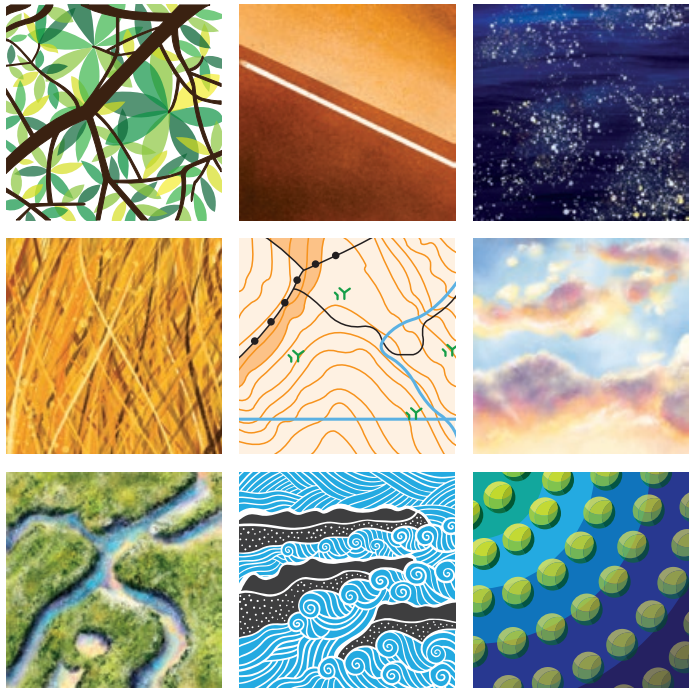
Leading Primary Geography

The essential handbook for all teachers



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Contents

SECTION 3

Key skills

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This section is all about the key skills or 'tools' of geography and outlines how the subject is communicated through a variety of traditional ways, such as maps and fieldwork, as well as through less conventional methods, such as graphicacy, vocabulary and stories. These supportive tools allow pupils to access and learn about the subject while bringing it alive and making it both engaging and challenging. They are also essential in demonstrating pupils' developing geographical learning and thinking, making them invaluable assessment as well as learning tools.

Geographical skills

Geographical skills are the means by which we decipher the complexities of the world around us. If you think of geography as a house then the **patterns** are the layout of the rooms, the shape of the garden and the layering of the floors. The **processes** are the movements and interactions of the people in the house, for example playing in the garden or producing food in the kitchen, and also the movement of water, gas and electricity through the pipes, drainage systems and cables.

Geographical **skills** enable us to plot, measure and record these patterns and processes; they are also the tools we need to make sense of them. Geographical skills help pupils develop an understanding and appreciation of geographical patterns and processes, solve problems, and develop and present new learning from the very earliest stages of their education and throughout their lives.

The four key skills examined in this section are:

- making use of maps
- making meaning with vocabulary
- making sense through graphicacy
- making learning real through fieldwork and the outdoors.

Developing these key geographical skills enables pupils to become effective and independent geographical learners.

Making use of maps

Maps are the means by which pupils make sense of their expanding world, in scales increasing from the area of a school desk to the entire globe. Once pupils have developed the skills needed to make sense of a simple map, they are well-placed to start exploring and making sense of the world.

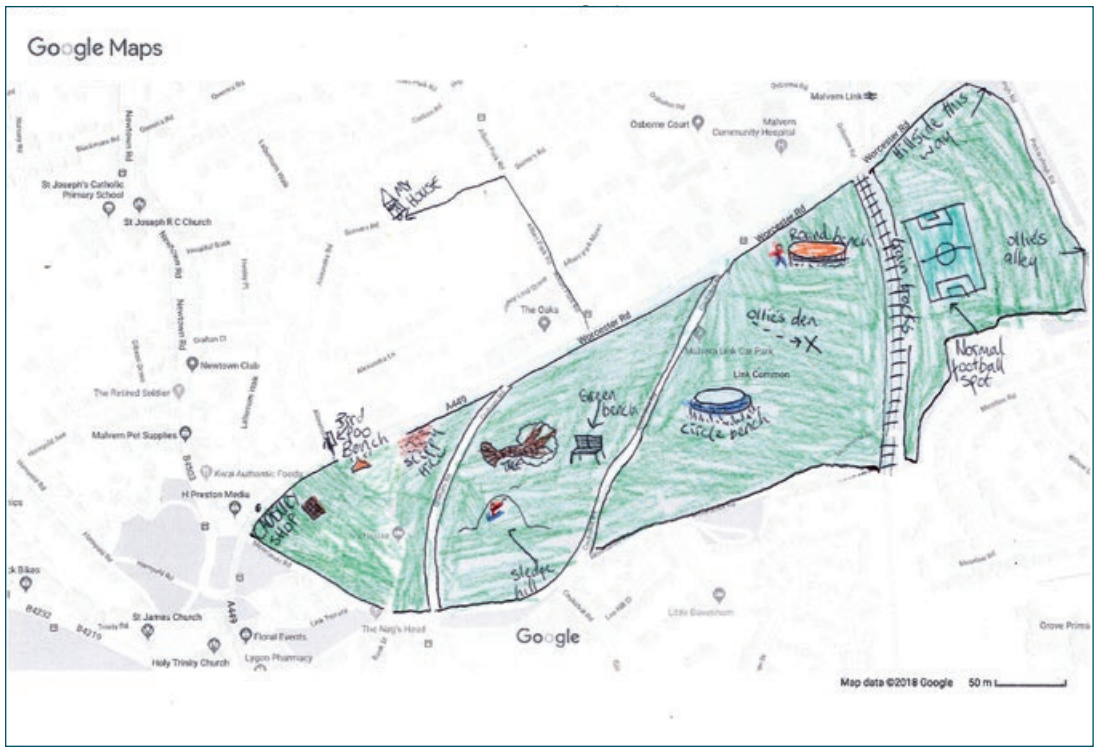

Figure 1: Starting with places they know helps pupils develop their map-making skills. Work by Ben Pickering.

As an abstract representation of reality, maps can be quite challenging for pupils to understand. It takes a leap of faith to grasp that the coloured squiggles and shadings on the paper are actually a 'drawing' of a real place. Although there is evidence that in recent years safety fears have restricted pupils' spatial movement, it has long been demonstrated that even very young pupils can use maps and plans to locate objects (Wiegand, 1999).

From an early age, map skills can be developed incrementally, from simple map directions (up/down/behind/in front) with simple symbols and maps in EY settings through to compass points, positional language and world maps at ages 5–7. Older pupils can tackle increasingly complex maps with grid references, distances, keys, bearings and symbols. You can download and use a comprehensive table of age-appropriate map skills (see web page). The key to helping pupils perceive maps as an accurate and useful picture of what is on the ground is to start with pupils creating their own maps of places they know (Figure 1). Completing a sound map is one way that pupils can develop an understanding of maps as a representation of a place (Figure 2).

Maps for a purpose

An exercise that works particularly well in age 7–11 settings, but could easily be adapted to challenge younger pupils, is to create maps for a set purpose. This involves writing a route for pupils to follow (see Figure 3). Ideally, the route should link to a part of the curriculum currently being studied, or to their home environment, as map skills are best taught in context rather than in isolation (Mackintosh, 2017). Groups of 3-4 pupils are challenged to draw the same map, but for a range of different purposes; for example, one group could be drawing maps specifically for young pupils, another for an illustration in a book. The class can then compare the various maps, and if the route is

Sound maps

Much of learning is visual, and none more so than map-making! So why not mix things up a little with a musical map? Schools tend to be busy, noisy places, but most schools also have quiet spots outdoors. Take your class to a quiet area and tell them that they are going to make maps, but not the usual types of maps of things you see; this time they will make maps of things you hear. Ask the pupils for complete silence as they spread out, clipboard and paper in hand, to stand and listen for a few minutes. Ask them to draw a sign or symbol to represent themselves in the middle of the page and as they hear noises around them to map them on their paper. They will need to decide what signs and symbols (no words) to use for the sounds they hear, and how they represent distance and volume.

The beauty of this exercise is that, whereas with a visual map pupils tend to draw the object they see, they naturally use signs and symbols to represent sounds, so you are likely to get much more creative use of symbols, e.g. waves and circles for windy spots, musical notes for birdsong. Back in the classroom pupils can use their new skills to develop the maps, adding grid lines and a key, scale and compass points. This is an excellent way to demonstrate to the pupils that something that might look quite abstract is actually a representation of a place. You could then compare their maps to a printed map of their school, or even to a range of different types of maps. Through questioning, pupils can learn that different maps are created for different uses and that maps tend to show physical features rather than the transient sounds that they have drawn (Pickering, 2017a).

Figure 2: Mapping sounds in familiar places.

Description of route
Start with a steep slope to the west of you. Head 40m north to a staggered crossroads. One road goes north, one north east and one south east. Take the right fork to head 60m in a NE direction. There are a few old houses to the left of you and a field on your right. Take a sharp right turn onto a new road to head S for 60m to the end of the road. Then join the main road SSW for 160m. You will pass a school to the E of you and trees to the W. Take a sharp left turn to head along a road that starts off heading N but gently curves so that after 500m you are heading E. There is a range of houses to your right and open land on your left.

Different purposes		
You work for a **theme park** and have found that many families get lost on their way to your park. Draw a map that shows the route to take and the things to look out for very clearly. It needs to be able to be understood by **young pupils**.	You work as an **architect** and your customer needs a very precise map in order to plan for some new buildings.	You work for a **tourist office** that specialises in the weird and wonderful, spooky and fantastical.
You work for a **travel agent** and your clients do not understand English. Your map has to be clear and include no words, only signs and symbols that are easy to understand without needing an explanatory key.	Your challenge is a tough one for mathematicians. You work for a **travel company** that needs to know how long a journey takes, so your map should show the time it takes to travel rather than the actual distance. The first 100m is to be travelled on foot at a speed of 100m/minute, the second 100m by bicycle at 200m/minute, and the rest by car at 500m/minute. Can you draw a map to show distance in minutes taken rather than metres travelled?	You are an **artist** for a publishing house and the map needs to represent the journey travelled in the **story**. You can make up the theme of the story.

Figure 3: Maps for a purpose exercise. Work by Y6 pupils at Wyche CE Primary School, Malvern.

based on an actual map you can compare the pupils' maps to the original one. Following the route on Google Earth may help pupils who struggle without concrete examples.

Pupils could be given a list of things to include in their map – a scale, compass points, a key and grid lines – or they could be challenged to discuss and decide which key elements of a map they should include, bearing in mind the purpose of their particular map. They start to see the benefits of symbols over diagrams, and grid references as a good means to navigate around a map. Such activities help pupils to realise the range of applications that maps can support and provide critical opportunities for the development and assessment of map skills.

Maps and stories

In many primary schools there is a focus on developing core skills in literacy and numeracy. There are, however, numerous ways in which such core skills can be developed through geography, and similarly geographical skills through the core subjects (see also Section 6). A large number of children's books, throughout all key stages and within Early Years settings, involve journeys and adventures. Many books contain maps, too, or provide the potential for pupils to create maps based on the story (Figure 4). The *Narnia Chronicles* (Lewis, 1950–56), for example, contain beautiful adventure maps, while *Meerkat Mail* (Gravett, 2007) provides clear detail for pupils to draw their own maps as the Meerkat mail travels across the Kalahari Desert. Many outdoor learning activities make use of stories like *We're Going on a Bear Hunt* (Rosen, 1989) and traditional tales such as the Three Little Pigs to create maps from natural objects in the woods. *Journey Sticks* (Whittle, 2006) describes a well-documented way to help young pupils develop the idea of mapping a journey. Maths skills can also be developed by pacing out and measuring the routes taken in such settings and then recording these, as far as possible to scale, when creating maps of the routes taken or read (see web page).

His Dark Materials

Philip Pullman's *His Dark Materials* trilogy superbly blends the real city of Oxford into a fantastical fictional backdrop. You can use the accompanying *Lyra's Oxford* (Pullman, 2003) as the starting point for map work. It contains a pull-out map of Lyra's Oxford – a mixture of the real and the imaginary. Comparing Lyra's map to an OS map or, more readily available, a Google Earth map, is a good starting point to identify buildings, streets, areas and landmarks. Groups of pupils can be given a series of features to identify using 'real' maps, if possible. It is worth including some of the fictional places from the story and discussing why they had been added – or indeed, if the pupils were to create a fantasy based on the reality of their home town, what fictional landmarks they might include and why.

Figure 4: The *His Dark Materials* trilogy (Pullman, 1995–2000) contains beautiful descriptions of local and distant places and journeys, from Oxford to Svalbard.

If you explore your local maps you may find a wealth of interesting names: Lovers Lane, Hangman Hill, Goldmine Valley or Stock's Corner. Can the pupils create their own stories based on the names that they find on their local maps? Or indeed, can the pupils re-name their own local area to better represent it through their own sense of place – Big-swing Park, Creaky Fence Road or Dodgeball Lane (see also Figure 1) – and overlay these on existing maps? This builds connections between the pupil and the place. The act of adding your own names to a place that is familiar supports your engagement with the area where you live, helping pupils to view maps as dynamic, and also providing resources that they can work with. This can fuel imagination and deep questioning about places. Who decided on the original names? What stories lie behind the names on the maps?