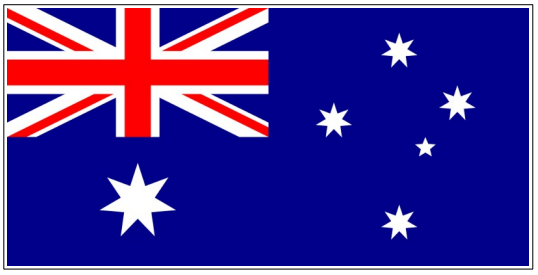
Setting

So Many Shells! is set at a city-side beach in the country of Australia. Encourage students to locate Australia on a world map, if you have one. You can also ask your students if they know of any famous Australian beaches (e.g., Bondi Beach in Sydney, New South Wales, or the Gold Coast in Queensland).

The flag of Australia is seen on **page 2**.



The birds are dressed in singlets/vests, T-shirts, hats, and sunglasses, which many people wear to the beach in Australia. Hawk puts on an inflatable ring, to play with in the water.

Hats and sunscreen are very important for protecting beach-goers' skin from being damaged by the sun. To help reduce the risk of skin cancer, which is very common in Australia, the Cancer Council (www.cancer.org.au) ran a famous public health campaign teaching Australians to "Slip, Slop, Slap, Seek, and Slide": Slip on a shirt, Slop on sunscreen, Slap on a hat, Seek shade, Slide on sunnies (sunglasses). This is a good opportunity to remind your students about any sun-safe rules in place at your school.

Not all Australian beaches are safe to swim in due to rough waves and strong undertows. So, as we see on **page 2**, it is a good idea to always swim between the red and yellow flags, because this area is supervised by surf lifesavers who are trained to rescue people from the ocean. This is a good opportunity to talk to your students about water safety and learning to swim, especially if you are in a location near bodies of water (ocean, river, lake, etc.) or a swimming pool.

Characters

The characters in the story are based on Australian birds that can be found in coastal areas. Depending on where you are in the world, students may have seen other magpie, gull, and hawk species before. What makes the animals in the story different from those they have seen before? Consider the size of the bird, colour, markings, wings (size, shape), beak (size, shape, colour), etc.

Australian magpie

Silver gull

Grey goshawk

While it is the grey goshawk that is more usually found in coastal regions of Australia, we have chosen to include the brown goshawk in the story, to make it easier to see the difference between Gull and Hawk.

Story
Collecting shells is a popular beach activity. Most of the shells washed up on beaches or found in rock pools were once the outer shell or "exoskeleton" of a sea animal, such as a mollusc, which has since died and decomposed. Over time, shells are broken down by waves and turn into sand.

Shells may be found on the sand at the beach, in shallow water, and in rock pools. Not everything that lives in rock pools is safe to touch. On **page 12** Gull warns Hawk not to touch a sea urchin because they can sting. Rock pools also often contain crabs, and may contain sharp objects such as cuttlefish bones. The rocks themselves can be quite rough or sharp, so care must also be taken when walking on them.

Shells may vary widely in shape, size, and colour. If possible, bring some sea shells into class for your students to look at, touch, compare, and describe.

Other popular beach activities are visible throughout the story: building sand-castles (**title page, page 16**), kite-flying (**front cover, pages 2, 8, and 15**), stand-up paddle boarding (**pages 4, 6, and 7**), a ball game (**pages 9 and 11**), and beach volleyball (**page 16**).

Mathematical concepts and language
A variety of words are used throughout the story to indicate addition. Students should be able to recognise and understand these words wherever they appear.

Word or phrase	**Synonyms**	**Definition**
how many?		This is a question phrase which asks the reader to count the objects we are considering.
in total	altogether	This is a prepositional phrase which we use to state the answer to the question of "how many ___ ?". It refers to the entire amount we have counted.
add(s)	plus, sum	These words indicate addition. "Sum" is usually used as a noun: "The sum of 2 and 3 is 5". However, "sum up" is used as a verb: "I summed up the numbers". We *never* say "2 sum 3 is 5". While "add" can be used as a verb ("I add 3"), it is unhelpful to attempt to place "add" and "plus" in standard grammatical categories when we read an equation aloud. What is important is that they correspond to the "+" symbol.
equals		This word introduces the result or answer of a calculation. It corresponds to the "=" symbol.
nothing		We can use this word to refer to zero (0).

In this book we move from counting to addition. Basic additions with two and three single-digit numbers are performed by counting up. Different coloured shells have been chosen to

aid this process. However, do not let students be confused by this on **pages 13-15**, where each spiral shell is a different colour.

It might not seem useful to add zero on **pages 13-15** but later, in column addition, we will need to add zero in particular places. This is why we learn how to do it now. Zero is the additive identity. When we add zero to any number, the result is just the number:

$$a + 0 = 0 + a = a.$$

For students requiring extension

Some students may be able to perform the additions mentally, without using pictures, their fingers, or a number line. If they still need to count up in their head, encourage them to practise and memorise the additions of pairs of the counting numbers from 1 to 9. This will help them develop the instant recall skills needed for us to do column addition later.

Once students are familiar with the sums of *two* counting numbers from 1 to 9, they can consider adding *three* numbers. Encourage them to think about the *order* in which they add the numbers. For example, on **page 11**:

We can first add 1 and 2: $1 + 2 = 3$
We then have double 3: $3 + 3 = 6$

Give these students more sums of three numbers for practice. For example:

- $3 + 4 + 3 = 10$
- $2 + 5 + 3 = 10$
- $2 + 4 + 2 = 8$
- $9 + 3 + 1 = 13$
- $6 + 4 + 2 = 12$