**Draft Unit Plan**

Science: Year 3

**The Pebble in My Pocket**

By Meredith Hooper & Chris Coady

**KS2 Programme of Study**

Pupils should be taught to:

* compare and group together different kinds of rocks on the basis of their appearance and simple physical properties

*Key question: how does this unit build on prior knowledge and where might it lead?*

This unit builds on the Year 2 programme of study:

* identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
* find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

The unit will lead to the Year 5 programme of study:

* compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets

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| **What are the key concepts for this unit?**  How rocks are formed  There are also links to learning about mountains, volcanoes and rivers in geography, as well as being good preparation for learning about evolution in Year 6 science. | **How will we introduce it?**  One or more sessions involving practical exploration of different types of rock and their properties would be useful. Develop children’s vocabulary for describing their appearance and texture – rough, smooth, hard, soft, contains crystals, shiny, matte…  Introduce vocabulary for rocks and particles of rock of different sizes – boulders, rocks, pebbles, stones, gravel, sand, silt – and ideally explore these in a hands-on way.  Teach children about the structure of the earth and its three layers – these are referenced in the book and will help prepare children for learning about volcanoes in geography.  Briefly introduce the children to how the Earth was formed over millions of years from the Big Bang. |
| **Is it worth summarising what we want pupils to know on a knowledge organiser? If so what should be included?**  Vocabulary that is key to the scientific and geographical concepts has been included.  There’s plenty of challenging vocabulary that would be great to explore with Year 3 children, for example by finding and grouping synonyms. | **How are we going to take pupils through this unit?**  Read through the story, showing and discussing the illustrations. Familiarise the children with the stages of the pebble’s journey through sequencing activities, for example by ordering cards containing key parts of the story, or by showing photos of two pages and deciding which one comes before/after.  Explore the key vocabulary in the book, using the context to develop children’s understanding.  Teach children about different types of rock by anchoring them to the relevant part of the story:  Igneous rock – volcano 480 mya  Sedimentary rock – conglomerate 340 mya; sedimentary rock 300 mya  Metamorphic rock is not described in this book so could be taught separately either at this point or later.  Give children copies of the geological timeline page at the back of the book to read in pairs. What do they notice? What is similar or different to what you expected? What questions do you have?  Finish by re-reading the story and locating the periods and animals described on the timeline. |
| **Cross-curricular links:**  Volcanoes – introduction to volcanic eruptions  Mountains -  Rivers – rivers flow from mountains to the sea; rivers change their course over time  Prehistory – helps to anchor the time of the first humans in the chronology of the earth. Geological timeline at the back of the book helps children build understanding of the scale of prehistoric times. The book describes the ice ages and the changes in between.  Evolution – mentions of the plants and animals in each stage of the Earth’s history. It would be useful to read the book prior to teaching this Year 6 science unit, even if the children have previously used it, as the development of living things over time can be explored in greater depth when using the book with a different focus. | |
| **How will we know if our children have learnt what we have taught them?**  Children can describe the properties of different type and how they are formed, using correct vocabulary from the knowledge organiser.  An assessment activity could be to give children photos or real pieces of different types of rock (basalt, granite, obsidian, pumice, limestone, sandstone, conglomerate) and ask them to match them to the part of the story that describes their formation. | |