

This booklet is for staff working with children in Reception classes.

It:

- provides guidance on the organisation and management of the daily mathematics lesson in Reception;
- considers progress towards Year 1 organisation.

The guidance reinforces and expands on the section 'How can we work in Reception?' in the Introduction to the *Framework for teaching mathematics: Reception to Year 6*.

The background to the **Framework** for Reception

- **Children start school at different times of the year**, with very mixed experiences and understanding. They may vary in age from being 'just 4' to '5 plus'. Local policies for entry for school vary widely across the country. Some children start in the September of the Reception year; others start in January or April at rising five and will complete one or two terms in the class before moving on to Year 1. Some summer-born children may have no time at all in a Reception class and will start school in the September of Year 1. The number of children in this situation may have reduced as a result of the changes in early years funding but the variations in children's understanding remain. Children will also arrive from a variety of different settings – nursery, playgroup, childminder, home – and therefore will have had very different learning experiences.
- **The examples illustrate what the oldest Reception children should be able to do by the end of the year.** The *Framework's*, supplement of examples for Reception illustrates what a child who reaches the age of five in the autumn term, and who spends a whole year in Reception, should know and be able to do by the end of the summer term.
- **Reception teachers need to tailor the examples in the *Framework* to their own circumstances.** The objectives and examples for Reception may continue to apply to some children in Year 1, including those who have not had a full year in Reception, so Year 1 teachers will need to refer to the *Framework* for Reception when planning. Similarly, Reception teachers and assistants should refer regularly to the *Framework* for Year 1 so that they are clear about where work is heading.

- **Reception teachers need to take account of what children already know, understand and can do.** When beginning to plan for mathematics in Reception, schools will need to consider carefully:
 - information gained from their own observations and baseline assessment;
 - records passed on from nurseries and playgroups; and
 - the comments which parents/carers make about their child's progress in mathematics.

The examples for Reception (Section 4 of the *Framework*) are phrased to reflect children's wide range of experience. For example:

- page 4: Begin to understand in practical contexts: *count, how many...?*
 - page 7: Begin to understand and use in practical contexts: *odd, even, every other...*
 - page 8: Begin to understand and use in practical contexts: *guess how many, estimate...*
 - page 9: Begin to read the first few number names, including zero.
 - page 23: Be aware of the language of clock times of the day, such as: we go to assembly at 10 o'clock...
 - page 24: Start to become aware of some properties of solid shapes when looking at, talking about and comparing them.
- **Reception teachers have an important role to play in identifying children's individual needs.** Early years teachers have a key role to play in identifying children who need additional support and planning interventions to support their learning.
 - **The planning grids are suitable for use in any Reception class,** since they indicate topics, and the balance between them, not levels of difficulty. They differ from the planning grids for other years in that:
 - the number of teaching days is missing and can be determined once children have settled into school;
 - each termly grid is different, to reflect the need, each term, to cater for children who have just started school and those who have been in the Reception class in the preceding term(s).

The yearly teaching programme for Reception (Section 3, page 2) is in line with the Early Learning Goals and provides a bridge from the goals to the National Curriculum which begins in Year 1. Remember that although the Foundation Stage prepares children for the beginning of Key Stage 1, it is also a distinct phase of education and one in which play is vital.

The daily mathematics lesson in Reception

In Reception classes, a wide range of activities supports the teaching and learning of mathematics including:

- observation of number and pattern in the environment and daily routines
- two- and three-dimensional work with a range of materials
- board games
- imaginative play
- large and small construction
- cooking and shopping
- stories, songs, rhymes and finger games
- outdoor play and 'playground' games
- sand and water

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Lessons will often include, or be based upon, well-planned opportunities for children's play. Examples of this will be found in the QCA/DfEE document – *Curriculum guidance for the foundation stage*.

Planning and organising this range of activities is important for the promotion of social skills as well as for the teaching of mathematics. An important role for Reception staff is to help children begin to recognise that school is where learning takes place. They provide a wide range of opportunities for children to develop their independence and ability to concentrate and persevere. These will include:

- listening in small and large group settings;
- finding and using the equipment that they need;
- taking turns;
- playing games, for example, becoming familiar with the repetitive structures of throwing dice and collecting objects.

To make sure that children experience a range of activities, the daily mathematics lesson in Reception can be planned in the following ways:

- a whole class activity which will almost always include some counting;
- some teaching of the whole class on the main mathematics topic of the day;
- group activities:
 - either one or more activities, linked to the theme of the lesson, worked on by groups in turn during the day, usually supported by an adult;
 - or mathematical activities for everyone, simultaneously in groups;
- a plenary with the whole class after the group activities are ended.

The lesson should always begin with an oral and mental starter, followed by some direct teaching to the whole class, and there should always be a plenary session. Sometimes the plenary can be at a time when follow-up discussion on numeracy and literacy activities can take place together.

The middle part of the lesson will change over the course of the year and sometimes from topic to topic. Initially, during the main teaching activity, children not working on an adult-directed activity may be working on activities of their own choice (not necessarily mathematical) in various areas of the classroom. If there is another adult in the room, she or he may draw out mathematical opportunities from their play, when there is an appropriate moment.

Towards the end of the Reception year, it is important that the lesson structure gradually becomes more like that of lessons in Years 1 to 6. This will mean longer periods of whole class teaching and children working in groups simultaneously. Over time, the elements of the daily mathematics lesson can be drawn together to form a 45-minute lesson.

Teachers will need to make decisions about the organisation of daily mathematics lessons taking into account:

- the range of age, experience and maturity of the children;
- the needs of individual children who may require additional support;
- the number in the class;
- the mathematical topic being taught – new learning, practice and consolidation, something children have found difficult in the past...;
- the level of support from classroom assistants.

The sample lessons for Reception (from *More numeracy lessons*, DfEE 1999), provide examples of different forms of organisation. The lessons include role-play, outdoor play, rhymes, games, and group work undertaken with a classroom assistant.

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Schools need to plan carefully the role and contribution of classroom assistants in Reception. Assistants need to know the teacher's objectives for the children's mathematical learning so that both are working towards the same end. Assistants can then observe or join in children's play and subsequently feed back to the teacher.

During whole class sessions assistants can:

- focus on particular children and monitor their responses to the discussion;
- sit near children who need help, and do this quietly and discreetly;
- help a particular group feed back to the whole group in a plenary session.

During group work assistants can:

- observe and talk with the children to inform future planning;
- ask the children questions to get them thinking;
- help them to work together sociably;
- help them to understand an activity;
- introduce/reinforce mathematical vocabulary;
- give children the chance to discuss the mathematics they are doing.

Conclusion

Children in Reception are expected to:

- receive some direct teaching;
- work as a whole class, in groups and as pairs or individuals;
- develop an understanding of the number system through counting in varied contexts;
- have many opportunities to talk about mathematical ideas;
- explore those ideas through well-planned play and practical work.

References

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| <i>Early Learning Goals</i> | QCA/DfEE 1999 |
| <i>Curriculum guidance for the foundation stage</i> | QCA/DfEE 2000 |
| <i>More Numeracy Lessons</i> | NNS/DfEE 1999 |
| <i>The Framework for teaching mathematics: Reception to Year 6</i> | NNS/DfEE1999 |
| <i>Guide for your professional development: Raising standards in mathematics in the early years, in Key Stage 1 and in special schools. Book 4, Chapter 5.</i> | NNS/DfEE 1999 |

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