

Mapping my area

This lesson will allow the children to explore their environments and apply the theories learnt in the classroom to their surroundings. The activities will encourage the use of measuring skills as a basis for familiarisation and connection with the natural and built environments they frequent. Estimation as an exercise develops the children's reasoning and rationale skills, and requiring them to use their map for another exercise leads them to critically evaluate the work they have completed.

KS2 Maths Lesson Plan  **1 hour**

This activity is best done on a warm, sunny day.

Equipment

- Pens and paper
- Graph paper
- Protractor and ruler
- Trundle wheel

Key learning outcomes

- Developed observational skills
- Developed critical thinking skills
- Reasoning and rationale
- Developed measuring skills
- Developed estimation skills
- Evaluative and critical thinking skills

Time	Activity
5 mins	<ul style="list-style-type: none"> ■ Assemble the children outside and show them the area that they're allowed to explore. If your school has one, it should be a green area or playing field. Try not to make the area a square, and provide differently sized angles. ■ In pairs, encourage the children to think of features or points of interest in the area. Are there trees? Are there lines on a playing field? If it is a patch of grass, you may like to use balls or other
15 mins	<ul style="list-style-type: none"> ■ Using a trundle wheel, the pairs should measure out the size of the area keeping note on their paper. They might wish to make a rough sketch of the shape of their area. You might wish to assign smaller areas, or divide the large area into smaller ones, so the children are not confined to the same area.
10 mins	<ul style="list-style-type: none"> ■ Ask the children to identify the angles of the area and to estimate what size they are. The edges of a field will be much more vague than a paved or concreted area, so it is best to remember that these are very rough estimates. ■ The children are to note down their estimates for each angle. If they have sketched their map, they should enter the figures in the appropriate corners. Older children should aim to be more precise and younger ones can use angle types, such as obtuse, reflex, right, and acute.
5 mins	<ul style="list-style-type: none"> ■ You should now return to the classroom. ■ Using the children's knowledge of ratios, lead a discussion about the most suitable ratio to accurately scale their map onto a single A4 sheet of graph paper. If you split the area, the children will require different ratios for different area sizes.
25 mins	<ul style="list-style-type: none"> ■ Once each child has their ratio, they should begin to draw out their map. ■ Using a ruler and a protractor, they should use the graph paper as a scale to accurately draw their map of the area. Do the children's estimated angles match the shape of the area that they were assigned? If you can, show the children a map of the area for reference when they have finished. ■ Ensure that the children have labelled the length of all their sides and the angles.

Homework The children should work out the area of their map.