

Glasgow Counts in our Playrooms Money and Time



Universal Twilight April 2023



MENTI

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As a result of today what is your top take away

 Mentimeter



Aims



To discuss money and time



To explore the GCIP framework and highlight digital enhancements



To consider developmental stages and progression in money and time



To consider money and time through the interactions, experiences and spaces



To explore books with a focus on financial literacy

Reflection



- What was your experience?
- What do you think is the key message that children need to get about Money and Time?
- What opportunities do you provide for Money and Time in your establishment?



Glasgow Counts Framework



Money and Time

Early Level E's and O's

I am developing my awareness of how money is used and can recognise and use a range of coins.

MNU 0-09a

I am aware of how routines and events in my world link with times and seasons and have explored ways to record and display these using clocks, calendars and other methods.

MNU 0-010a





Money	Handles money and recognises a few coins up to the value of £2 through play and in real life and relevant contexts (using real and plastic money)		Apply addition and subtraction skills to money contexts.	Use 1p, 2p, 5p and 10p coins to pay the exact value for items to 10p.	
	Identifies (names) 1p, 2p, 5p and 10p coins and pays the exact value for items to 10p e.g. if the price is 5p; can use a 5p coin to pay for it				
Time	Links daily routines and personal events to time sequences and begins to use appropriate language including before, after, later, earlier		Recognise, talk about and, where appropriate, engage with everyday devices used to measure or display time- including sand timers, clocks, calendars and visual timetables.	Use appropriate language when discussing time, including before, after, o'clock, hour hand and minute hand.	Read analogue and digital o'clock times (12 hour only) and represent this to a digital display or clock face.
	Recognises and where appropriate engages with everyday devices used to measure or display time e.g. clocks, calendars, sand timers and visual timetables				
		Identifies (names) the days of the week in sequence			
		Recognises the months of the year and describes features of the four seasons in relevant contexts			
Measurement	Length	Shares relevant experiences in which measurements of lengths, heights, mass and capacities are used, for example, in baking and other meaningful contexts		Compare and describe lengths, heights, mass and capacities using everyday language, including longer, shorter, taller, heavier, lighter, more and less.	Estimate then measure the length, height, mass and capacity of familiar objects using a range of appropriate non-standard units.
	Mass	Describes and compares common objects' lengths, heights, mass and capacities using everyday language, including long/longer, short/shorter, tall/taller, heavy/heavier, light/lighter, more/less/same			
	Capacity	Estimates, then measures, the length, height, mass and capacity of common objects using a range of appropriate non-standard units			
Patterns and Relationships		Copies, continues and creates simple patterns Involving objects shapes and numbers.		Copies, continues and creates simple patterns involving objects, shapes and numbers. Find missing numbers on a number line within the range 0-20.	





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	Mass						
	Capacity						
Patterns & Relationships	Copies simple patterns involving objects, shapes and numbers		Continues simple patterns involving objects, shapes and numbers		Creates simple patterns involving objects, shapes and numbers		
Shape	Recognise and describe common 2D shapes and 3D objects by attribute e.g. straight, round, flat and curved			Sort common 2D shapes and 3D objects according to attribute e.g. shape, colour, size			
Angles, Symmetry and Transformation	Correctly uses some of the language of position e.g. in front, behind, above, below		Begins to correctly use some of the language of direction e.g. left right, forwards and backwards to solve simple problems in relevant contexts		Identifies and describes basic symmetrical pictures with one line of symmetry		Creates basic symmetrical pictures with one line of symmetry
Data Handling and Analysis	Uses knowledge of colour, shape, size and other properties to match and sort items in a variety of different ways	Collects and organises objects for a specific purpose	Asks simple questions to collect data for a specific purpose	Contributes to a concrete or pictorial display where one object or drawing represents on data value, using digital technologies as appropriate	With support interprets simple graphs, charts and signs and demonstrates how they support planning, choices and decision making	With support applies counting skills to ask and answer questions. Makes relevant choices and decisions based on the data	



Mathematical Language : buy, cost, sell, change, spend, spent, amount, value, same, not the same, coin, note, card, price, more, less, least, most, altogether, sale, how much, cheaper, dearer, between, left, pound, pence, penny, pennies, purse, change

CfE [MNU 0-09a](#)

Strategies and Approaches

Children should be exposed to situations when we use money in everyday lives (wants and needs). If baking children can go to the shop with a list of ingredients needed, they can help buying snack for the week, they can go to the post office to buy stamps, to the bank to get a stock of coins for their role play area. In play situations, using records, receipts, order forms as a stimulus for money activities e.g. post office, cinema tickets, travel agents, shops, banks, ticket centre etc. Children should be given time to 'handle' coins and associate the coins with the value.

- Talk about money in a range of contexts including the increasing value of the coins, what is on the coins, their favourite coin
- Identify what is the same and what is different about notes and coins: the size, shape and colour, feel.
- Sort notes and coins into sets; have a vote between 2 coins – which is the favourite - then compare the answers of the group.
- When shopping talk about the change you receive if you give too much money
- Begin to add 1 pence coins together to make a total cost (if cardinal understanding is achieved).
- Have the coins as buried treasure in the sand or lost treasure in the water/outdoor/gloop that they have to find
- Put the coins in a feely box or bag where children feel the coin then have to say which one they think it is.

Digital Learning:

[Resources](#)

Questions to Enable Higher Order Thinking Skills

- I see, I think, I wonder
- Can you tell me what coin this is?
- Where can we buy the things we need for our cake?
- Which coin has the highest value?
- Why do you learn about money?
- How much would it cost to buy the...?
- Let's go shopping to buy an apple – it costs 10p – can you help me find the coins I need?
- Can you sort these coins from highest to lowest value?
- I have five pennies in my purse, I spend 1p, how much money will be left?
- I have 5 pennies and you have 4 pennies – who has more money? By how much? How do you know?
- What is your favourite coin?
- If you could make a new coin what would it look like? Can you draw it?

Barriers to Learning

- Paying for items with money can be an unknown for some children; lots of people now use credit cards, internet banking and online shopping. This can lead to children seeing money as an abstract concept.
- Some pupils may think that the larger the size of the coin, the greater the value of the coin, for example, a 2p coin is greater in value than a 5p coin.
- Some pupils may think that all coins are circular.

On Track at Transition Statement

- Identifies (names) 1p, 2p, 5p and 10p coins and pays the exact value for items to 10p e.g. if the price is 5p; can use a 5p coin to pay for it

Resources – Money

Common Learning Resources

Real money is best where possible; coins up to £2



Visits to the shops with shopping list and for a real purpose e.g. buying snack or ingredients for baking/cooking



Role-play with a till – a real one if you can. Items should be labelled with prices, purses for money, coins etc.



Online Resources



Stories

- *Bunny Money* by Rosemary Wells
- *The Shopping Basket* by John Burningham
- *Spend It!* by Cinders McLeod
- *The Happy Penny* by by Jenette Duhart
- *Alexander, who used to be rich last Sunday* by Judith Viorst
- *Lemonade for Sale* by Stuart J. Murphy and Tricia Tusa
- *Its Not Fair!* By Caryn Rivadeneira and Isabel Munoz

Mathematical Language :

Days of the week: Monday, Tuesday..., months of the year: January, February..., seasons: spring summer..., morning, afternoon, evening, night, light, dark, today, yesterday, tomorrow, o'clock, soon, early, late, hands, before, after, how long...? Always, often, never, sometimes, timer, calendar

CfE [MNU 0-10a](#)

Strategies and Approaches

To develop an awareness of time, children should be exposed to regular opportunities to 'see' time around them. There should be a clocks on display both analogue and digital, a calendar on display showing days of the week, months of the year and associated seasons and weather symbols. Use daily opportunities (whilst developing essential language), to ask questions – 'What day was it yesterday?', 'What comes after...?'

Everyday language of time – use of sand timers, songs etc. to mark the passage of time. Use language such as before, next, soon, later etc. in everyday contexts, morning, afternoon, evening.

Daily routines – "What do we do before/after lunch"? Sequence daily activities in order.

Days of the week and months displayed prominently, able to sequence, encourage before/after, birthdays and special days can be counted down visually and celebrated.

Seasons allow children to observe the changes in weather. Experiment with seasonal activities to allow for explorations of the senses, for example, the crunching of the leaves/snow, the sound of pouring rain, observing changes in plants, animals, lightness and darkness of days

Children's routines home learning can be encouraged with a travelling ted that goes round the nursery and home to find out what children do each of the 7 days. This can be recorded to help the child develop an understanding of the pattern of their day and what happens morning, afternoon and evening. The children can compare days they are at nursery to days they are not.

Digital Learning:

[Resources](#)

Questions to Enable Higher Order Thinking Skills

- Show me a month in the summer. And another, and another.
- Always / Sometimes / Never: -You get dressed before you go to school, You have lunch at 12 o'clock
- What do you do after nursery?
- What do we do in autumn? How do things change in autumn?
- What would happen if you could not tell the time?

Barriers to Learning

- Pupils have difficulty establishing an awareness of time and can receive conflicting messages regarding the passing of time. For example, "I'll be with you in a minute", "Give me a second... "
- Some pupils may find sequencing their day difficult if they have no established routines
- Misunderstanding of vocabulary - yesterday, today, and tomorrow are only understandable when they are linked to a specific event or activity that makes the concept of time concrete
- Some children may think that there are ten months in a year

On Track at Transition Statement

- Links daily routines and personal events to time sequences and begins to use appropriate language including before, after, later, earlier
- Recognises and where appropriate engages with everyday devices used to measure or display time e.g. clocks, calendars, sand timers and visual timetables
- Identifies (names) the days of the week in sequence
- Recognises the months of the year and describes features of the four seasons in relevant contexts

Resources – Time

Common Learning Resources



Can you order the days of the week/months of the year?

What can you tell me about Spring?



Online Resources



Calendar Muddle

This activity focuses on ordering familiar events.



Timing

Putting objects into a container in a certain length of time.

Stories

- *Moon* by Patricia Hegarty
- *Just a Second* by Steve Jenkins
- *Tree: Seasons Come and Seasons Go* by Patricia Hegarty
- *Today* by Julie Morstad
- *Goodbye Autumn, Hello Winter* by Kenard Pak
- *What's the Time Mr Wolf?* by Debi Gliori
- *Cluck O' Clock* by Kes Gray
- *What Time is it Mr Crocodile?* By Judy Sierra
- *Clocks and More Clocks* by Pat Hutchins
- *Noisy Clock Shop* by Jean Berg Horton

Digital Enhancements





Digital Literacy	Using digital products and services in a variety of contexts to achieve a purposeful outcome	Recognises different types of digital technology	Uses digital technologies in a responsible way with appropriate care	Identifies different applications and programs by icon	Logs on to devices with a password/ passcode	Opens and closes a pre-saved file	Identifies and consistently uses the close icon
	Searching, processing and managing information responsibly	Identifies and uses images and key words when searching for specific information		Demonstrates an understanding of how information can be found on a website (text, audio, images, video)		Understands they should not use materials that belong to others without permission	
	Cyber resilience and internet safety	Demonstrates understanding of appropriate behaviour and language in the digital environment	Some awareness of what to do and who to ask for help if something inappropriate happens while using a device		Identifies where passwords and passcodes are used in school and at home		Understands the importance of having passwords and passcodes
Computing Science	Understanding the world through computational thinking	Classifies objects, and groups using simple categories	Identifies similarities and differences between objects	Begins to identify patterns (objects and information)		Identifies beginning and end of an everyday process and recognises there are steps in between	Can give a set of instructions or directions in correct sequence
	Understanding and analysing computing technology	Understands that computers follow a process and need precise instructions	Follows a simple set of instructions using visual representation (e.g. arrows)	Understands that devices can be controlled and respond to commands	Predicts what a device (or person) will do when given a simple set of instructions	Follows and designs simple algorithms for a programmable device (or person) to carry out a task (e.g. directions to a goal)	Identifies computing devices and everyday technology in the world around them and the impact it has on their daily life
	Designing, building and testing computing solutions	Uses directional language (e.g. forwards, backwards, turn)		Identifies and corrects errors in a simple set of instructions or algorithm			Uses key language of computational thinking

Menu Give the exact money to buy the toy

4p

Clear Check

One Coin - 1p (Up to 10p) Score: 5 / 5



Coins Game

Sorting Ordering Counting

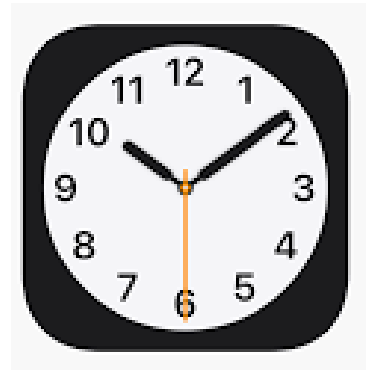
Sort coins into money boxes

Sort one coin

Sort two coins

Choose:

topmarks



Developmental Stages





My movement and coordination development

- some key aspects of what I need from my learning environment



Experiences

From birth → through my early years of childhood

- I need to move my body in lots of different ways in order to develop both my fine and gross motor skills.
- Before I am able to crawl help me to be physically active by encouraging me to reach out and use my hands to grasp, kick and move my legs and turn my head.
- Tummy time helps me build the strength I need for sitting and crawling. Do this only for short periods (up to 30 minutes spread throughout the day) when I am awake and alert and you are close to me. Never put me on my tummy to sleep.
- It's important that I don't spend too much time in a baby carrier, buggy, baby seat, walker or bouncer as the over-use of these can delay my physical development.
- Involve me in fun games, songs and rhymes where I stretch out and touch my hands, fingers or toes.
- When I'm able support me to sit to watch others, play with toys or roll over. Encourage me to stretch out for items just out of my reach.
- Give me physical support in response to my efforts to move, especially as I start to pull myself up to stand and try my first steps. Help, encourage and praise me.
- I need to move my body in lots of different ways in order to develop both my fine and gross motor skills.
- I need to have space and time to run, jump, climb, build, crawl, balance, stretch, make. I need to move in and around objects both outside and in. I need to have the choice to do this when I need it to regulate myself.
- I need daily outdoor play experiences to develop my sense of wellbeing and connect me to the world I live in. Outdoor play in different environments encourages me to move my body in different ways.
- I am reassured by the routines of my day. Routines continue to help me mark the passing of time and give me comfort. I need a balance of different times in my day to play and be active, relax and rest and have nourishment. Notice how the processes of the routines of the day provide opportunities for fine and gross motor skill development, for example encouraging me to become independent in dressing in my outdoor clothes.
- Access to resources that encourage open-ended experimentation helps develop my fine and gross motor skills. For example, loose parts play can involve large blocks I need to physically manipulate or small parts I need to carefully select and place on an artwork I am creating.
- Provide me with different resources that encourage my physical development and coordination. Help me develop fundamental skills such as throwing and catching, hopping, skipping, stretching, sliding, balancing and jumping.
- Link my experiences to enhance my learning, for instance consider how music can help encourage me to move.





Promoting my confidence, creativity and curiosity

- some key aspects of what I need from my learning environment



Spaces

From birth  through my early years of childhood

- I need constant and safe spaces, both indoors and outdoors, to explore for myself through my developing movements.
- An unhurried environment allows me time to concentrate on whatever catches my attention without being rushed.
- Carefully consider the resources on offer to me and how they will provoke my senses and encourage my curiosity and creativity.
- Mirrors help me to understand who I am. Notice how I interact with my reflection.
- Daily access to be outside in nature, experiencing all weathers and seasons in comfortable suitable clothing encourages my sense of wonder.
- Point out the features in the world around me and help me access them. For example, hold me up to show me trees and leaves or see birds flying in the sky.
- Bring the outdoors inside for me by ensuring I have access to windows, good lighting and natural objects to touch and explore.
- I need access to a variety of interesting spaces, both indoors and outdoors, filled with open-ended opportunities for me to explore and inquire, for example, the properties of sand, water, clay.
- Carefully consider and review my play spaces. Arrange indoor furniture and outdoor fixtures sensitively in response to my needs and place objects within my reach. Encourage me to share my ideas about the spaces I play and rest in.
- Give me frequent access to resources in which I show interest until I come to a self-satisfying conclusion.
- Mirrors continue to help me to explore who I am - notice how I interact with my reflection.
- Daily access to be outside in nature, experiencing all weathers and seasons in comfortable suitable clothing continues to encourage my sense of wonder.
- Walks and visits extend my curiosity and interest in my immediate world.
- Give me space and time to build, construct and take things apart over and over again.
- Give me opportunities to learn about music and dance through encouraging me to explore tunes, rhymes, rhythms, timing, pattern and movement.



Development Matters



3 and 4-year-olds will be learning to:

Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.

Extend and create ABAB patterns – stick, leaf, stick, leaf.

Notice and correct an error in a repeating pattern.

Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

Examples of how to support this:

Provide patterns from different cultures, such as fabrics.

Provide a range of natural and everyday objects and materials, as well as blocks and shapes, for children to play with freely and to make patterns with. When appropriate, encourage children to continue patterns and spot mistakes.

Engage children in following and inventing movement and music patterns, such as clap, clap, stamp.

Talk about patterns of events, in cooking, gardening, sewing or getting dressed. Suggestions:


- 'First', 'then', 'after', 'before'
- "Every day we..."
- "Every evening we..."

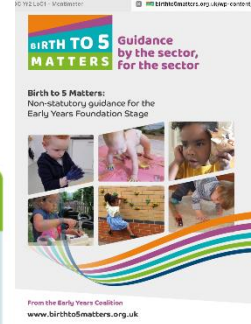
Talk about the sequence of events in stories.

Use vocabulary like 'morning', 'afternoon', 'evening' and 'night-time', 'earlier', 'later', 'too late', 'too soon', 'in a minute'.

Count down to forthcoming events on the calendar in terms of number of days or sleeps. Refer to the days of the week, and the day before or day after, 'yesterday' and 'tomorrow'.

Mathematics

A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
 <p>Number</p> <ul style="list-style-type: none"> Reacts to changes of amount when those amounts are significant (more than double) 	<ul style="list-style-type: none"> Notice and mirror children's reactions to changes in amount. Add to objects & draw attention to the change in amount, using words like <i>more</i>. When feeding babies comment on whether they would like more after being winded, e.g. <i>Oh, you want more</i>. Use feeding, changing and bathing times for finger-play with young babies 	<ul style="list-style-type: none"> Provide small groups of the same objects in treasure baskets, as well as single items.
<p>Spatial awareness</p> <ul style="list-style-type: none"> Explores space when they are free to move, roll and stretch Developing an awareness of their own bodies, that their body has different parts and where these are in relation to each other 	<ul style="list-style-type: none"> Support babies' developing awareness of their own bodies e.g. through baby massage and singing songs During floor play sometimes place objects that are just in or just out of reach, including small objects on cloths that babies can pull towards themselves. 	<ul style="list-style-type: none"> Provide opportunities for babies to move freely on carpets, grass etc. Observe and sensitively support babies' play and give them long stretches of uninterrupted time to explore. Provide low mirrors to support babies to develop a body awareness.
<p>Shape</p> <ul style="list-style-type: none"> Explores differently sized and shaped objects Beginning to put objects of similar shapes inside others and take them out again 	<ul style="list-style-type: none"> Encourage babies' explorations of the characteristics of objects, e.g. by rolling a ball or sliding a block. Demonstrate putting items inside others of similar shape 	<ul style="list-style-type: none"> Provide interestingly shaped objects to explore. Make towers for children to knock down using objects that stack.
<p>Pattern</p> <ul style="list-style-type: none"> Shows interest in patterned songs and rhymes, perhaps with repeated actions Experiences patterned objects and images Begins to predict what happens next in predictable situations 	<ul style="list-style-type: none"> Sing patterned songs and rhymes with predictable movements or actions (including from children's families). Move with babies to the rhythm patterns in familiar songs. Encourage older babies to join in tapping and clapping along to simple rhythms. Use repeated noises, movements and activities. Play simple "to and fro" games, passing and rolling between the adult and child so they begin to predict which comes next. 	<ul style="list-style-type: none"> Plan for adults to have time to enjoy repetitive activities with babies. Provide resources with high-contrast patterns.
<p>Measures</p> <ul style="list-style-type: none"> Responds to size, reacting to very big or very small items that they see or try to pick up 	<ul style="list-style-type: none"> Comment on the size and weight of objects when babies grasp objects that are <i>big</i> or <i>heavy</i>. During water play and bathing routines, show filling and emptying containers. At the end of mealtimes show and comment on the empty bowl, cup or bottle: <i>All gone!</i> 	<ul style="list-style-type: none"> Provide a range of objects of various lengths and weights in treasure baskets to excite and encourage babies' interests including larger and smaller items.



Birth to 5 Matters



Mathematics

	A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
RANGE 2	Number <ul style="list-style-type: none"> • May be aware of number names through their enjoyment of action rhymes and songs that relate to numbers • Looks for things which have moved out of sight 	<ul style="list-style-type: none"> • Take opportunities during play to sing number rhymes. • During personal care routines make a point of using numbers. • Play peek-a-boo hiding games with toys and people. 	<ul style="list-style-type: none"> • Plan to sing number rhymes with actions. Involve families in sharing number rhymes from home cultures.
	Spatial awareness <ul style="list-style-type: none"> • Explores space around them and engages with position and direction, such as pointing to where they would like to go 	<ul style="list-style-type: none"> • Use spatial words during everyday play and routines, or one-word comments e.g. as you get children <i>in</i> and <i>out</i> of a highchair. • Take opportunities to play hide and reveal games with objects in boxes and under cups. • Support babies' physical experience of positions and direction, e.g. describing <i>up</i> and <i>down</i>. 	<ul style="list-style-type: none"> • Play games that involve curling and stretching, popping <i>up</i> and bobbing <i>down</i>. • Provide boxes, cloths and bags for children to store, hide and transport items. • Provide nested boxes, cups and toys of different sizes that fit inside each other. • Share books that provide opportunities to use spatial language and describe movement
	Shape <ul style="list-style-type: none"> • Stacks objects using flat surfaces • Responds to changes of shape • Attempts, sometimes successfully, to match shapes with spaces on inset puzzles 	<ul style="list-style-type: none"> • When playing with malleable materials draw attention to shapes as they are created and changed. 	<ul style="list-style-type: none"> • Provide blocks and boxes to stack, build and solve problems with. • Provide a range of inset puzzles and support children as they explore matching shapes with spaces.
	Pattern <ul style="list-style-type: none"> • Joins in with repeated actions in songs and stories • Initiates and continues repeated actions 	<ul style="list-style-type: none"> • Talk about patterns in the environment e.g. spots and stripes on clothing or bumps in the pavement. • Spot opportunities to play "back and forth" and repetitive "again" games. 	<ul style="list-style-type: none"> • Sing familiar songs with repeated actions, jig to and tap out simple beats, encouraging children to join in. • Provide items for children to make repetitive sounds.
	Measures <ul style="list-style-type: none"> • Shows an interest in objects of contrasting sizes in meaningful contexts • Gets to know and enjoys daily routine • Shows an interest in emptying containers 	<ul style="list-style-type: none"> • During play and everyday contexts, comment on the sizes and weights of objects using a range of language such as <i>big</i>, <i>huge</i>, <i>enormous</i>, <i>long</i>, <i>tall</i>, <i>heavy</i>. • Talk about what is going to happen and what has happened during the day using <i>first</i>, <i>next</i> and <i>then</i>. 	<ul style="list-style-type: none"> • Provide big and little versions of objects for children to play with and compare. • Share picture books showing objects of contrasting sizes.



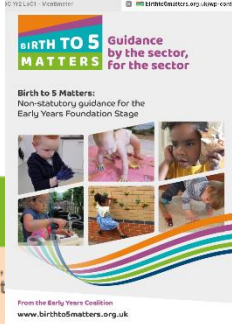
Birth to 5 Matters




	A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
RANGE 3	Comparison • Responds to words like <i>lots</i> or <i>more</i> Counting • Says some counting words • May engage in counting-like behaviour, making sounds and pointing or saying some numbers in sequence Cardinality • Uses number words, like <i>one</i> or <i>two</i> and sometimes responds accurately when asked to give one or two things	• Talk with young children about <i>lots</i> , <i>more</i> and <i>not many</i> and <i>not enough</i> as they play. • Draw attention to contrasting differences and changes in amounts e.g. adding more bricks to a tower or eating things up. • Model counting things in everyday situations and routines. • Take opportunities to say number words in order with children as they play, e.g. <i>1,2,3 go!</i> • Use number words in meaningful contexts, e.g. <i>Here is your other mitten. Now we have two.</i>	• Play hiding games so children notice that something has gone. • Provide varied sets of objects for playful opportunities for children to independently explore <i>lots</i> , <i>more</i> , <i>not many</i> and <i>not enough</i> . • Count while engaging in everyday tasks and while moving around. • Sing songs with counting strings.
	Spatial Awareness • Enjoys filling and emptying containers • Investigates fitting themselves inside and moving through spaces	• Model thinking during tidy up routines to promote logic and reasoning about where things fit in or are kept. • Support children's interest in body-sized spaces and provide commentary on the child going <i>inside</i> , <i>under</i> , <i>over</i> , <i>between</i> and <i>squeezing through</i> . • Look for opportunities to use spatial language during play activities.	• Designate specific places or spaces for items to be kept and fitted into for tidying. • Respect children's urge to explore spaces, to get inside and move between. • Build towers <i>up</i> for the child to knock <i>down</i> . • Provide shape sorters and packaging where children can hide, enclose or post items through holes.
	Shape • Pushes objects through different shaped holes, and attempts to fit shapes into spaces on inset boards or puzzles • Beginning to select a shape for a specific space • Enjoys using blocks to create their own simple structures and arrangements	• Model thinking about the properties of shapes when selecting them to fit into spaces, e.g. <i>Oh look, we need a round one.</i> • When playing alongside children who are building, provide commentary about the shapes you are using.	• Provide a range of inset board and puzzles with large pieces. • Provide a range of construction materials for independent play. • Organise storage by their shape, with photos or silhouettes to show where things are kept.
	Pattern • Becoming familiar with patterns in daily routines • Joins in with and predicts what comes next in a story or rhyme • Beginning to arrange items in their own patterns, e.g. lining up toys	• Highlight different times of the day and talk about what comes next within the pattern of the day. • Leave a space for children to do the next action or word in familiar songs and stories with repeating elements. • Comment on what is <i>the same</i> and what is <i>over and over again</i> in patterns found in the environment.	• Plan to share stories and songs that contain repeated elements which help children to anticipate what might come next.



Birth to 5 Matters



	A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
RANGE 3 (cont.)	<p>Measures</p> <ul style="list-style-type: none"> Shows an interest in size and weight Explores capacity by selecting, filling and emptying containers, e.g. fitting toys in a pram Beginning to understand that things might happen now or at another time, in routines 	<ul style="list-style-type: none"> Use the language of size and weight as children are involved in everyday play and routines. Use the language of capacity as children explore water or sand to encourage them to think about when something is <i>full</i>, <i>empty</i> or <i>holds more</i>. Emphasise the sequence within familiar activities or routines. 	<ul style="list-style-type: none"> Provide a range of objects, including big, and awkward ones that can be transported indoors and outdoors. Provide different sizes and shapes of bags, boxes and containers so that children can experiment with filling, experiencing weight and size. Plan to share images and books which show the order of daily routines.
	<p>Comparison</p> <ul style="list-style-type: none"> Beginning to compare and recognise changes in numbers of things, using words like <i>more</i>, <i>lots</i> or <i>'same'</i> <p>Counting</p> <ul style="list-style-type: none"> Begins to say numbers in order, some of which are in the right order (ordinality) <p>Cardinality (How many?)</p> <ul style="list-style-type: none"> In everyday situations, takes or gives two or three objects from a group Beginning to notice numerals (number symbols) Beginning to count on their fingers. 	<ul style="list-style-type: none"> Include the number sequence in everyday contexts and songs so children experience the order of the numbers (ordinality) Encourage children to explore the collections they make, comparing amounts and counting some of the items, emphasising the last number, e.g. 1,2,3. <i>There are 3 leaves.</i> Use opportunities to model and encourage counting on fingers. When singing number rhymes with props, draw attention to contrasting differences and changes in numbers, checking together <i>How many now?</i> Point out the number of things whenever possible, e.g. rather than just <i>chairs</i>, say <i>four chairs</i>. Encourage children to use marks to represent their mathematical ideas in role play. Help children to give or get two or three items, e.g. during snack time help children to take two pieces of fruit. 	<ul style="list-style-type: none"> Provide buckets and bags for children to create collections of objects which they can count. Provide mark-making materials indoors and outdoors for children to represent their own ideas in play. Provide opportunities for children to explore cardinality in the environment using self-correcting resources, e.g. jigsaw with two ducks and the number two, or displays showing the numeral and the number of items. Sing counting songs and rhymes which help to develop children's understanding of number. Say the counting sequence going to higher numbers, in a variety of contexts, indoors and out, and sometimes counting backwards.
RANGE 4	<p>Spatial Awareness</p> <ul style="list-style-type: none"> Moves their bodies and toys around objects and explores fitting into spaces Begins to remember their way around familiar environments Responds to some spatial and positional language Explores how things look from different viewpoints including things that are near or far away 	<ul style="list-style-type: none"> Encourage children to predict what they will see next on a familiar route. Take everyday opportunities to use words for position and direction accompanied by gesture (e.g. <i>in</i>, <i>on</i>, <i>inside</i>, <i>under</i>, <i>over</i>) using equivalent terms for these in home languages through liaison with families where possible. Enjoy games involving jumping, running and hiding and make very simple obstacle courses, e.g. <i>going up and down</i>. Model your thinking when arranging things, using some position words. Help children to create simple roads and rail tracks and talk about position. Value children's explorations of spaces and viewpoints and their interest in how things look different. 	<ul style="list-style-type: none"> Design outdoor spaces where children can learn through a variety of spatial experiences (<i>going under</i>, <i>over</i>, <i>around</i>, <i>on top</i>, <i>through</i>) and hear spatial language in context. Encourage children to freely communicate their mathematical thinking through gesture, talk and graphical signs. Plan stimulating indoor and outdoor spaces where children make choices about where to go and create their own routes. Provide materials to create trails. Provide resources for transporting.



Birth to 5 Matters



A Unique Child: what a child might be doing



Shape

- Chooses puzzle pieces and tries to fit them in
- Recognises that two objects have the same shape
- Makes simple constructions

Pattern

- Joins in and anticipates repeated sound and action patterns
- Is interested in what happens next using the pattern of everyday routines

Measures

- Explores differences in size, length, weight and capacity
- Beginning to understand some talk about immediate past and future
- Beginning to anticipate times of the day such as mealtimes or home time

Positive Relationships: what adults might do

- Chat about the shape of the pieces and the holes when fitting pieces into inset puzzles.
- Model comparing two objects to see if they have the same shape in purposeful contexts.
- Suggest choosing a particular shaped item for a purpose.
- Model your thinking when building.

- Talk with children about the patterns you notice around you.
- Comment on and help children to recognise the patterns they make in their mark making, loose parts and construction.
- Draw children's attention to the patterns in their routines by asking what comes next.

- Use everyday opportunities to describe everyday items and contexts using informal language of size (*giant, teeny, big, little, huge, small*), length (*long, tall, short*), weight (*heavy, light*) and capacity (*full, empty*).
- Observe children's problem-solving when ordering things by size, e.g. stacking cups, sensitively supporting by offering one if they are really struggling.
- Look out for opportunities to compare things purposefully such as finding out whether a teddy will fit in a bed.
- When children talk about their experiences at home and in the setting, use some language of time (*before, later, soon, next, after, morning, afternoon, evening, night-time*).
- In everyday activities, make a commentary about the sequence of events.
- When sharing stories and books, draw attention to routines and time sequences within them.

Enabling Environments: what adults might provide

- Provide a range of inset and jigsaw puzzles of increasing complexity for children to choose
- Provide a variety of construction materials including some with identical pieces so that children freely explore *same* and *different*.

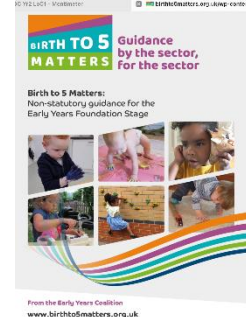
- Provide a range of natural and everyday materials, as well as blocks and shapes, with which to make patterns.
- Plan opportunities for children to experience pattern such as percussion, music and action games that involve repeated sounds or actions.

- Provide similar items of contrasting sizes so that children have many opportunities to encounter the language of size.
- Provide resources with clearly different weights to support direct comparison, and something to carry them in.
- Provide equipment with varied capacities and shapes in the sand, water, mud kitchen and role play areas.

RANGE 4
(cont.)



Birth to 5 Matters

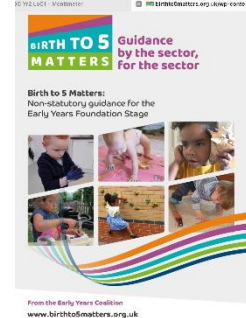


A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
<p>Pattern</p> <ul style="list-style-type: none"> Creates their own spatial patterns showing some organisation or regularity Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC) Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next <p>Measures</p> <ul style="list-style-type: none"> In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items Recalls a sequence of events in everyday life and stories 	<ul style="list-style-type: none"> Whilst playing alongside children, model simple repeating patterns of two or three items and encourage children to create and continue patterns. Demonstrate arranging objects in spatial patterns when building, collaging or playing with loose parts. Draw children's attention to patterns around them including from a range of cultures. When making patterns, help children to solve problems. <ul style="list-style-type: none"> During play, model comparing lengths and distances. Look out for meaningful opportunities for children to compare by length, weight, capacity and time using comparative language (<i>longer/shorter, heavier/lighter, holds more/holds less, longer time/shorter time</i>). Encourage children to participate in seesaw and balance scale play. Encourage children to respond to and use words such as <i>before, after, soon or later</i> when talking about routines, recent events and events in a story or rhyme. 	<ul style="list-style-type: none"> Provide a range of items for free exploration of patterning indoors and outdoors including natural materials, pattern blocks, loose parts, mats, trays and strips. Encourage children to join in with body patterns or repeating sections of songs. Pause to encourage prediction when enjoying stories and rhymes with repeating elements, sometimes using props. Emphasise the repeating pattern when turn taking. Provide patterned resources including those representing a range of cultures, such as clothing, fabrics or wrapping paper. <ul style="list-style-type: none"> Provide problem-solving opportunities indoors and outdoors for comparing length, weight and capacity, e.g. <i>Which is the best bottle so we'll have enough drink for everyone at the picnic?</i> Ask children to predict <i>What happens next?</i> using visual timetables, books and stories. Provide items that can be ordered by size, such as plates and clothes in role play.

RANGE 5
(cont.)



Birth to 5 Matters



A Unique Child: what a child might be doing



RANGE 6
(cont.)

Measures

- Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy
- Becomes familiar with measuring tools in everyday experiences and play
- Is increasingly able to order and sequence events using everyday language related to time
- Beginning to experience measuring time with timers and calendars

Positive Relationships: what adults might do

- When comparing the length, weight and capacity of things in play and everyday activities, encourage children to predict and give reasons.
- Discuss accuracy, for instance matching ends or starting points, balancing exactly or "fullness".
- Support timed challenges by timing runs, trails, obstacle courses, etc. and teach children how to use the stopwatch.
- Discuss the order and sequence of events in routines and role play using the language of time (*first, then, after, before, next, sooner, later*).
- Draw children's attention to visual timetables and clock times, focusing on the hour hand.

Enabling Environments: what adults might provide

- Have areas where children can explore the properties of objects, compare lengths, weigh and measure.
- Provide objects in a range of contexts varying in length, capacity or weight, including tall thin, short fat, large light and small heavy things.
- Provide pictorial sequences for instructions.
- Model using measuring tools including height charts, rulers, tape-measures, scales and timers.
- Sing songs about the days of the week and months of the year, referring to a calendar. Countdown to events.

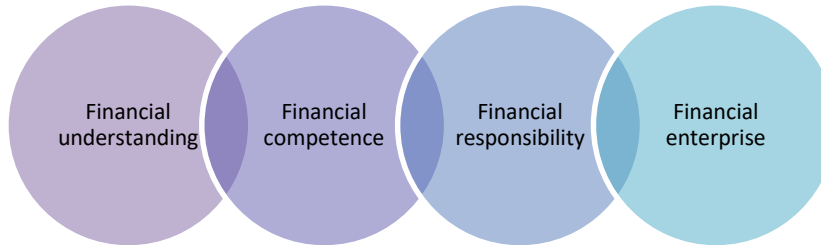


Key Concepts of Money

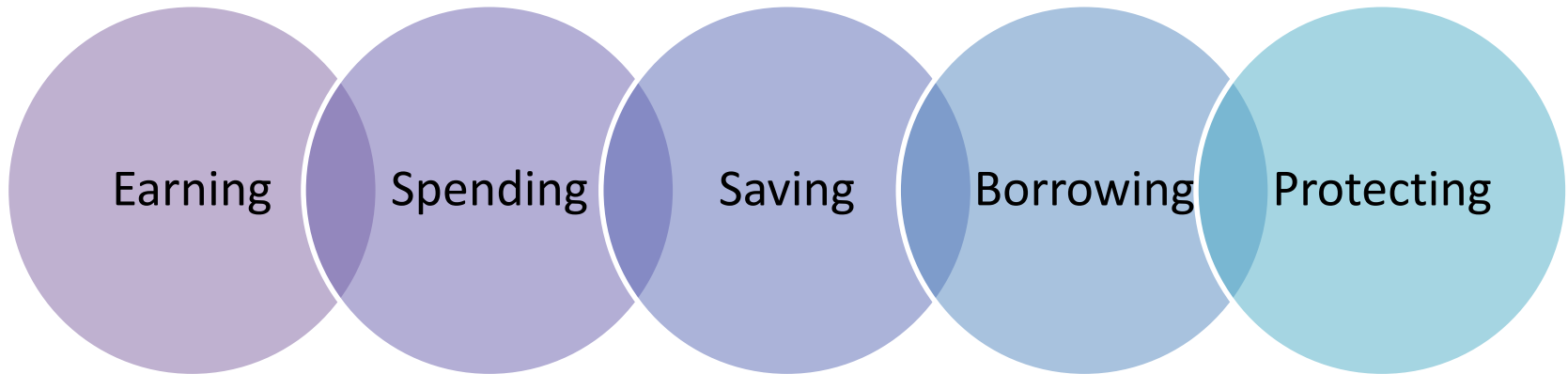


Financial Literacy

Financial Capability



Money is becoming a more complex concept within mathematics with close links to financial literacy.



Brighter Future Ahead? Action for Children (2022)

“Almost a third of children (30%) worry about their family having enough money to live comfortably.”

“Among the children we surveyed from low income backgrounds, nearly half (47%) said they worry, about their family’s finances...”



Understanding Money

3 years old - recognise money, know it is used for 'paying', little awareness of exchange or value

4 years old - some understanding that different things cost different amounts

5 years old – can see link between the cost of the item and the money to be paid

6 years old - understand the concept of giving change.



Berti and Bombi; 1981
Cited in Smith and Price; 2018



“With widespread use of debit and credit cards, these findings may differ from children's knowledge and experience now.”

Smith and Price; 2022

Mathematics in Early Years Education



Experiencing Money

Providing opportunities for children to play with money helps to develop a range of mathematical concepts:

Sorting and matching – size, colour, shape, weight

Numeral recognition

Simple addition and subtraction



Exploring Money


What is it
and what
do we use
it for?

Where do
we get it
from?


1p → 2p...

Exchanging


Experiences




Coin toss




Look closely




Treasure Hunt



Coin Pattern



Coin Rubbing

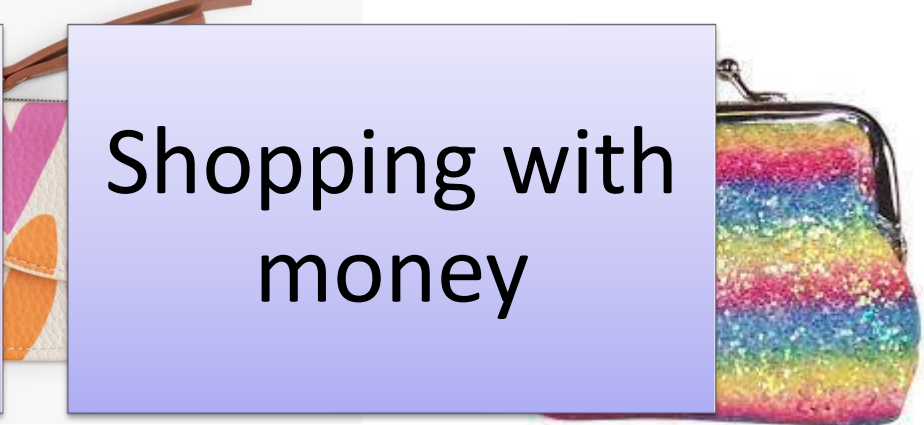


Grab a Handful


Experiences: Penny Purses



Small change



Shopping with money



Recognising and sorting coins



Exchanging

Financial Education at Westercraigs Nursery School begins with Real Life Experiences

Visiting The Royal Bank of Scotland in Alexandra Parade



Checking out the Logo



Financial Education at Westercraigs Nursery School begins with Real Life Experiences

Making a Real Transaction

Pressing the button
to withdraw cash



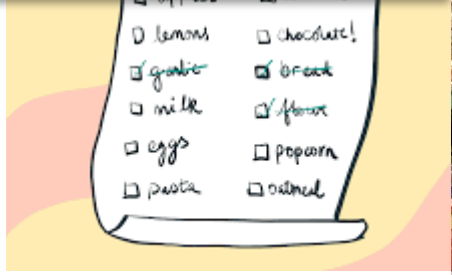
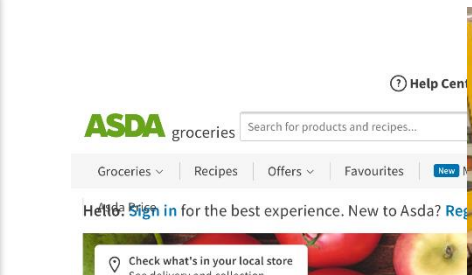
Financial Education at Westercraigs Nursery School begins with Real Life Experiences

Making a Real Transaction



Here's the £10 note we got from the Cash Machine.

Experiences: Purchasing



Experiences: Outdoors

Penny walk – flip a coin to determine which direction to walk – heads = left / tails = right

- Identifying features on a coin

Local walk – explore shop windows talk about what's for sale, signs and pricing

- Uses of money

Hidden coin – occasionally hide a coin in an area of the outdoor environment e.g. mud/sand

- Identify and recognise coins

Go fishing – 1 pennies are magnetic, attach a magnet to string on a stick.

- Counting, addition – how many coins fished?

Plop bucket – bucket of water with a coin in it (different to a 1p) how many pennies spent trying to hit the coin.

- Counting



Interactions

**I wonder why
we need
money in our
lives?**



**What do you
notice about
these coins?**

**I wonder which
items would
cost a lot of
money?**

**I wonder if
there is
anything that
we can't buy
with money?**

**I wonder which
items would
cost less
money?**

Interactions

I wonder what
is the same
about these
coins?

How can we
sort these
coins?



I wonder what
is different
about these
coins?

Is there any
other way we
could sort
them?

Which coin
would you
rather have?
Why?

Spaces

Pre-money coins



Spaces



Digital Money or Digital Currency



Help Centre Register Sign In £0.00

ASDA groceries Search for products and recipes...

Groceries Recipes Offers Favourites Meal Planning RollBack Back To School

Hello! Sign in for the best experience. New to Asda? Register

Check what's in your local store See delivery and collection options

Enter a postcode Check

Get The **ASDA PRICE** Feeling This Autumn



Enterprise



Key Concepts of Time



Complexities of Time

Abstract concept

Language of time used inaccurately

Experience is subjective

Key Features of Learning Time

Measurement of time

- Measure tool – clock, watch
- The ‘time’ something occurs e.g. 4.30 or half past four

Passing of time

- Seconds, minutes, hours, days, weeks, months, seasons, years
- Age is readily accepted by young children – ‘I am a year older’, as each birthday passes.

3 categories of passing time

Charlesworth and Lind;1990

Personal time

- Past, present and future

Social time

- Sequence of daily events, significant days of the week and times of the year

Cultural time

- Measured by clocks and calendars



Key Concepts of Time

Sequencing events and using comparative language

Recognising time events in the child's personal history

Comparing different units of time



Key Concepts of Time

Sequencing events and using comparative language

“The concept of time passing, past, present and future, is difficult for young children to grasp, as it is the immediacy of ‘now’ that is most important to them.”

Smith and Price; 2022
Mathematics in Early Years Education

Sequencing regular events

- Routines of the day – what has happened? What might happen next?
- Vocabulary: today, yesterday, morning, afternoon, next, before, after, then, now

Describing past events

- Encourage to recall past events – photograph special events within the setting
- Use of learning journals to reflect on experiences over time
- Vocabulary: days of the week, ages, special events and festivals, before, then, next after

Predicting future events

- Talk about what children hope will happen e.g. after nursery, at the weekend
- Help plan for special events/celebrations – countdown calendar can help mark how many to go/have passed.



Recognising time events in the child's personal history

Key Concepts of Time

Calling attention to clocks

- Experience use of clocks as a way of measuring time e.g. snack time, home time

Use of calendars

- Recognise regular sequence of days

Birthday charts

- Introduce months in order

Countdown calendar

- Show passage of time



Comparing different units of time

Key Concepts of Time

“Telling the time is a skill which most children do not acquire until about eight years of age.”

Children may become aware of using clocks to tell the time through:

- Digital clocks around the home e.g. tv, cooker

Children should experience

Playing with clocks, watches, sand timers, water timers

Using a timer for a defined time period e.g. tidying up toys

Clocks in home corner – children can set for breakfast/dinner time

Periods of time related to real events e.g. ‘by the time you have tidied up the blocks it will be snack time’.

Regular, recurring sequence of events in the day.



Awareness of Time



One minute sand timer



Using the timer or stopwatch on a phone



Watching the second hand on a clock



Using a kitchen timer



Using a stopwatch



Using an online timer



Experiences – Awareness of Time

Design a weather station and collect data over a period of time e.g. rainfall

Watch an ice cube melt

Count how many seconds it takes for the ball to roll down a hill.

Plant seeds and watch them grow over time

Community walks – bus stops, train stations etc.

A minute to win it challenges



Seasons



“Seasonal and daily variations in the natural world give a multisensory indication that changes are happening through time.”

Robertson; 2017

Messy Maths. A Playful, Outdoor Approach for Early Years



Experiences

Sequencing stories when retelling and acting out

Sequence daily events – what did I do today?

Being me – exploring photos of baby to young child

Link to science outcomes / weather.

Children could talk about and observe the changes in the weather and how the length of the day varies.

Use camera to photograph natural world as it changes through the seasons e.g. a tree in the garden. Create a timelapse video.

Allow children to create their own pictures/artwork associated with the seasons.

Experiment with seasonal activities to allow for exploration of the senses for example, the crunching of the leaves/snow, the sound of pouring rain, the feel of snow etc.

Interactions

What did we do after...?

I wonder what you will do after you eat your snack?



I wonder what might happen next? What makes you say that?

Next we will have story time. After that it will be lunch time.

I wonder what we will do next?

Interactions

What day is it today? What day was it yesterday?

I wonder what you will do after you eat your snack?



Do you think we could tidy up before the timer runs out?

We will go for lunch in one hour.

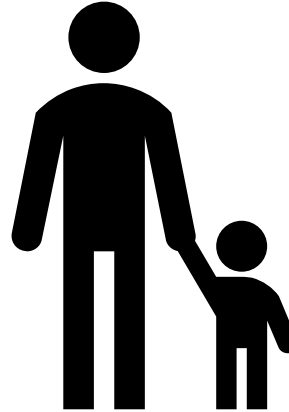
I wonder how many times you can fill this bucket before the timer runs out?

Interactions

What do you notice?

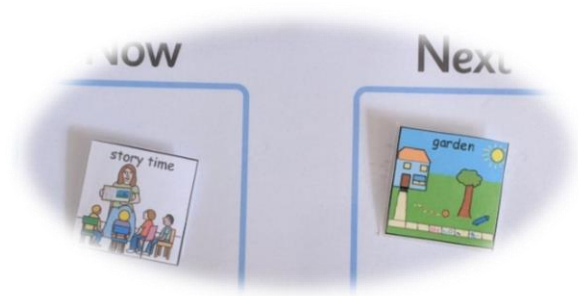
I wonder why we are wearing jackets in that photo but not that one?

I wonder why the trees look different in each of these pictures?



I wonder what happened next?

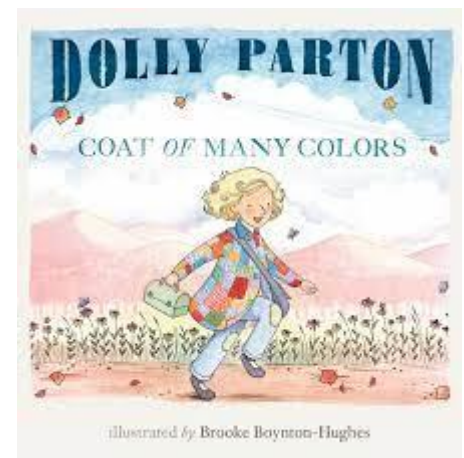
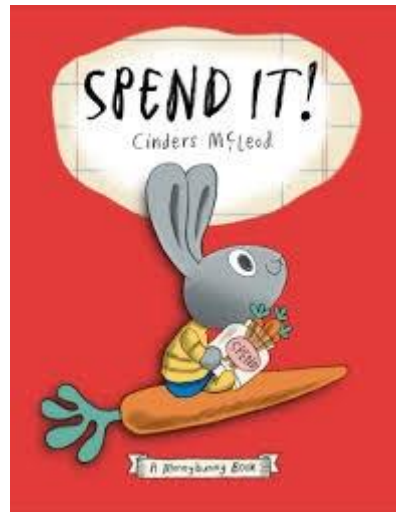
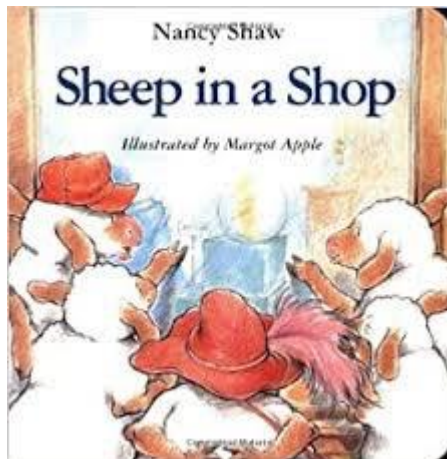
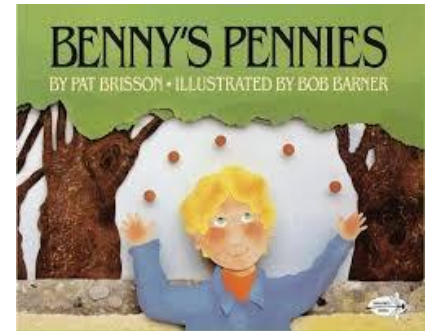
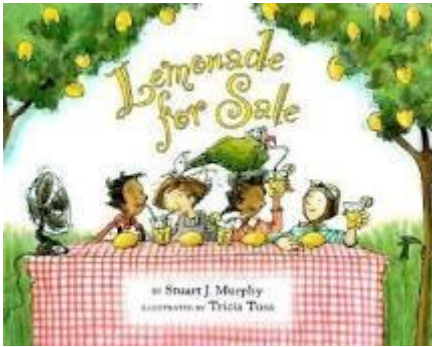
Spaces



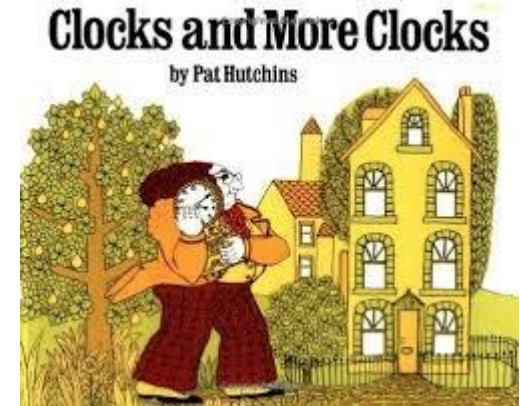
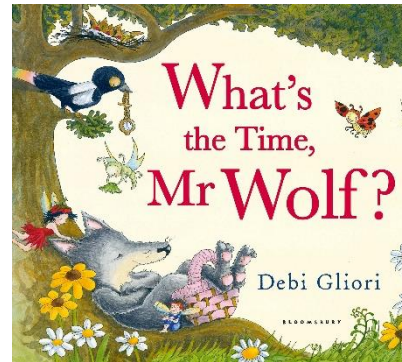
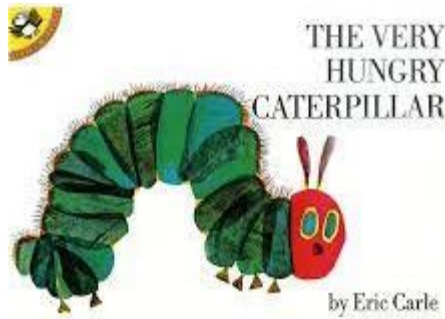
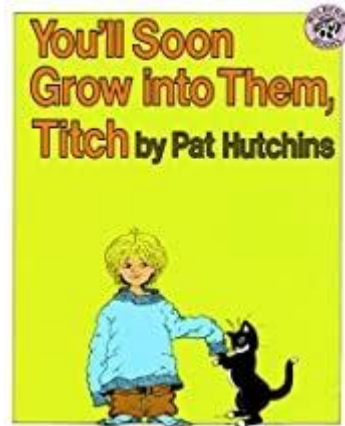
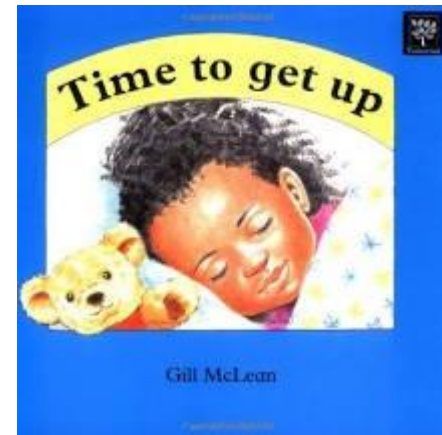
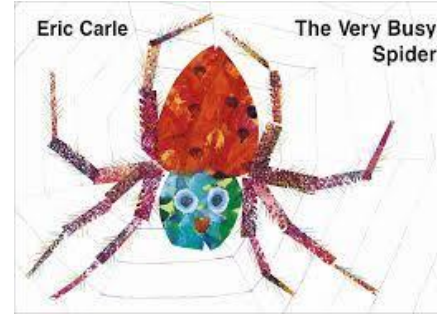
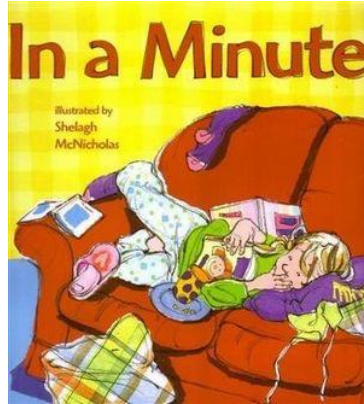
Stories, Songs and Rhymes



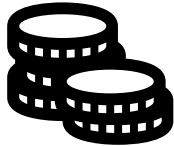
Using Picture Books to Explore Money



Using Picture Book to Explore Time



Money and Time Songs and Rhymes



- Pop goes the weasel
- Sing a song of sixpence
- Five current buns
- Find a penny pick it up



- Days of the week
- Doctor Foster
- Autumn leaves are falling down
- 5 little snowman

Observation and Assessment



Through observations of play, encouraging children to discuss what they are doing and asking them to review what they have done you will be able to assess skill in:

Sequencing past/daily events

Discussing events in the future

Use of the language of time e.g. today, yesterday, days of the week etc.

Discussing significant days, dates, times that are special to them

Explore the use of simple timing devices

Role playing the buying and exchanging money for items

Sorting coins according to colour, size, value

Naming the value of some coins

Exchanging a number of coins (using small change) for 'cost' of an item

MENTI

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As a result of today what is your top take away

 Mentimeter



Glasgow Counts in our Playrooms Money and Time



Universal Twilight

