

Pebbles

The tiny steps towards a milestone

Dr Sue Fisher & Chris Quigley

Pebbles

The tiny steps towards a milestone

By Dr Sue Fisher & Chris Quigley

Published by Chris Quigley Education Ltd.

First published April 2015

ISBN: 978-0-9931968-6-7

© Copyright 2015 Chris Quigley Education Ltd

All rights reserved. You may not copy nor distribute in whole or in part any part of this book either physically or electronically without the prior written permission of the publisher. You may only use this resource on one site. It may not be used across a federation, chain, trust or any other form of collection of schools. Separate purchases are required for each site using the resource.

Resources on the CD may only be used solely by the purchasing organisation for non-commercial reasons. They may not be distributed by any means without the prior written permission of the publisher. The same restrictions on single-site use apply to both physical and electronic resources.



Foreword	5
Reading	
To read words accurately	7
To understand texts	9
Writing	
To present neatly	13
To spell correctly	15
To punctuate accurately	18
To write with purpose	21
To organise writing appropriately	23
To use imaginative description	25
To use paragraphs	27
To use sentences	28
To analyse writing	30
To present writing	33

Communication

To listen carefully and understand	35
To develop a wide and interesting vocabulary	37
To speak with clarity	39
To tell stories with structure	41
To hold conversations and debates	43

Mathematics

To know and use numbers	45
To add and subtract	52
To multiply and divide	60
To use fractions	67
To understand the properties of shapes	75
To describe position, direction and movement	78
To use measures	81
To use statistics	84
To use algebra	86
Science	
Working Scientifically	89
Biology	
To understand plants	92
To understand animals and humans	94
To investigate living things	96
To understand evolution and inheritance	98
Chemistry	
To investigate materials	100
Physics	
To understand movement, forces and magnets	103
To understand light and seeing	105
To investigate sound and hearing	107
To understand electrical circuits	109
To understand the earth's movement in space	111



Some pupils need to focus on the very small steps that will help them along the way in their learning journey. That's the idea of *Pebbles*. It is a curriculum for pupils who are not ready to work on the milestones from our *Essentials Curriculum**.

Pebbles has been carefully researched and prepared by Dr Sue Fisher. I first met Sue ten years ago and her passion for helping all pupils to achieve their very best made for a lasting impression. I also learned of her frustration that the expertise of those working in special schools was not always available to those in mainstream schools. I am therefore delighted that Sue agreed to share with others, her significant and excellent understanding of the needs of pupils who, by the nature of their needs, will only make tiny steps of progress. *Pebbles* has been designed for pupils in mainstream schools on the special needs register.

About Dr Sue Fisher

Dr Sue Fisher qualified as a primary teacher in 1991 and has worked in primary, secondary and special schools across the North East. She qualified as an Educational Psychologist in 2005 and has worked with pupils with special educational needs and disabilities (SEND) supporting learning, assessment and progress for several years. She is currently Associate Director (Head Teacher) at an outstanding, non-maintained all age special school.

To read words accurately





To read words accurately

Pebble 4	Pebble 5	Pebble 6	Milestone 2
. Use morphemic knowledge to help to 'chunk' words to support accurate reading.	 Read familiar and unfamiliar texts aloud confidently and competently. Sustain confidence and perseverance when reading larger, more demanding texts unaided. 	 Read independently a range of texts fluently and accurately. Use a range of strategies automatically to monitor and maintain meaning [e.g. prediction, post-reading reflection and self-correction]. 	 Apply a growing knowledge of root words, prefixes and suffixes (etymology and morphology). Read further exception words, noting the spellings.

Pebble 7	Pebble 8	Pebble 9	Milestone 3
Read increasingly challenging material independently and accurately.	 Choose and read books independently for challenge, interest and enjoyment. Decode and remember new words from increasingly challenging texts. 	 Develop knowledge of root words, prefixes and suffixes in direct teaching situations. Read a wide range of fiction and non-fiction accurately, including whole books, short stories, poems and plays with a wide coverage of genres, historical periods, forms and authors. 	 Apply knowledge of root words, prefixes and suffixes. (Note: this should be through normal reading rather than direct teaching.)

To understand texts

Pebble 1	Pebble 2	Pebble 3	Milestone 1
Participate in shared activities and sustain attention for more than 2 minutes (e.g. listen to a shared story).	 Predict words and signs/symbols in text, using expectations of meaning from the whole text and/or events in everyday life. Demonstrate understanding of elements of a story and be able to answer 'who?' 'where?' 'why?' and 'how?' questions. Understand that speech can be converted into writing and this writing can be read back by self or others. 	 Read simple unfamiliar texts independently with 90% accuracy, decoding some unknown words. Read longer phrases and more complex sentences, noticing punctuation and reading with greater expression. Make basic inferences and make predictions based on what has been read so far. Read texts, paying more attention to meaning; talk about what is read, demonstrating increased understanding. 	 Discuss events. Predict events. Link reading to own experience. Join in with stories or poems. Check that reading makes sense and self-correct. Infer what characters are like from actions. Ask and answer questions about texts. Discuss favourite words and phrases. Listen to and discuss a wide range of texts. Recognise and join in with (including role-play) recurring language. Explain and discuss understanding of texts. Discuss the significance of the title and events. Make inferences on the basis of what is being said and done.





To understand texts

Pebble 4	Pebble 5	Pebble 6	Milestone 2
 Grasp the main idea or subject in a paragraph or section of text. Make inferences from key sentences. Recall key details from reading. 	 Show understanding of the main points of fiction and non-fiction independently. Locate and use ideas and information. Answer straightforward questions from texts. 	 Explain and discuss aspects of texts, including through formal presentations and debates, maintaining a focus on the topic and using notes where necessary. Summarise the main ideas drawn from more than one paragraph. Predict what might happen next in a story. 	 Draw inferences from reading. Predict what might happen from details stated and implied. Recall and summarise main ideas. Discuss words and phrases that capture the imagination. Retrieve and record information from non-fiction, using titles, headings, sub-headings and indexes. Prepare poems and plays to read aloud with expression, volume, tone and intonation. Identify recurring themes and elements of different stories (e.g. good triumphing over evil). Recognise some different forms of poetry. Explain and discuss understanding of reading, maintaining focus on the topic. Ask questions to improve understanding of a text. Check that the text makes sense, discussing understanding and explaining the meaning of words in context. Ask questions to improve understanding of a text. Draw inferences, such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence. Predict what might happen from details stated and implied. Identify main ideas drawn from more than one paragraph and summarise these. Identify how language, structure and presentation contribute to meaning.



To listen carefully and understand

To speak with clarity

Pebble 1	Pebble 2	Pebble 3	Milestone 1
Interact with known people [e.g. by nodding, shaking head or saying/ signing thank you].	 Listen and speak in an adult-led group. Talk about what is about to happen. Use short phrases/sentences to communicate ideas. 	 Express ideas and opinions. Discuss the task the group or class has to do. Describe an event. Give simple instructions. 	 Speak in a way that is clear and easy to understand. Demonstrate good phonic knowledge by clearly pronouncing the sounds within words. Identify syllables within words.

Pebble 4	Pebble 5	Pebble 6	Milestone 2
. Present work one-to-one to a visitor.	 Present work in a larger group. Express own opinions clearly to others. 	 Plan questions to gain information. Extend a listener's understanding by adding detail and responding appropriately to the listener. 	 Use verbs with irregular endings. Use a mixture of sentence lengths to add interest to discussions and explanations. Use intonation to emphasise grammar and punctuation when reading aloud.





To tell stories with structure

Pebble 7	Pebble 8	Pebble 9	Milestone 3
Sustain the attention and interest of listeners by including relevant information.	. Use a growing range of vocabulary to develop interesting stories.	 Structure speech clearly, using apt vocabulary and appropriate intonation and emphasis to engage the listener. Describe settings, characters and action in more detail. 	 Narrate detailed and exciting stories. Use the conventions and structure appropriate to the type of story being told. Interweave action, character descriptions, settings and dialogue.

To add and subtract - Checking

Pebble 7	Pebble 8	Pebble 9	Milestone 3
Use the inverse relationship between addition and subtraction to solve more complex missing number problems.	. Estimate the answer to a longer or more complex calculation and use inverse operations to check answers.	. Solve addition and subtraction two-step problems and use inverse operations to check answers.	. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.



To add and subtract - Using number facts

Pebble 1	Pebble 2	Pebble 3	Milestone 1
. Develop an awareness of numbers to 5.	. Add or subtract from a small number of objects then say or sign how many there are now.	. Recall and use addition and subtraction facts to 20.	 Represent and use number bonds and related subtraction facts within 20. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.

Pebble 4	Pebble 5	Pebble 6	Milestone 2
. Solve one-step problems in practical contexts that involve addition and subtraction.	. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems [e.g. 7 = ☐ – 9].	. Recall and use addition and subtraction facts beyond 20 fluently, and derive and use related facts beyond 100.	. Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.

To add and subtract - Using number facts

Pebble 7	Pebble 8	Pebble 9	Milestone 3
Solve two-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems [e.g. $14 + 7 = -9$].	. Solve addition and subtraction multi- step problems in practical contexts, deciding which operations and methods to use and why.	. Understand positive and negative numbers.	. Add and subtract negative integers.





Biology - To understand animals and humans

Pebble 1	Pebble 2	Pebble 3	Milestone 1
Demonstrate developing awareness of a variety of living things [e.g. can make animal noises; match noise to animals].	 Describe characteristics of animals and events they observe [e.g. 'It's hairy', 'It growls', 'It moves']. Sort by one given criterion [e.g. animals that live in water]. 	 Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Describe and compare the structure of a variety of common animals (including pets) [e.g. birds, fish, mammals]. Describe the basic needs of animals, including humans, for survival (water, food and air). 	 Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Notice that animals, including humans, have offspring which grow into adults. Investigate and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.

Biology - To understand animals and humans

Pebble 4	Pebble 5	Pebble 6	Milestone 2
Describe the changes as humans develop from birth to old age.	. Describe the life cycles common to a variety of animals, including humans (birth, growth, development, reproduction, death).	. Recognise the impact of diet and exercise on the way the human body functions.	 Identify that animals, including humans need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. Describe the ways in which nutrients and water are transported within animals, including humans. Identify that humans and some animal have skeletons and muscles for support, protection and movement. Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions.

Pebble 7	Pebble 8	Pebble 9	Milestone 3
. Explain the importance of hygiene to protect the body against disease and infection.	. Describe the main parts of the human circulatory system.	. Describe the main functions of organs of the human body [e.g. heart, lungs, stomach, intestines, kidneys].	. Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood (including the pulse and clotting).





Biology - To investigate living things

Pebble 1	Pebble 2	Pebble 3	Milestone 1
. Observe and interact with living things with increased attention.	. Know some things are alive and some are not alive.	 Investigate what plants need to grow. Observe and describe how seeds and bulbs grow into mature plants. Identify that most living things live in habitats to which they are suited. Describe how different habitats provide for the basic needs of different animals and plants. 	 Explore and compare the differences between things that are living, things that are dead and things that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plans and how they depend on each other.

Pebble 4	Pebble 5	Pebble 6	Milestone 2
entify and name a variety of ing things (plants and animals) in e local and wider environment.	. Recognise that environments are constantly changing and that this can sometimes pose a risk to specific habitats.	. Explain the classification of living things into broad groups based on similarities and differences, including plants, animals and micro-organisms.	 Identify and name a variety of living things (plants and animals) in the local and wider environment, using classification keys to assign them to groups. Give reasons for classifying plants and animals based on specific characteristics. Recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats.