

MATHS INVESTIGATIONS

What is investigative maths?

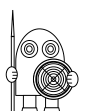
First of all, investigative maths is not just practical work; many investigations do involve practical activity but that's usually only the starting-point. Secondly, investigative maths is not the same as problem-solving. In both practical work and problem-solving children are given some initial information or instructions and they know what sort of answer they're looking for – even if they don't know straight away what it is or exactly how to get it. In investigative maths children are given a starting-point and some clear procedures to try out but they have no idea at the outset what sort of results they're going to get – although clearly good investigations at this stage generate patterns of different sorts and it's these patterns we want children to look for and identify.

What's the point of investigative maths for children?

Even now some people have the idea that maths is a fixed body of knowledge with a rigid set of rules and procedures; they see it as a subject where you get right answers by just learning how to apply the rules correctly. On this view of maths there's just one correct way of doing each kind of thing and there's just one right answer. It's important for children to learn that real maths isn't all like this – there are plenty of topics still to be investigated and there really is room for being imaginative and creative. In real maths not all problems can be solved by one approach and not all problems have just one straightforward answer. Real maths involves asking questions, investigating and using your imagination.

Our investigations

Our investigations come from a variety of sources; some you might have seen before, whilst others are completely original – but all have been tried and tested in the classroom and found to be practicable, worthwhile and engaging. They're presented here in a way which makes them easy to grasp and straightforward to carry out in the classroom. Please look at the list below to see which investigations might well suit which of your age-groups – but remember these are only suggestions, so feel free to use them as you judge best. Some of the earlier ones can be adapted to provide interesting investigations for older pupils.



investigation	year-group
elephant parade	<i>KS1</i>
spot the ladybird	<i>KS1</i>
get into shape	<i>Yr3</i>
domino squares	<i>Yr3</i>
finding pentominoes	<i>Yr3</i>
seating plans	<i>Yr4</i>
all change	<i>Yr4</i>
pentomino properties	<i>Yr4</i>
9-spot dominoes	<i>Yr5</i>
rectangle crossings	<i>Yr5</i>
spirolaterals	<i>Yr5</i>
minicubes	<i>Yr5</i>
pent-up pigs	<i>Yr6</i>
polygon diagonals	<i>Yr6</i>
1000 lockers	<i>Yr6</i>
square nets	<i>Yr6</i>
regions in a circle	<i>Yr6</i>
corner to corner	<i>Yr6</i>

