



## **MATHEMATICS POLICY**

LOCATION : CURRICULUM HANDBOOK, DOCUMENT 5

### Curriculum Intent for Mathematics at Abbey Court School

Mathematical development is essential to pupils' ability to make sense of the world around them. To become functional learners, pupils need to learn to engage with their environment, making sense of what they can touch and explore and understanding how they can have an effect on their environment (cause and effect). Maths at Abbey Court supports pupils to develop these early, fundamental skills, which are the beginnings of understanding number, space and measure. Our curriculum intends to provide consistent and age appropriate opportunities to not only develop key mathematical concepts, but also to use their understanding to develop practical skills that they can use as adults. Wherever possible, maths is taught in meaningful, relevant contexts, which support pupils to apply their maths skills in a range of ways. Core skills such as understanding time, managing money, understanding cause and effect and developing basic number skills are rigorously focussed on in a practical, personalised approach throughout the curriculum. Use of accreditation, supports and recognises progress, as well as providing an important layer to our age appropriate progression.

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#### **1. Introduction**

Mathematics is a National Curriculum subject and as such is part of every pupil's experience at Abbey Court School.

#### **2. SMSC**

Abbey Court School makes effective provision for spiritual, moral, social and cultural (SMSC) aspects of learning and thus promotes the development of the whole child. Abbey Court School values highly its work in personal, social, health, sex and relationship education and citizenship. We want pupils to become responsible adults and supportive citizens and seek to create an ethos and climate in the school which will help them to flourish as young people, therefore, we actively promote and evaluate pupils' spiritual, moral, social and cultural development.

The four SMSC aspects are connected and the school's provision for one area will often make an impact on another, eg. when pupils listen to music from different cultures this may also make an impact on their spiritual development. Activities to promote moral development are also likely to have an impact on social development. The school provides opportunities to promote these aspects of pupils' development, within the curriculum. Each subject policy therefore enables staff to be clear about what it means to promote development in these four areas, within each subject. This is further supported through the subject schemes of work and the SMSC Exempla.

### **3. Rights Respecting School**

Abbey Court School is a Rights Respecting School and puts the 54 articles of the Unicef Children's Charter at the heart of all school policy. This policy reflects that we believe that as a school we must do everything possible to ensure that, through their learning, our pupils grow as healthy as possible, learn at school, receive protection, have their views listened to, and be treated fairly.

### **4. Curriculum Planning**

- 4.1 At Abbey Court School all pupils work within the National Curriculum guidelines for Maths, including the use of The Engagement Model. Those who attend the Further Education Unit follow a mathematics syllabus that offers an extension and/or reinforcement to their prior National curriculum work and can be accredited through aspects of the Towards Independence award and AQA unit awards, Including stand alone Numeracy units. Mathematics permeates all parts of the curriculum and a coverage plan and schemes of work have been developed to ensure continuity and progression within all Key Stages reflecting the National curriculum. The National Curriculum for Maths and The Abbey Court schemes of work for Mathematics form the basis of the coverage plan.
- 4.2 To ensure progression of our High Achieving pupils, pupils are grouped by ability within the Key Stage 3/4 for Maths lessons.

### **5. Teaching**

- 5.1 The majority of activities are initially teacher directed. These progress, when appropriate, to pupil developed activities.
- 5.2 The class teacher's role is developed, according to the pupils needs, to include consultant, assessor, monitor, participant etc.
- 5.3 The class teacher needs to be flexible in the variety of teaching styles they adopt in relation to the pupils educational needs. This is reflected in the diversity of styles of learning.
- 5.4 The class teacher needs to ensure the delivery of a three part lesson reflecting the coverage plans, schemes of work and individualised goals from pupils' individual education plans , throughout all Key Stages.
- 5.5 In addition to the teaching of mathematics in class groups, Numeracy core groups are timetabled to run for up to 1 hour, two or three times per week in Key stage 3/4. These are organised for ability groups (PMLD, SLD and HA's) by Key Stage Coordinators and Class teachers.

### **6. Learning**

- 6.1 Pupils are encouraged to learn independently and co-operatively (in pairs, small groups or as a class group).
- 6.2 In recognition of the developmental needs of pupils with learning difficulties, they are involved mainly in practical work forming the foundation for discussion, practice and consolidation tasks, problem solving and investigational activities, and cross curricular work. They are encouraged to be curious and to question.
- 6.3 Pupils are encouraged to evaluate their progress being self critical where appropriate.
- 6.4 Pupils own interest and activities are used, wherever possible, as a starting point to develop skills which can be related to practical real life situations.
- 6.5 Abbey Court schemes of work, published materials (ASDAN New Horizons, Transition Challenge, and Towards Independence), teacher generated tasks and practical everyday situations and equipment support the Mastery approach to Mathematics where pupils' mathematics development and deep understanding is the focus. Teachers use materials appropriately and, where necessary make adaptations for the developmental ability they are working with.

- 6.6 All of the above opportunities are used to form a programme of learning to suit the needs of the individual, group or class.

## **7. Assessment**

- 7.1 Initial assessment of mathematical achievement is linked to the Abbey Court basic entry profiling of pupils. Assessment of pupils entering later into the school will be undertaken initially by the class teacher and information from parents and previous reports from other schools.
- 7.2 Day to day assessment is via observation and marking alongside pupils, recording results or outcomes and making informed judgements relating to the pupil's mathematical applications. These are used to inform the planning of the next stage of working.
- 7.3 Every effort is to be made to involve pupils in the assessment of their own work and this is an integral part of the assessment policy. (see the Abbey Court School Planning, Assessment, Recording and Reporting Policy).
- 7.5 End of Key Stage assessment is undertaken at Key stages one and two, using the statutory Pre-Key Stage Standards.

## **8. Cross Curricular Links**

Mathematics is an integral part of every curriculum area. It is a tool to be developed and used across the curriculum in contexts which have relevance and interest to the pupils.

- 8.1 Every opportunity is taken to develop the skills of identifying mathematics within everyday tasks and routines.
- 8.2 Every opportunity appropriate to develop cross curricular links is taken so that pupils may extend their knowledge of mathematics through topics, themes and when exploring their environment.

## **9. Special Educational Needs and differentiation**

In order to facilitate appropriate differentiation and tracking of progress, progression maps for specific areas of Maths (Time and Money) have been developed as a planning and assessment resource. See appendix 2.

- 9.1 Approaches to work are reviewed with respect to an individual's special needs. This is shown in the flexible approach to planning work.
- 9.2 Pupils will be given access to opportunities which meet their individual abilities. The concept of a spiral curriculum is needed for all pupils whereby aspects of mathematics are revised on a regular basis with each revision being linked closely to the ability and maturity of pupils.

## **10. Staffing (including support staff) and resources.**

- 10.1 Class teachers are responsible for the teaching of mathematics and for the management work of support staff. Work experience students and volunteers will also be used to support mathematical learning, under the supervision and direction of the class teacher.
- 10.2 Class teachers are responsible for developing appropriate resourcing within classrooms to enable access by pupils. All classes have a basic range of resources stored within classrooms and have access to additional mathematical equipment in the centralised maths resource areas on both the Primary and Secondary sites.
- 10.3 Class teachers are responsible for developing mathematics displays within rooms to celebrate pupils' achievement; to provide a source of information and as a stimulus for further work.
- 10.4 Specific training for teaching and support staff is facilitated by the Senior Management team advised by the Subject Leader for Mathematics.

## **11. Equal Opportunities**

All pupils in Abbey Court School are given appropriate opportunities to access all areas Of the mathematics curriculum.

## **12. Health and Safety**

Mathematics teaching and learning is subject to the Abbey Court School's Health and Safety policy. All staff are responsible for becoming familiar with, and adhering to this policy requirement.

## **13. Integration including community links**

Integration opportunities into main stream settings will be developed where appropriate for the needs and entitlements of specific individuals. Visits to a wide range of venues within the locality are used to reinforce mathematical understanding and visits from people within the local community to support mathematics are encouraged.

## **14. Home/School links**

Class teachers are responsible for providing homework as appropriate for individual pupils. Mathematical learning will be reflected in termly IEP's.

## **15. Evaluation and review**

The Abbey Court Subject Leaders Role details the necessary processes and responsibilities. This policy will be reviewed bi-annually in light of:

- Changes in the National Curriculum
- OFSTED requirements
- Monitoring of its effectiveness in light of its implementation
- Changes in Abbey Court School's organisation

Julie Stride 7.10.97

Lynne Smith 1.7.01

Updated By John Bosley June 2004

Updated by Sheila Gibson April 2006

Reviewed by Paul Horsman March 2009

Updated By Zoe Weeks 2010/11

Updated by Zoe Silvester April 2013

Updated by Zoe Silvester 2014

Updated by Zoe Silvester December 2015

Updated by Zoe Silvester July 2018

Updated by Zoe Silvester September 2020

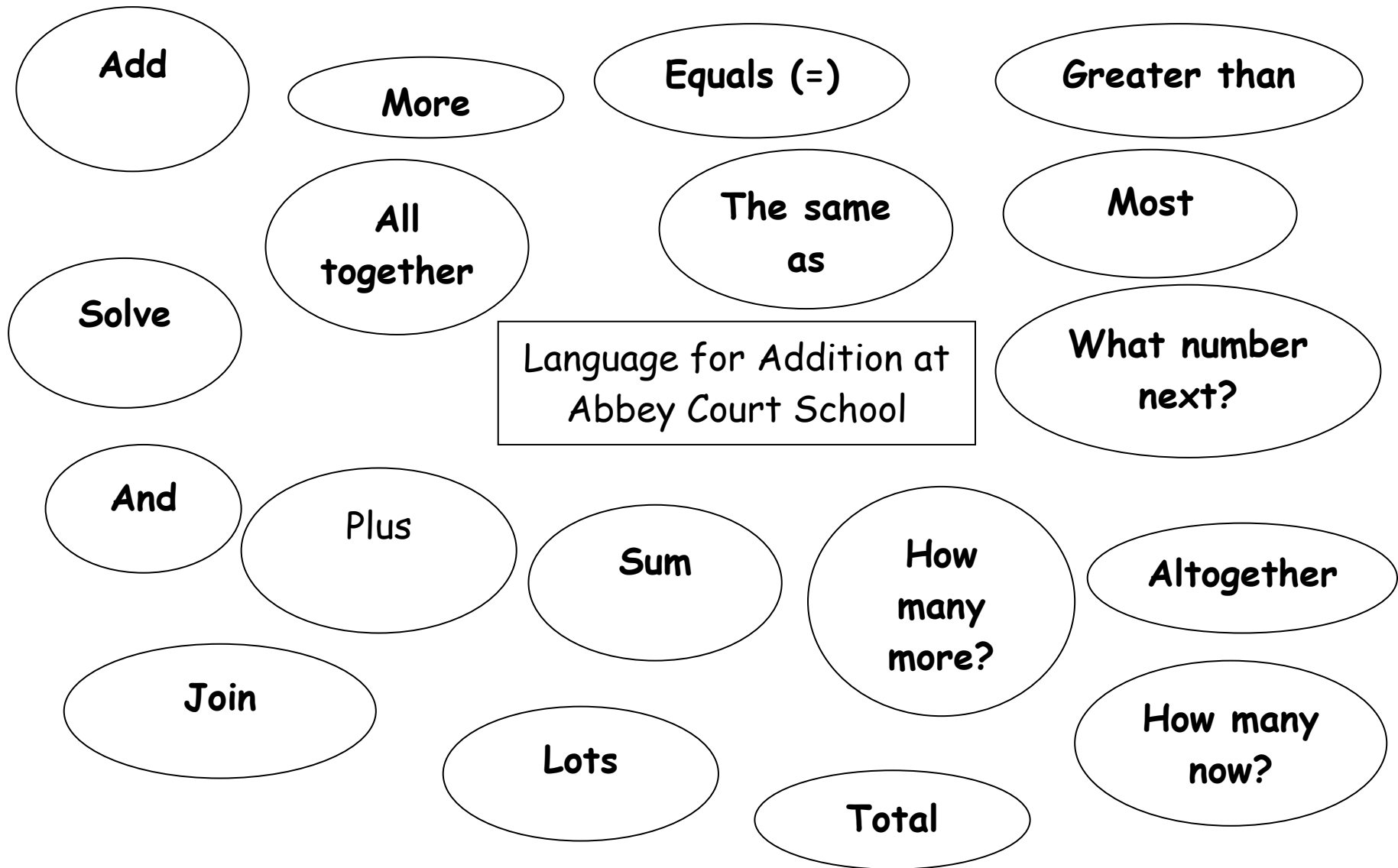
## **Appendices:**

Appendix 1: Maths Language for progression mapping

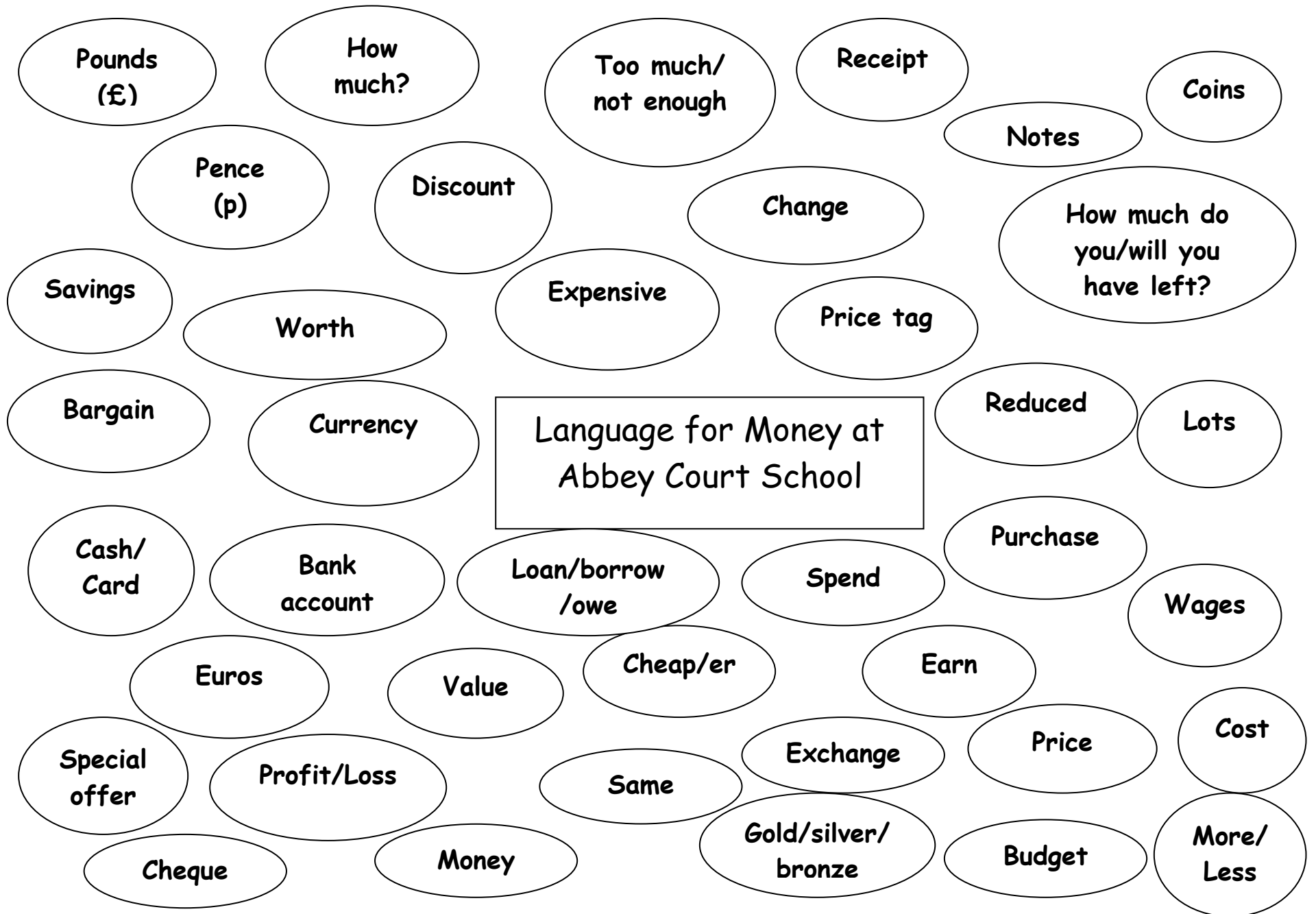
Appendix 2: Time and money progression maps

**APPENDIX I**

Maths Language







Take away

Equals  
(=)

Difference  
between

Fewer

Less

Reduce

the same  
as

Cheaper

Decrease

Language for Subtraction  
at Abbey Court School

Gone

Difference

How many  
left?

Subtract

Count  
down/back

Lower

Smaller  
than

Take  
from

Minus



## Appendix 2

### Progression in Money

#### Guidance on how to develop understanding of money at Abbey Court School

##### (Part of term 5 scheme of work)

### PMLD

- Develop awareness of quantity by exploring different quantities of coins e.g. lots and none or lots and one. Feel how heavy the coins are, how much noise they make, grasp and hold the coins in their hands etc.
- Develop the concept of one (five counting principles). Look at and feel the different coins and notes, post the coins into money boxes and purses, feel the coins being dropped into their hands. Identify full and empty.
- Develop the concept of object permanence by exchanging coins for items during role play situations. Use songs such as 'Five currant buns in a baker's shop' to support.
- Develop understanding of positional language by placing coins 'in' their purse or till, putting them 'on' the table etc.

### PMLD/SLD

- Use/develop understanding of shape and colour to aid coin/note recognition
- Sort all coins into separate piles (by value)
- Sort coins into separate piles (by colour)
- Order coins by value
- Order coins by size
- Distinguish between notes and coins e.g. by placing notes in a wallet and coins in a purse.
- Recognise numerals 1,2,5,10 and 20 to identify coins and notes
- Develop counting skills and one to one correspondence by counting 1p coins (up to 10)
- Exchange one coin for one item at a shop
- Exchange a named number of 1p coins (1-5) for an item in shop (role play)
- Place coins in the correct sections of a toy till (sorting and classifying)
- Identify 'lots' and 'one' using symbols and/or language
- Read numerals 1-5 and place the correct amount of 1p coins on the correct numerals.
- Using symbols, identify 'more' and 'less' by looking at quantities of coins (when the difference is substantial e.g. a pile of 2 1p coins and a pile of 20)
- Compare two money boxes and identify which has 'more' coins by feeling and shaking the pots.

- Develop simple addition and subtraction skills by adding one more or taking one away using coins

SLD/HA (including National Curriculum Programme of Study objectives)

- Develop their understanding of coin and note value by finding out how many 1p coins are equivalent to 2p, 5p, 10p etc. How many £1 coins are equivalent to a five pound note.
- Order all coins and notes by value
- Recognise and use '£' and 'p' symbols e.g. match price tags to the correct amounts (one pound coin goes with £1 and one penny goes with 1p)
- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number (NC). Count out 100 1p coins (rote counting as a class), Count on from £5
- Recognise the place value of each digit in a two-digit number (10s, 1s) (NC)
- Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) (NC)
- Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s (NC)
- Given a number, identify 1 more and 1 less (NC) e.g. if an item was 9p and you had 10p how much change would you receive. Or an item costs 1p and you want to buy 2, how much would you need?
- Use the language of: equal to, more than, less than (fewer), most, least in relation you monetary value.
- Read and write numbers from 1 to 20 in numerals and words (NC) to find out the price of items in a shop or to set up a role play shop in class.
- Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (NC) e.g. How do we work out how much two chocolate bars will be:  $10p + 10p = 20p$
- Represent and use number bonds and related subtraction facts within 20 to develop understanding of coin values and totals.
- Add and subtract one-digit and two-digit numbers to 20, including 0 to find the cost of a basket of shopping.
- Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as  $7p = ? - 9p$
- Compare amounts of money; which is more/less in terms of value not quantity of coins
- Halve and double quantities e.g. I want to buy 2 cakes
- Find different combinations of coins that equal the same amounts of money
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.
- Add and subtract amounts of money to give change, using both £ and p in practical contexts
- Estimate, compare and calculate different measures, including money in pounds and pence.

## Progression in Time

### Guidance on how to develop understanding of Time at Abbey Court School

#### (Part of term 6 scheme of work)

#### **PMLD**

- Enable pupils to encounter and develop awareness of time by experiencing description and commentary about duration of activities and the passing of time. For example, ‘Who’s turn is it next?’ when singing ‘hello’ song – pupils encouraged to anticipate their turn as you move round the circle.
- Encounter and respond to comparisons of time e.g. experiencing a pause before hearing music ‘ready, steady, go....’
- Develop anticipation and familiarity with expected ‘waiting times’ for example use ‘Jack in the box’ toys, switch activated toys (on timer latch), and interactive touch screen programs to develop anticipation when an expected outcome is delayed.
- Experience time in their daily routines – appreciation of routines e.g. eye point to dinner box when the ‘dinner song is sung’,
- Demonstrate awareness of waiting for their turn during shared activities such as striking a drum, or call and response activities. Demonstrate awareness when sometimes required to ‘wait longer’

#### **PMLD/SLD**

- Name days of the week including the weekend.
- Identify key elements of days of the week e.g. weekdays =school, weekend = no school.
- Order days of the week using symbols/text
- Identify when it is snack time, dinner time, home time
- Sort key events into morning, afternoon or evening e.g. breakfast, bed time, lunch time etc.
- Order symbols to depict their whole daily routine
- Identify start of school, snack time, dinner time, and home time on an analogue clock

#### **SLD/HA (including National Curriculum Programme of Study objectives)**

- Compare, describe and solve practical problems for time for example, quicker, slower, earlier, later
- Measure and begin to record time (hours, minutes, seconds) – time races using stop watch, sand timer, egg timer, and other digital timers
- Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]

- Recognise and use language relating to dates, including days of the week, weeks, months and years e.g. during reflective times and when planning events
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and the number of hours in a day
- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight
- Know the number of seconds in a minute and the number of days in each month, year and leap year
- Compare durations of events [for example, to calculate the time taken by particular events or tasks]

