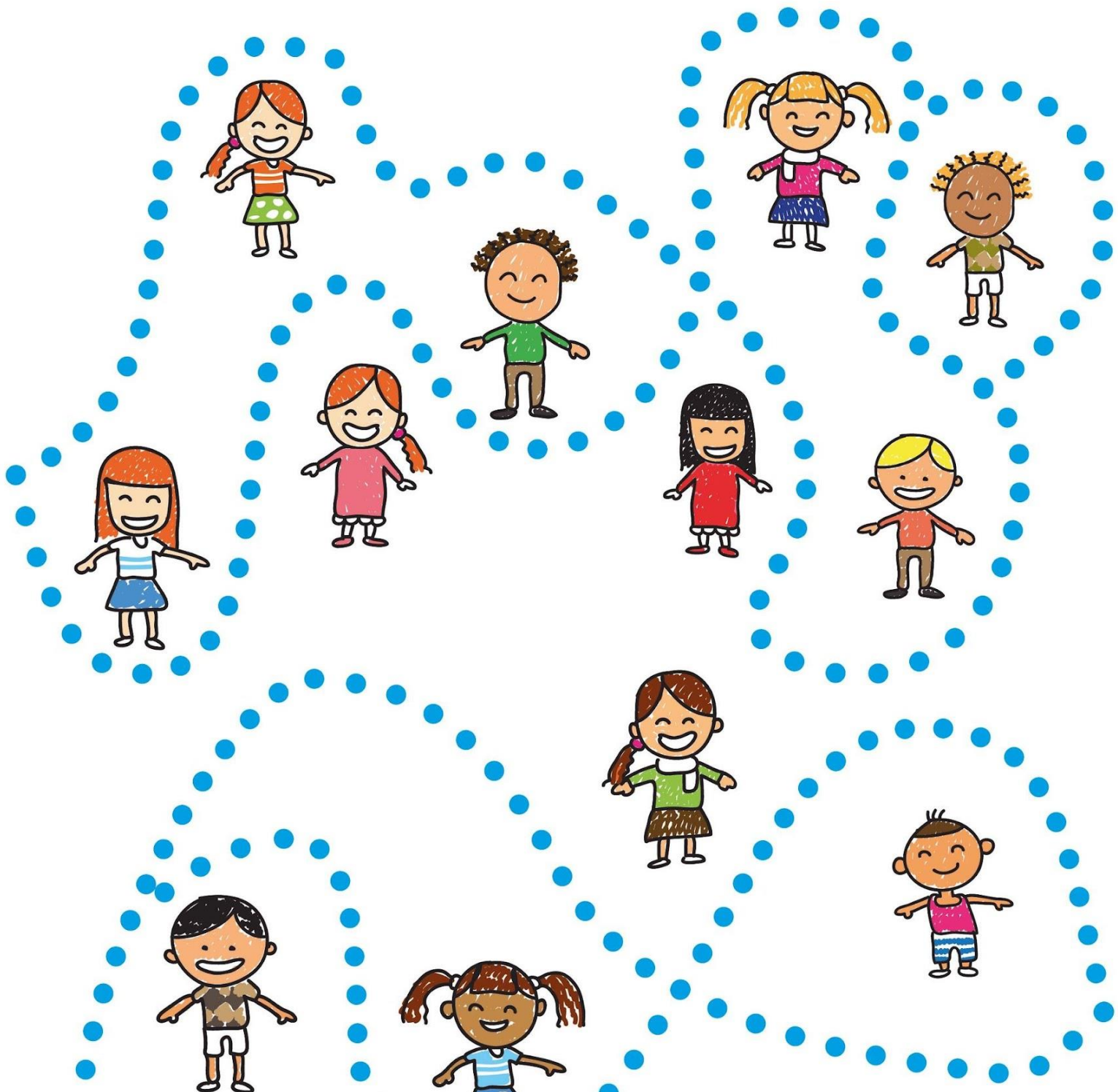


Kent Primary Science Scheme of Work



Introduction to the Kent Scheme of Work for Primary Science

Rationale

Why a new scheme of work?

The scheme of work has been developed as a direct result of requests by primary teachers wanting to have more ideas as to how to address the requirements for science in the new Primary Curriculum (due to start in September, 2014). The same teachers have often had concerns about ensuring coverage of the curriculum, and doing in this in such a manner that children will be engaged and enjoying their learning.

What the scheme of work will provide

This scheme of work will support the provision of excellent learning opportunities for science by providing the following advice:

1. Long term planning

This scheme contains 28 units of study. Each of these units of study has been assigned to a particular Year group inline with the guidance from the National Curriculum (2014). Suggestions have been made as to possible best times of year to study some of the units, as well as when different aspects of learning within a unit will need to be taught at different times across a year.

2. Short term/lesson planning

The scheme of work will be invaluable for supporting primary teachers with their lesson planning. Each of the units will have clear and thorough advice on the following aspects of quality provision for science:

A. Sequence of knowledge and concepts.

In accordance with the guidance in the new National Curriculum, this scheme has clearly indicated a progression in the key scientific knowledge and concepts, from Year 1 to Year 6. Each of the 28 units of study clearly indicates the aspects of knowledge to be developed. Where appropriate, the unit will indicate the 'learning journey'; i.e. where the knowledge and concepts of that particular unit fit within the learning for that particular aspect of science as the child progresses through the primary phase.

B. A range of activities that will enable the children to develop both their scientific understanding and their mastery of the nature, processes and method of science.

i. 'Working Scientifically' through a constructivist approach to learning

Throughout each and every unit of study the emphasis is on the children learning by doing. In accordance with the constructivist theory of learning, the units encourage the teachers to provide activities that will enable the children to test their previously held ideas. In doing so, they will also be encouraged to develop a bank of skills and an understanding of the processes required to be able to do good science. In every unit of work the most suitable aspects of the statutory requirements for Working Scientifically

have been selected. Each of these requirements will be thoroughly covered throughout both of the Key Stages.

ii. Scientific vocabulary

Each unit of study contains a section outlining the most appropriate scientific vocabulary to be used when studying that particular area of science. This will help children to become familiar with, and use, technical terminology accurately and precisely.

iii. Resources

The scheme contains a list of resources that would be required for each of the units.

iv. Hooks

Within every unit of work there are many suggestions as to strategies that teachers can use to ensure that children are interested and engaged in the content.

v. Teacher subject knowledge

Every unit of work has a section designed to provide teachers with a good understanding of the knowledge and concepts that will be covered within that unit.

vi. Scientists

Every unit of work lists some of the scientists who are working, or have worked, in that particular area of science.

vii. Preparation for the learning

For every unit of work there is a section that outlines when and how teachers can prepare for the activities that they would like to do with the children.

viii Recording

There are suggestions throughout every unit as to how the children could record their learning. Consideration has been given to not just how they will record, but also the reason for recording in each of the different instances.

ix A range of learning strategies designed to engage the children

As well as the full range of practical scientific enquiries outlined, there are plenty of other strategies provided to engage the children in their science learning; drama, deep thinking time, problem-solving in various contexts, videos from web pages, etc

3. Assessment

For each of the units an assessment record sheet has been created. Each of these sheets will allow teachers to record children's achievements during their studies for both the knowledge aspects within a particular unit, and some of the requirements from Working Scientifically. These record sheets, and the intended learning objectives included in the units of study will enable the teachers to identify what the children need to know or be able to do next, as well as support them at different times in the year to make summative judgements as to the children's attainment.

Format of the scheme

All parts of the scheme have been written using Word. It will therefore be possible for teachers to edit the text in order that their annotations address the specific learning needs of their children.

Information about the author

Andrew Berry, MA, PGCE

Andrew Berry taught and held the position of science leader for 9 years in primary schools in Kent. Andrew then worked for a further 7 years as the primary science adviser for the 475 primary schools in Kent. During this time he worked within over 250 schools, wrote two schemes of work for science for the county, and was one of the authors for 'TASC wheel – problem solving in primary science'. He also provided numerous training sessions for all school staff; including six county conferences. For the next year Andrew worked as a Teaching and Learning Adviser for a district within Kent. During this time Andrew was constantly providing training and supporting teachers in class across all subjects. Following this role, Andrew became the Centre Manager for Kent County Council's Environmental Education Centre, which is a role he has continued in for the last 3 years. In this role Andrew now teaches, both at the centre and in schools, and trains primary school teachers in how best to provide quality learning opportunities for children.

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