

Mathematics Guidance 2022

Where education is more than what you know,
it's who you can become...



**HUJJAT
PRIMARY
SCHOOL**

VISION

To be an outstanding, happy and inclusive school that cultivates our relationship with God through the conduct and teachings of Prophet Muhammad (Peace be upon him). A place where children can indulge their intellectual curiosity, develop a love for learning, and build the foundations to become ethical, responsible and inspirational members of society.

MISSION

We will facilitate the well-being and growth of every child's mind, body and character through:

- Nurturing children within a safe and caring learning environment to realise their full potential;
- Providing a broad, balanced, vibrant and inclusive core curriculum that fosters curiosity and outstanding academic achievement;
- Facilitating experiential teaching, enrichment activities that are a feast for the senses, and focused time on health, hygiene and nutrition;
- Fostering learners who are able to think, question and reflect independently;
- Developing confident, respectful and effective communicators who can express themselves and make informed choices;
- Encouraging positive relationships;
- Listening deeply and accepting every child as a gift from God.

This is accomplished through a values curriculum in accordance with the Islamic philosophy of education. Individuals are encouraged to reflect on the qualities of God and develop the virtues of good character as embodied by Prophet Muhammad (Peace be upon him), thus enabling our pupils to apply their knowledge and turn it into action for the benefit of our school and the wider community.

VALUES

- Integrity
- Respect
- Compassion
- Excellence
- Service
- Gratitude

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Rationale

At Hujjat Primary School, we strive for all children to be confident within all aspects of Mathematics. Numeracy skills are at the core of our curriculum. We want to enable our children to access the whole curriculum through a deep understanding of its purpose and importance in our society. By developing a comprehensive range of arithmetic, calculation, geometry, statistics and problem-solving skills, we aim to foster in the children a love and appreciation for Mathematics.

AIMS

The purpose of mathematics at HPS is to develop:

- positive attitudes towards the subject and awareness of the relevance of mathematics in the real world
- competence and confidence in using and applying mathematical knowledge, concepts and skills
- an ability to solve problems, to reason, to think logically and to work systematically and accurately
- initiative and motivation to work both independently and in cooperation with others
- confident communication of maths where pupils ask and answer questions, openly share work and learn from mistakes
- an ability to use and apply mathematics across the curriculum and in real life
- an understanding of mathematics through a process of enquiry and investigation

We aim to provide a stimulating and exciting learning environment that takes account of different learning styles and uses appropriate resources to maximise teaching & learning.

Statutory Requirements

Statutory requirements for the teaching and learning of Mathematics are laid out in the National Curriculum Mathematics Document (2014) and in the Mathematics Number and Shape, Space and Measure sections of the Early Years Foundation Stage document.

The Early Years and Foundation Stage (Reception) aims to develop young children's understanding of number and shape, space and measure.

Number involves giving children opportunities to count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. We will support children in using manipulatives to add and subtract two single-digit numbers and count on or back to find the answer. Our aim to ensure that children get opportunities to solve problems, including doubling, halving, sharing and relate these to real life situations.

Shape Space and Measure involves encouraging children to use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects in order to solve problems. Children will be able to recognise, create and describe patterns. They will be given opportunities to explore characteristics of everyday objects and shapes and use mathematical language to describe them with increased accuracy.

Special educational needs & disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's IEP's incorporate suitable objectives from the National Curriculum for Mathematics. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson. Maths focused intervention in school helps children with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the SENCO and/or the class teacher. Within the daily mathematics lesson teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

Mathematics in the Early Years Foundation Stage

Children enter Reception with a range of experiences in many areas of learning. The primary focus of Reception is to ensure that children are making progress from their starting points towards the achievement of the Early Learning Goals at the end of Reception.

Where appropriate, we will encourage children to talk about their own experiences of Mathematics and build on these using the classroom and outdoor learning environments. Children will have access to a range of materials and specialist mathematical resources to support their conceptual understanding of number, shape, space and measures. This is to make learning accessible to children from a range of starting points.

Children in the Early Years Foundation Stage learn through positive relationships with those around them in engaging environments. Indoor and outdoor activities are carefully planned to stimulate children's interests and allow them to access learning independently as well as with support from adults. In Reception, Mathematics is taught through discreet sessions as well as making links across the EYFS curriculum.

Assessment of children's attainment within the area of Mathematics is carried out through skilled observations from supported and independent tasks. Judgements are moderated within school and externally with other schools to help ensure accurate teacher assessments.

Mathematics in Key Stage 1 and 2

The overarching aim for Mathematics in the National Curriculum (Years 1-6) is to equip children with the skills to make rich connections across mathematical ideas, to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. Our aim to is to teach children to:

- become fluent in the fundamentals of Mathematics, including through varied and frequent practise with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately;
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language;
- solve problems by applying their Mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions (Taken from the 2014 National Curriculum Document)

At Key Stage One (Years 1 and 2), children develop confidence and mental fluency with whole numbers, counting and place value. This involves working with numerals, words and the 4 operations, including with practical resources (for example, concrete objects and measuring tools). At this stage, children develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Our teaching also involves using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of Year 2, children will know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practise at this early stage will aid fluency. Children will be encouraged to read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage One.

In Lower Key Stage Two (Years 3 and 4), children become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. This will ensure that children develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, children will develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching will aim to ensure that children draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties and confidently describe the relationships between them. Children will be given opportunities to use measuring instruments with accuracy and make connections between measure and number.

By the end of Year 4, children should aim to have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Children will also be encouraged to read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.

Upper Key Stage Two (Years 5 and 6), will place greater emphasis on extending children's understanding of the number system and place value to include larger numbers and integers. This aids in the development of connections that children make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, children will aim to develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, as well as problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, children will be introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures will consolidate and extend knowledge developed in number. Teaching will also aim to ensure pupils classify shapes with increasingly complex geometric properties and students learn the vocabulary needed to describe them.

By the end of Year 6, children should be fluent in written methods for all 4 operations, including long multiplication and division and in working with fractions, decimals and percentages. Children will be expected to read, spell and pronounce mathematical vocabulary correctly.

Lessons

In all lessons, learning objectives and success criteria are clearly displayed and discussed. The emphasis in lessons is to make teaching interactive and lively, to engage all children and encouraging them to talk about mathematics. Lessons involve elements of:

- Instruction – giving information and structuring it well;
- Demonstrating – showing, describing and modelling mathematics using appropriate resources and visual displays;
- Explaining and illustrating – giving accurate and well-paced explanations;
- Questioning and discussing;
- Consolidating;
- Reflecting and evaluating responses – identifying mistakes and using them as positive teaching points;
- Summarising – reviewing mathematics that has been taught enabling children to focus on next steps

Home Learning

Children receive weekly maths homework to be learned at home using strategies discussed at school. This can be also be set online on Google Classroom. Teachers across the school will also assess children's mental calculation and recall via the use of mental maths tests that are appropriate to the age of the children. Further times tables tests will also take place in classes to support fluency and rapid recall of multiplication and division facts. Parents will have access to our HPS Mathematics Curriculum Maps for each year group through our school website. Further support with helping children at home as well as the calculation strategies used in each year group will be available on the school's website.

Celebrating Success

Mathematics is a vital part of learning in our school. We value and celebrate all achievements and progress the children make. To encourage this in EYFS and KS1, selected students receive weekly recognition for hard work across the curriculum. Additionally, throughout the school we have weekly 'Achievement Assemblies' which aim to recognise the hard work and resilience of students in a range of curriculum areas including Mathematics.

Assessment, Monitoring and evaluation

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of children daily through;

- regular marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short-term planning evaluated in light of these assessments.

Learning within Mathematics is closely monitored by the Mathematics Subject Leader and SLT. Lesson observations every term ensure consistency in high expectations of teaching and learning across the school. A book scrutiny is carried out every term so progress over time can be judged and high standards are maintained. This monitoring is then further moderated by the school's School Improvement Partner. All teachers assess learning in both

reading and writing on Insight Tracker. These judgements are then moderated termly within phase meetings to ensure consistency and then externally monitored by the local authority and in collaboration with other schools. Pupil progress meetings are carried out every term and within these pupil data is closely scrutinised to address any concerns in progress. This informs pupil interventions, so all children have the opportunity to make at least good progress from their starting point.

National Assessments

All pupils in Year 2 and Year 6 will take part in national assessments for mathematics. Arrangements will be made in accordance with the DfE guidelines and during the timescales provided. Year 2 teachers will ensure they make the process comfortable for children to ensure the assessment causes minimal upset in order to encourage children to demonstrate their skills of the subject. Year 6 teachers will carefully consider children's individual needs and plan for breaks where necessary and arrange in accordance with guidelines set nationally. National assessment tests and teacher assessments will be submitted to the local authority as per instruction on access arrangement documents.