

Mathematical Reasoning: A programme for Year 2 children

This information sheet outlines the opportunity for schools to take part in the Mathematical Reasoning project. The Mathematical Reasoning programme, developed by a team at the University of Oxford, has previously been shown to have a positive impact on pupils' numeracy ability equating to three additional months' progress. The [report on the previous EEF trial](#) will give further background. The Maths Hubs network is now looking for schools to be involved in a larger scale trial funded by the Education Endowment Foundation (EEF), which will start in September 2016. Year 2 teachers in participating schools will receive training and then deliver the programme to their pupils during their usual mathematics lessons. Participating schools will receive training and all the materials associated with the programme free of charge.

What is the Mathematical Reasoning programme?

The Mathematical Reasoning programme is designed to promote children's quantitative reasoning — understanding the relations between numbers and being able to use them to solve problems. The teaching programme materials cover approximately 12 lessons, one lesson per week. During the other days teachers continue with their usual teaching plans. Teaching aims and lesson plans are included as part of the intervention. The lessons normally include teacher-led activities, which are supported by PowerPoint presentations and worksheets for the children. Online games are an integral part of the programme and are available from the project website. They should be played by the children in school sessions and could be continued at home for reinforcement if the school and parents so wish.

What does the trial involve?

Schools who sign up for the project will be randomly assigned to either an immediate or a waiting list group as part of a Randomised Control Trial (RCT). This will allow the study to provide robust evidence on the impact of the programme on pupils' mathematical ability. By participating, your school will be making a valuable contribution to building the evidence for what works in education.

The Oxford research team will work with Work Group Leaders (WGLs) from participating Maths Hubs, who will be supported by the National Centre for Excellence in the Teaching of Mathematics (NCETM) to train teachers in each participating school to use the programme and to provide further support. There will be 20 schools taking part in each of eight Hub regions.

A team from the National Institute of Economic and Social Research (NIESR) are responsible for the independent evaluation of the programme. They will be supported by NatCen Social Research, who will deliver the testing aspects of the project.

What will the School have to do?

Year 2 teachers in participating schools will attend a day of training aimed at introducing them to the programme, explaining the concepts, and allowing them to explore the learning activities for themselves.

The ten schools in the "immediate" group will receive training in Autumn 2016 and then carry out the programme. During this time they will be supported by their WGL through school visits and an online community. Teachers will be expected to complete a survey about current teaching approaches and their experiences of the programme. Some schools may also receive a visit from the evaluation team.

In the first year of the study (2016-17), the ten schools in the waiting list group will be asked to continue with "business as usual teaching". Teachers will also be expected to complete a survey about current

teaching approaches. These schools will receive training in the programme and materials, and support in delivering them, during the school year 2017-18.

At the end of the school year 2016-17, the children in both the immediate and waiting list groups will complete a mathematics assessment. This test will be administered by a research team from NatCen Social Research (NatCen). The tests are standardised paper and pencil tests, designed independently of the researchers, and have been validated as sound educational assessments.

In order to participate, schools will be asked to sign a memorandum of understanding and provide details about the pupils, classes and teachers involved. All data will be handled in a secure and safe way, and anonymised once assessment scores are collected. Opt-out consent will be obtained from parents prior to the trial commencing; schools will be asked to distribute a standardised consent letter to parents, which we will provide.

Schools will need to have use of computers or tablets for the pupils and access to the internet. During the special lessons of this programme, the class teacher will require the support of a teacher assistant.

Timeline for the project	
Spring term 2016	Maths Hubs recruit schools through expression of interest.
Summer 2016	<ul style="list-style-type: none"> • 20 schools confirmed by Maths Hub • Data collection (independent) to support set up of trial. • Waiting list and immediate groups selected at random
Autumn 2016	Training for teachers in “immediate group” schools by WGLs
Autumn 2016/Spring 2017	Materials used in “immediate group” schools, visits by WGLs and evaluation teams
Summer 2017	Testing of all year 2 children
June/July	Work Group Leads and teachers in “immediate group” come together again to reflect on the intervention and how it might be embedded in their normal curriculum.
Autumn 2017-spring 2018	Training for teachers in waiting list group schools leading to their use of the intervention materials

Next steps

Please complete and return the Expression of Interest form to **Archimedes Maths Hub** (jspringhall@carmel.org.uk) by **28 April 2016**. If you require further information about the project, please contact us at the same address. The timeline for the expression of interest process is as follows:

Date	Activity
28 April 2016	The completed and signed Eoi must be submitted to Archimedes Maths Hub
By 27 May 2016	The shortlisted schools will be informed. The Memorandum of Understanding, consent letters and data collection sheet will be distributed to these schools.
July 2016	Schools will be informed whether they are in the immediate or waiting list groups.

Please keep this information sheet for your records