Ideas to use the book ‘Rosa’s Big Sunflower Experiment ’ to support children’s learning using the Early Years Evidence Store

Putting evidence-informed approaches into practice

London South Early Years
Stronger Practice Hub

Rosa and her friends return for more fun conducting basic experiments involving science, technology, engineering and number skills!

Rosa and her friends are growing sunflowers. The industrious team of children fill pots with soil, tenderly plant seeds and then carefully label and position their plants. As they go along, they research and discuss the process - how seeds germinate, what they need to thrive and how they will benefit the insect community. Eventually their efforts pay off and they can admire their row of glorious golden sunflowers.

London South Early Years
Stronger Practice Hub

About Sunflowers

Sunflowers are known as being “happy” flowers and make the perfect gift to bring joy to someone's day.

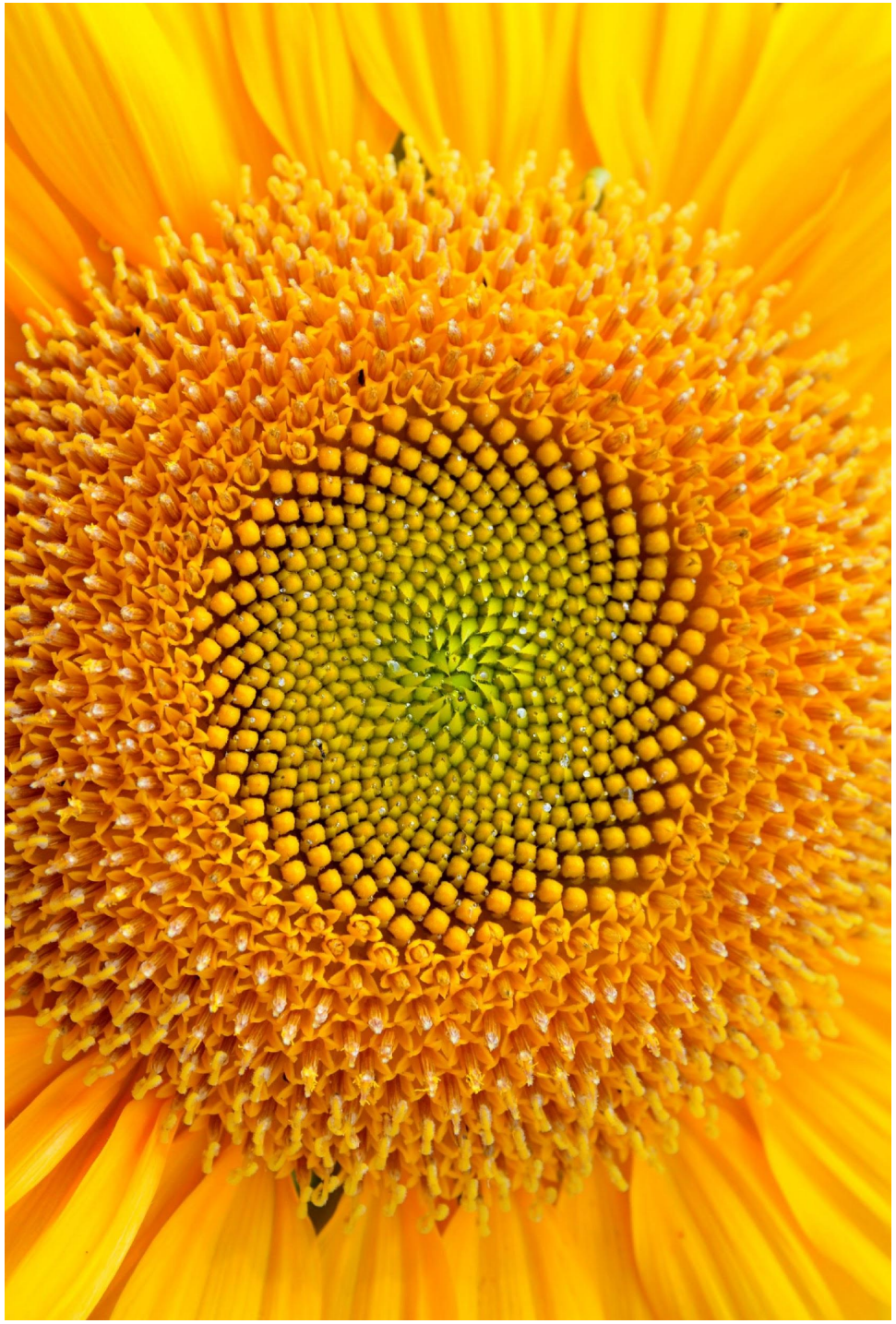
The name *Sun Flower* is a direct translation from the botanical name *Helianthus annus*. Heli meaning sun and anther meaning flower.

As soon as the flower forms and opens, you can watch it ‘turn’. Growing in this way, following the path of the sun across the sky is called ‘phototropism’ or ‘heliotropism’. In fact, the Italian word for sunflower ‘*girasole*’ literally means ‘turning sun’.

Once the flower has faded the sunflower head will have lots of seeds in the centre and these are a great source of food for birds, alternatively you can harvest the seeds and grow them again next year.

Sunflower growing / RHS Campaign for School Gardening

London South Early Years
Stronger Practice Hub



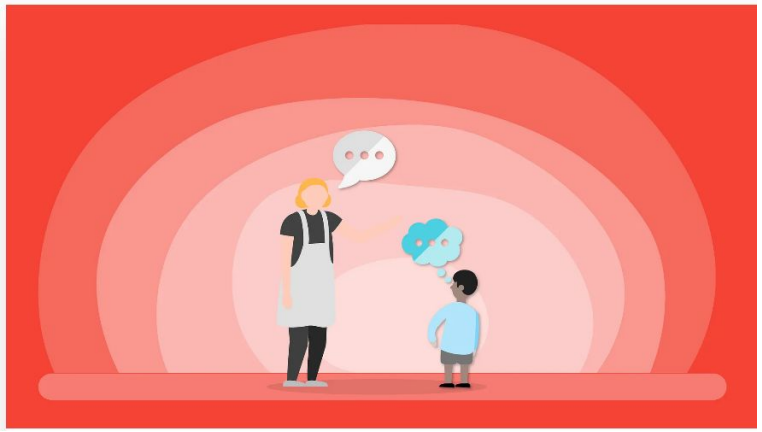
Not just a pretty face
Sunflowers don’t just look pretty, you can eat them too! Add petals and young leaves to brighten up salads and seeds can be roasted or eaten raw as a healthy snack.

Use sunflower petals and seeds in creams to relieve dry and itchy skins. Sunflower oil is a great source of vitamin E and helps to keep skin moist.

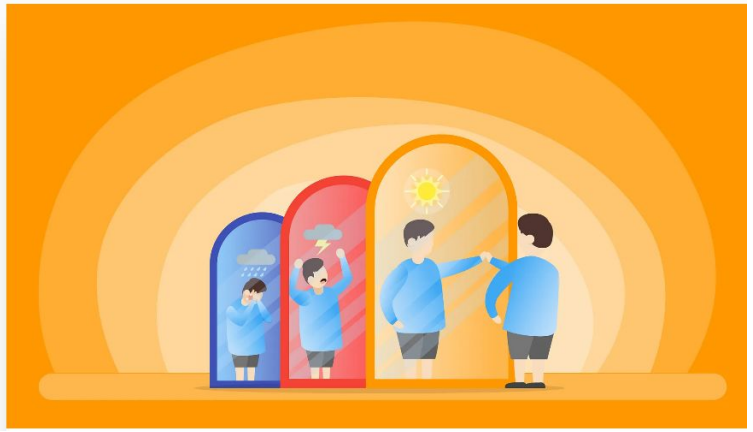
More for your money
Each sunflower is made of thousands of tiny flowers. The yellow petals that you see around the ‘head’ are called *ray flowers* – like the rays of the sun.

London South Early Years
Stronger Practice Hub

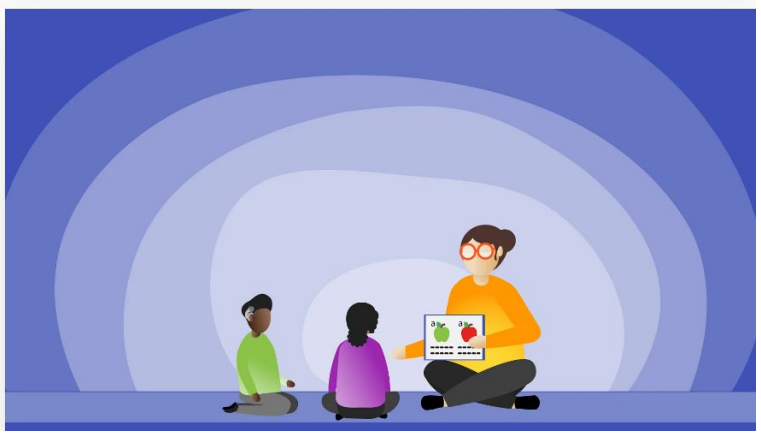
https://educationendowmentfoundation.org.uk/support-for-schools/evidence-for-the-early-years/early-years-evidence-store



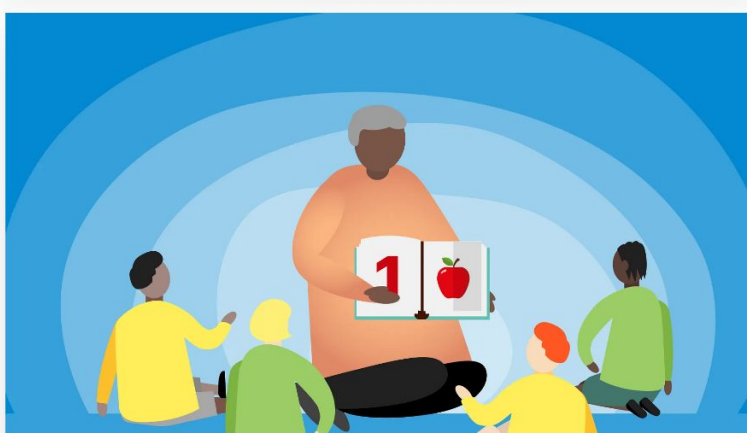
Communication and Language



Personal Social and Emotional Development



Early Literacy



Early Mathematics

Self-Regulation and Executive Function

Physical Development

Education Endowment Foundation

London South Early Years Stronger Practice Hub

Get Planting!

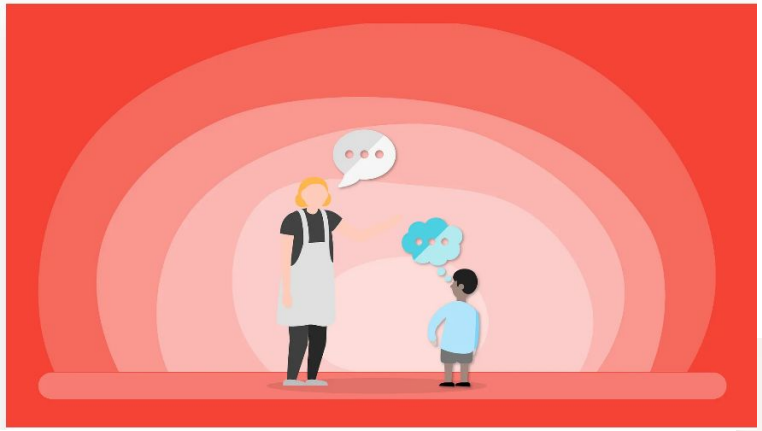
You can use recycled materials – cardboard tubes, plastic fruit containers, yogurt pots or wrap newspaper around a small glass jar - How to make newspaper pots / RHS Campaign for School Gardening

Sunflower seeds are available in most larger supermarkets and all garden centres. They are not always yellow or grow very tall.

If the packet says F1 it means if you save the seeds they won't grow exactly the same next year as the flower you see this year.

When buying compost look for any labelled as PEAT FREE.

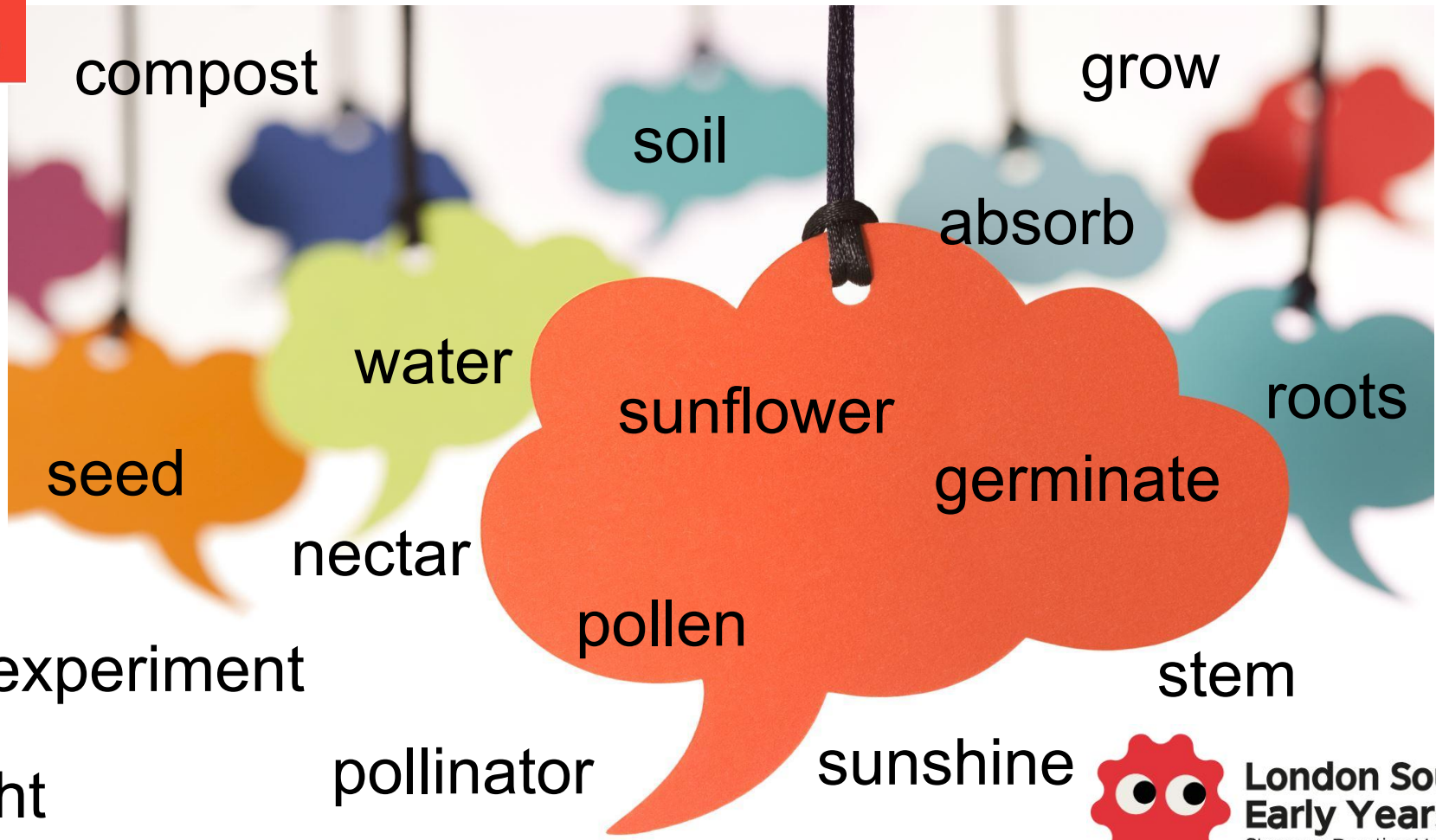
London South Early Years
Stronger Practice Hub



Communication and Language

Teaching and Modelling Vocabulary

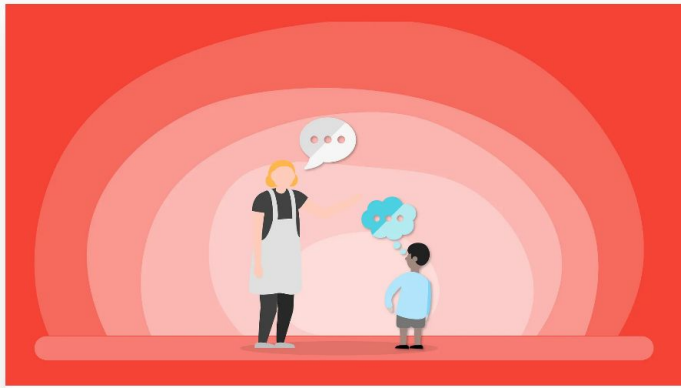
The intentional use of words to build a child's understanding of words (receptive vocabulary) and encourage them to use and apply it in the right context (expressive vocabulary).



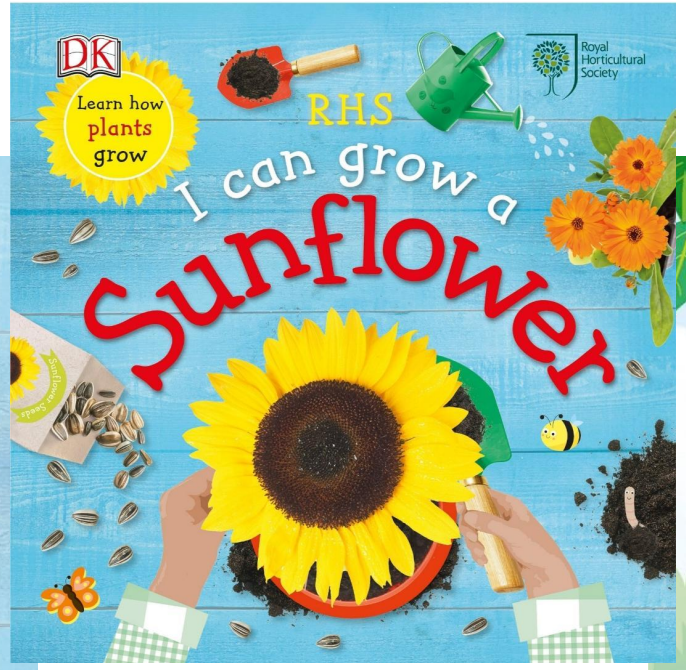
Education Endowment Foundation

London South Early Years Stronger Practice Hub

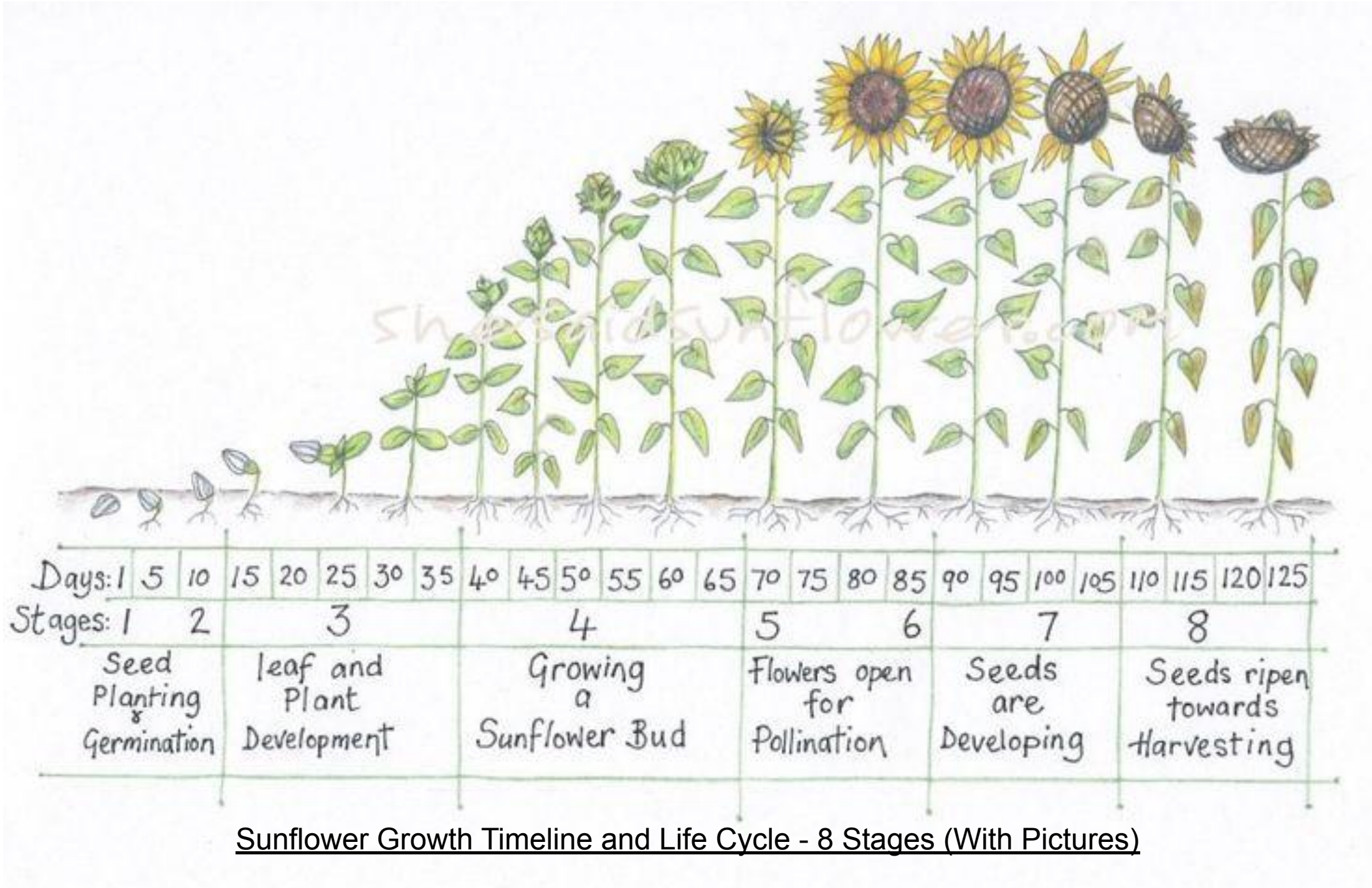
Extra vocabulary to teach and model



London South Early Years
Stronger Practice Hub



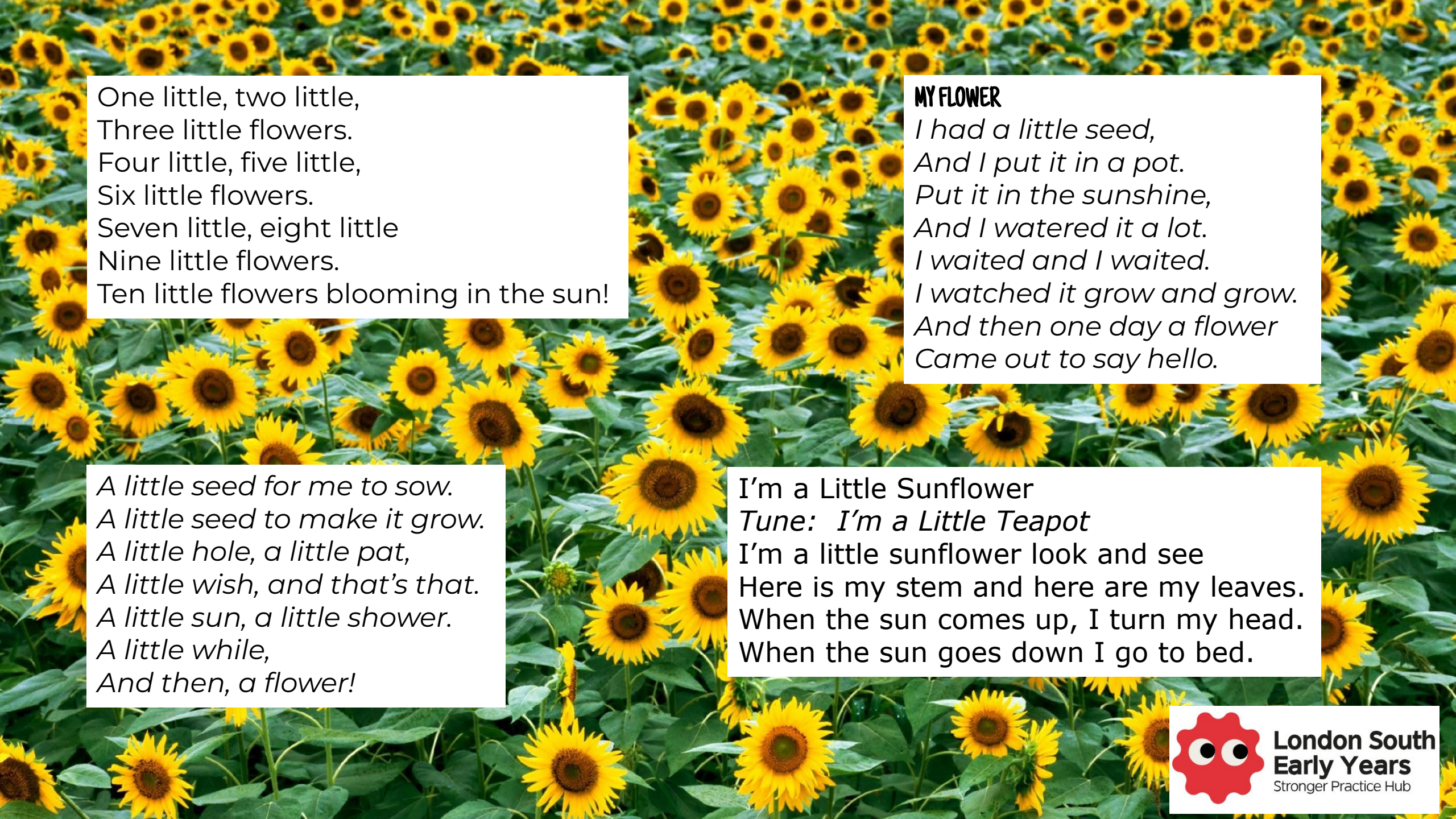
London South Early Years
Stronger Practice Hub



Sunflower Growth Timeline and Life Cycle - 8 Stages (With Pictures)

Leave the flower head on the stem for at least 2 weeks. Once the petals have faded, cut the flower heads off and store them in a sunny, warm, dry place for another week. Spread a sheet of newspaper on a flat surface, gently rub the seed head and the seeds will fall away easily.

Collect them in an envelope or paper bag and store in a dry, cool, dark place until spring when they will be ready to sow and grow once more.



One little, two little,
Three little flowers.
Four little, five little,
Six little flowers.
Seven little, eight little
Nine little flowers.
Ten little flowers blooming in the sun!

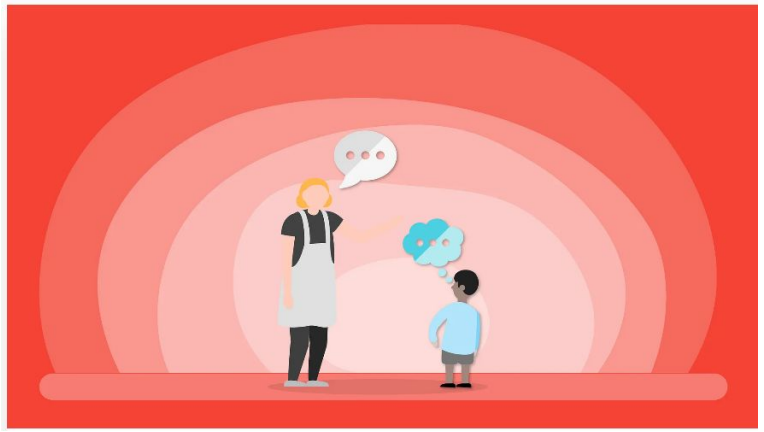
MY FLOWER

I had a little seed,
And I put it in a pot.
Put it in the sunshine,
And I watered it a lot.
I waited and I waited.
I watched it grow and grow.
And then one day a flower
Came out to say hello.

A little seed for me to sow.
A little seed to make it grow.
A little hole, a little pat,
A little wish, and that's that.
A little sun, a little shower.
A little while,
And then, a flower!

I'm a Little Sunflower
Tune: I'm a Little Teapot
I'm a little sunflower look and see
Here is my stem and here are my leaves.
When the sun comes up, I turn my head.
When the sun goes down I go to bed.

London South Early Years
Stronger Practice Hub



Communication and Language

Teaching through Collaborative Talk

Recapping: The adult models using language to summarise activities which also supports with connecting ideas and planning next steps.

Explaining and showing: The adult provides information to support the child's understanding of the spoken word and the world around them. This could be through words, visuals, gestures, use of objects, or a combination of these.

Posing suggestions or problems: The adult uses prompts to extend an interaction or scaffold children's thinking e.g. 'I wonder what will happen if?' Or 'Imagine if we...'.

Questioning: Asking open questions of children to prompt them to think and share their thinking aloud. For example, through talk partners, or during a collaborative task

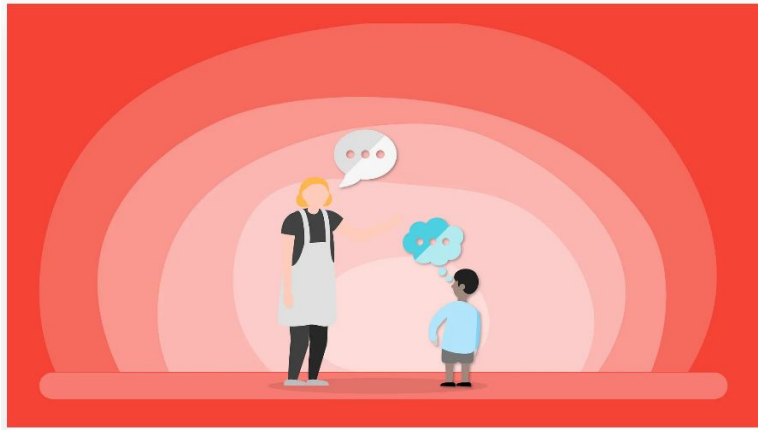
Making links: An adult verbalises a link between the activity they are engaging in with the child and a previous experience.

Evaluating: The adult models and facilitates a conversation in which the child makes a value judgement about an object, action or event. The child is then taught to explain why, giving reasons, and making suggestions. For example, through plenaries.

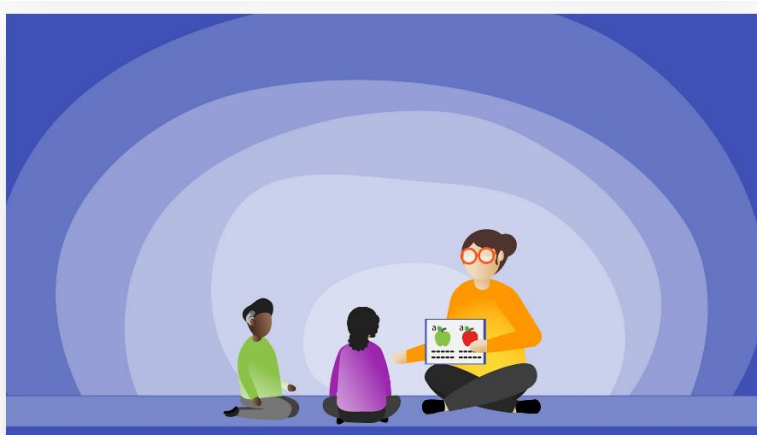
Recall of events or experiences: The adult facilitates a conversation about events that have happened in the past or an event that will happen in the future.

Education Endowment Foundation

London South Early Years Stronger Practice Hub



Communication and Language

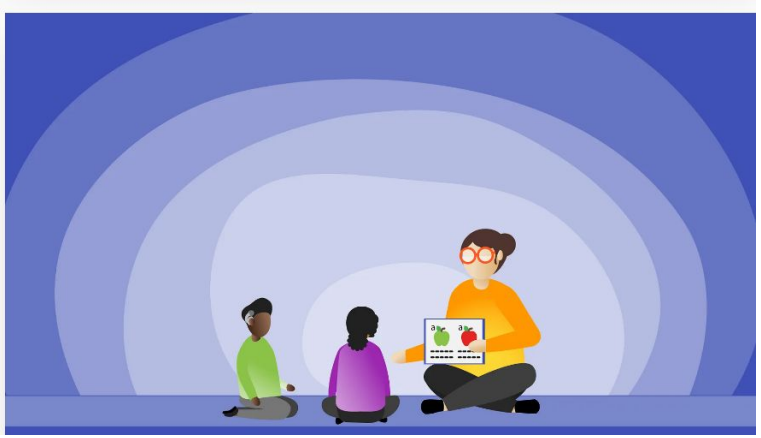


Early Literacy

Recapping: previous growing experiments, planting seeds, bulbs etc linking it to growing sunflowers
Explaining and showing: have real objects as well as using the illustrations
Posing suggestions or problems: **I wonder what will happen if** we didn't water the seeds, if we put the plant pot in the dark?
Questioning: Have you seen these things before? Where? What have you seen them used for?
Making links: Ah remember when I used the sticks to tell us where we planted the bulbs? I remember when … used the magnifying glass to look at a spiderweb in the garden.
Evaluating: I think if we used a see through put instead of a plant pot- we can see what is happening under the soil.
Recall of events or experiences: talk about past experiences of growing, what living things need to grow, relate it to ourselves, make predictions about what will happen tomorrow, in a week, etc.

Education Endowment Foundation

London South Early Years Stronger Practice Hub



Early Literacy

Interactive Reading Successful interventions involve spoken interactions between the reader and child that go beyond the text in the book; the more the child participates or responds, the more their oral language skills develop.

Prompt-based practices:

Questioning: The adult uses open-ended questioning to elicit a response from the child and provide opportunity for them to use language.

Recalling of events or experiences: The adult facilitates a conversation about events that have happened in the past or an event that will happen in the future that connects to the book.

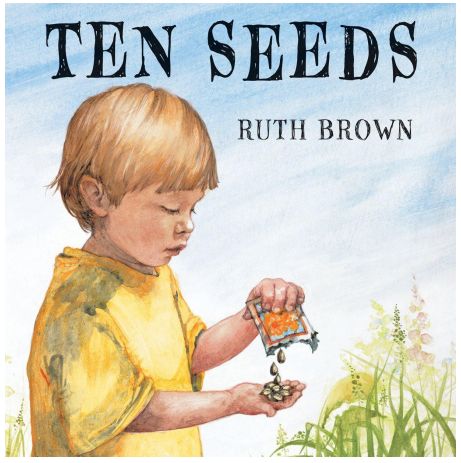
Completion: The adult leaves a blank at the end of a sentence for the child to complete.

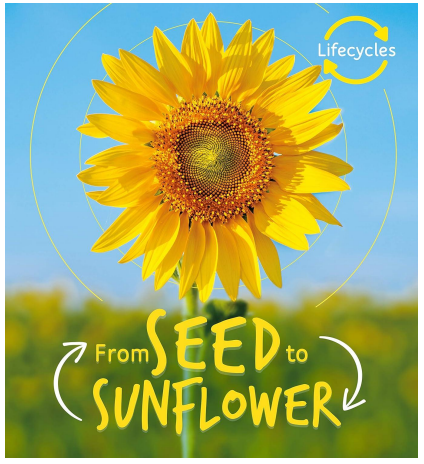
Posing suggestions or problems: The adult may model language such as "Imagine if...", "I wonder...", "what would happen if..." etc.

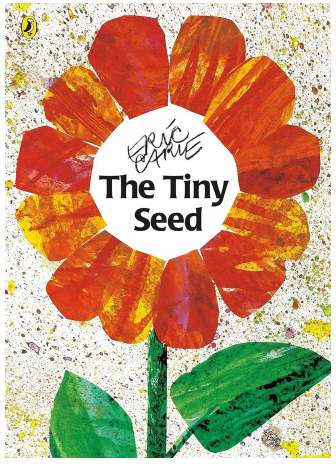
Imitation: The adult encourages the child to imitate the language that they've just modelled to the child. The child gets to apply the new knowledge they've heard.

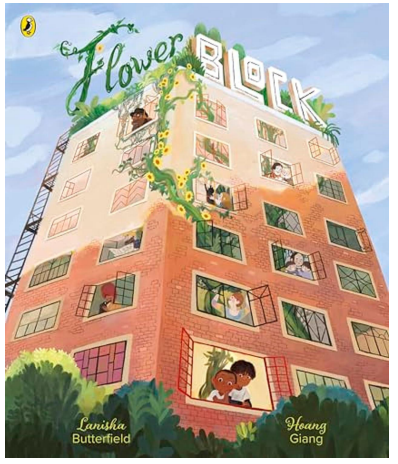
Education Endowment Foundation

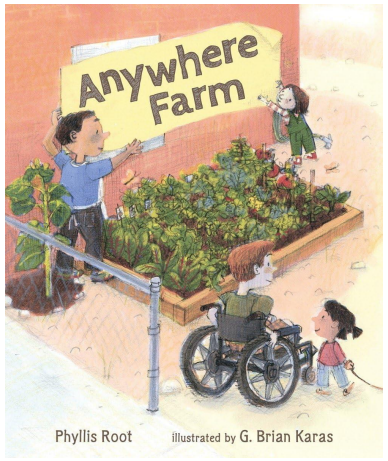
London South Early Years Stronger Practice Hub

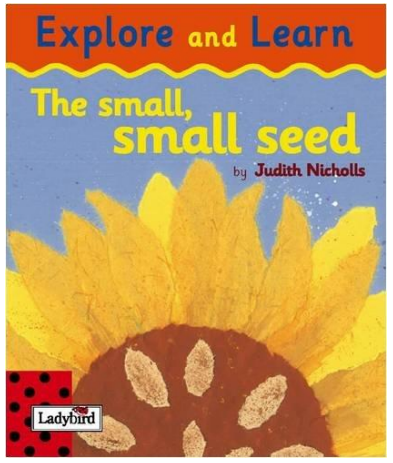


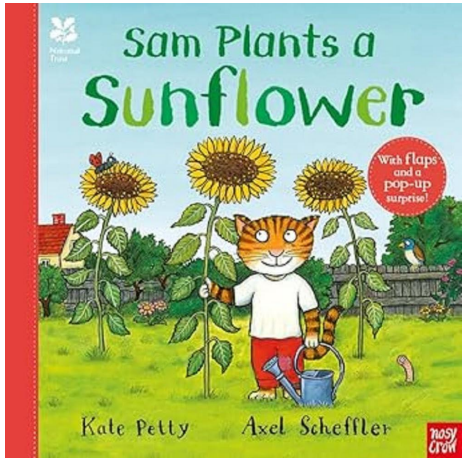


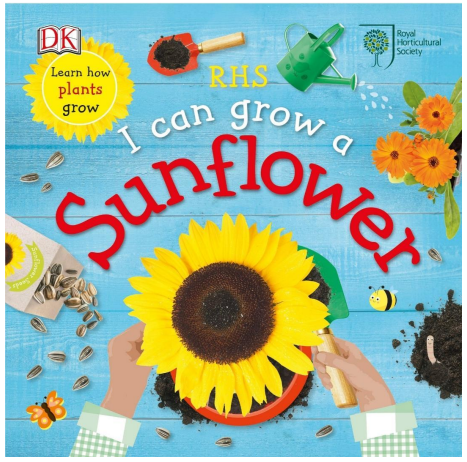


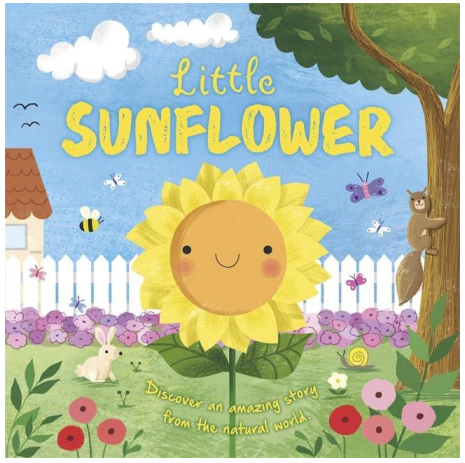


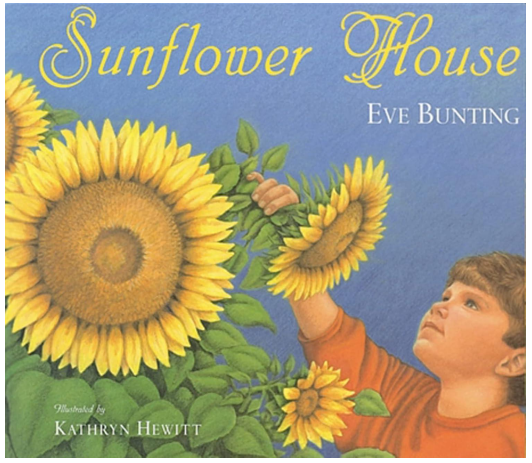


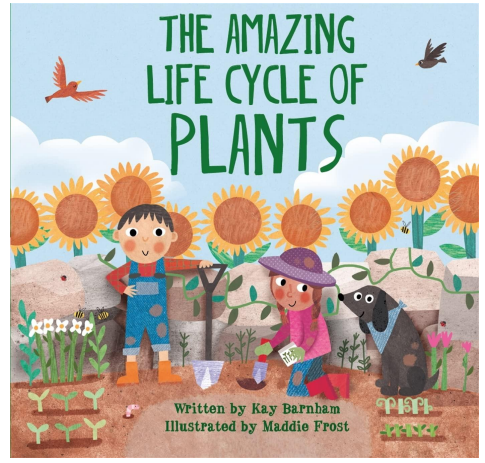


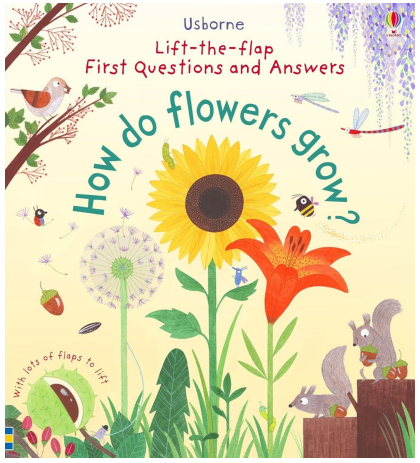












Other Sunflower Book Recommendations

London South Early Years
Stronger Practice Hub

Physical Development

Teaching the skills needed for moving and handling

The educator aims to improve physical development by explicitly teaching and consolidating movement or handling skills by using verbal or physical prompts. Verbal direction could involve giving feedback, cues, explanations, and suggestions; physical direction could involve modelling and demonstrating movements. Movement and handling skills can include gross and fine motor skills

Education Endowment Foundation

London South Early Years Stronger Practice Hub

Physical Development

Teaching the skills needed for mark making and letter formation

Gross motor skills are the building blocks for the fine motor skills needed for mark-making and later letter formation. Evidence shows that educators can plan activities to improve the fine motor and visual motor skills that are needed for mark-making and later letter formation. These skills include pencil grip, finger movements, and hand-eye co-ordination. In the evidence we reviewed, various activities helped to target these physical development outcomes, for example, providing children with hand tools, stacking toys, threading toys, the use of music and gesture, playing with clay, as well as general arts and crafts.

Education Endowment Foundation

London South Early Years Stronger Practice Hub

Physical Development

Activities to promote PD

Youngest learners

- Filling and emptying pots of different sizes

•Tray of beans with some sunflower seeds in the mix to find whilst swishing and swirling the beans with the whole hand or a stick.

•S for sunflower floor mark-make with a variety of media, paint, chalk, crayons, chunky pens.

3-5 year olds

- Collecting sunflower seeds in late summer. Picking out the seeds from the sunflower head. Pincer strengthening with tools and without
- Planting station with each step illustrated. Fill pot, add seed, cover seed, put in tray, water.
- Plenty of mark making opportunities- labelling sticks, labelling diagrams, drawing and labelling parts of sunflower in a diary as it grows.

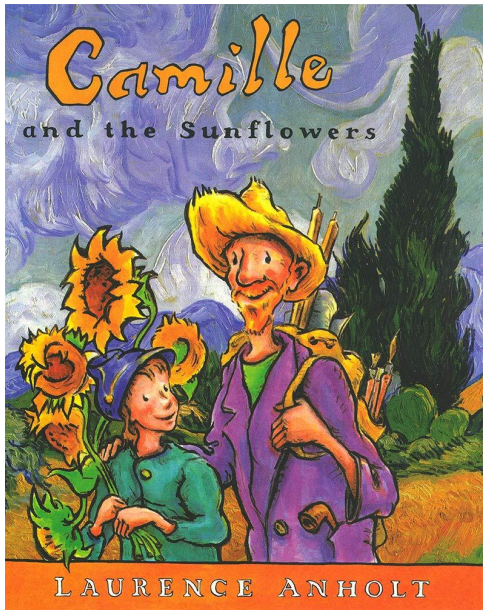
Education Endowment Foundation

London South Early Years Stronger Practice Hub

Sunflowers

By Vincent Van Gough

In the National Gallery London



More Book Recommendations

London South Early Years
Stronger Practice Hub

Expressive Arts and Design (EAD)

- Transient art- making seed arrangements
- Giant pictures of sunflower seeds- observation pictures using magnifying glasses. (Actual Size book to continue discussion)
- Sunflower paintings - tools to support communication and language. Two tools for teaching and modelling vocabulary in the early… | EEF watch how Trudi uses language in the video. She introduces new specific words to build on the children's existing language.
- Design a sunflower garden. Large pictures with planting plan to refer to later when the seedlings are ready to transplant.

Understanding of the World (UW)

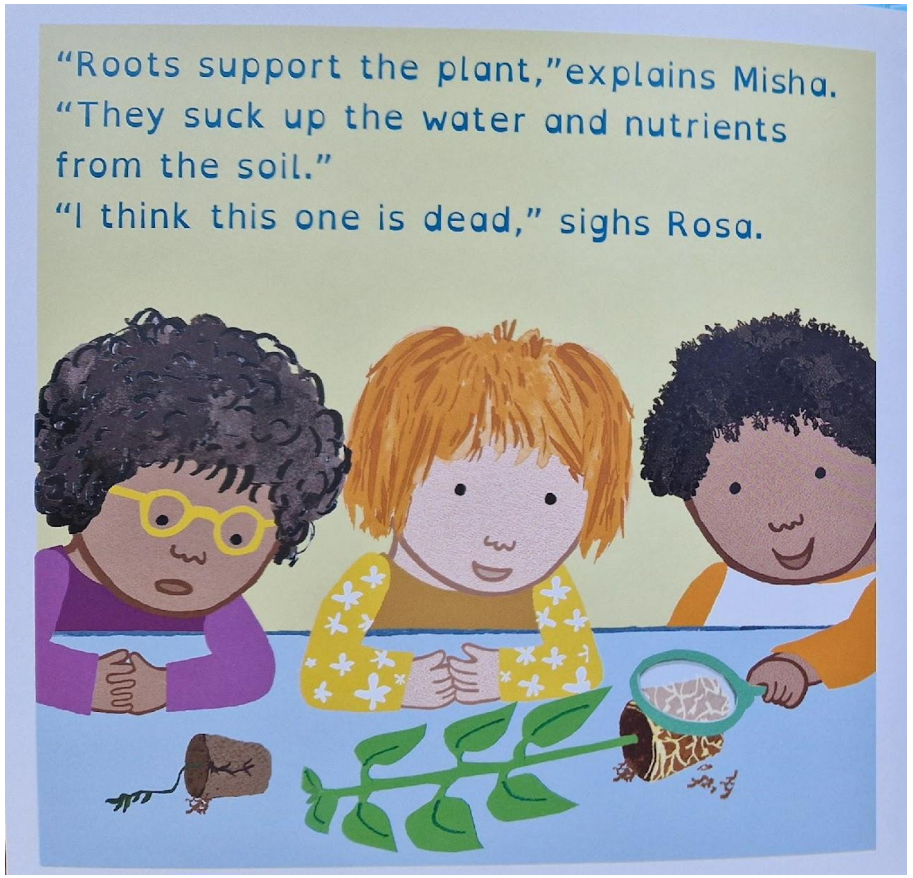
- Notice the bugs in the soil- carefully move into a safe space so digging doesn't harm them
- Collecting sunflower seeds in late summer
- Giant pictures of sunflower seeds- observation pictures using magnifying glasses.
- Germination books, information books showing the stages of growth. (Life as a sunflower/ seed to sunflower)
- Watching a seed in a glass of water to see the seed case absorb the water and then burst
- Show a field of sunflowers in real life or in an image. Why do you think there are so many sunflowers. We grow sunflowers as a crop on arable farms. We use the seeds. What do you think we might use the seeds for? Yes, seeds are packed with nutrients, We eat the seeds to get vitamins minerals and oils in our bodies. We also use sunflower oil for cooking with. Show some sunflower oil. Mix with cornflour to make a sandy texture. Make a simple mayonnaise. Making mixtures with oil. Allow the children to predict and find out.

London South Early Years
Stronger Practice Hub

Self-Regulation and Executive Function

What are self-regulation and executive function?

Self-regulation involves a complex range of skills and abilities that enable children to monitor their emotions and thoughts and choose how to adapt their behaviour in different circumstances.



Teaching Self-monitoring and Self-awareness

Educators help children to develop an awareness of their own thoughts and emotions. They teach children strategies to help them be aware of their physical sensations, thoughts, and feelings. Educators provide names and labels for children's feelings and behaviours and suggestions of how to manage them. Educators help children to make links between how their actions and feelings influence each other, and vice versa.

To help children better **label**, **understand**, and **manage their own emotions**

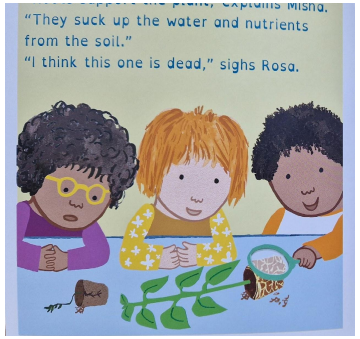
Education Endowment Foundation

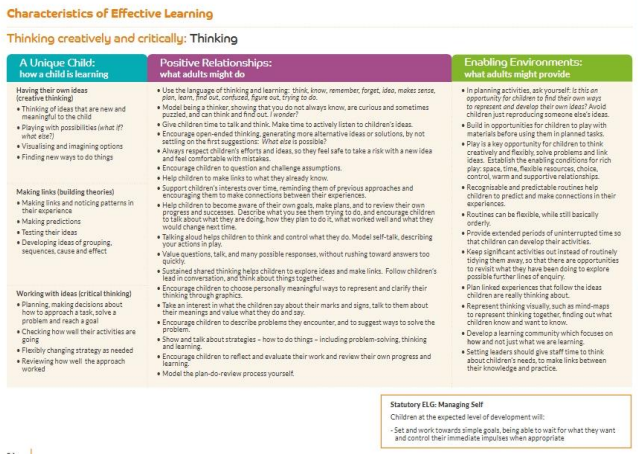
London South Early Years Stronger Practice Hub

Approaches for supporting Personal, Social and Emotional Development

1. Teaching Awareness of Emotions and Feelings
2. Teaching and Modelling Managing Emotions and Feelings
3. Teaching and Modelling Social Communication
4. Teaching Relationship Skills
5. Teaching How to Sustain Positive Relationships
6. Promoting Self-care
7. Developing Self-Regulation and Executive Function

- Overlaps a lot with UW
- Relating state of sunflowers- thirsty, hungry to our own emotional state
- Accessing resources independently for planting
- Practices skills of assertion, negotiation and compromise and looks to a supportive adult for help in resolving conflict with peers- sharing resources or making plans for experiments
- Caring for living things and the environment-being gentle
- Talking about how and why things happen
- Develop an understanding about growth, decay and changes over time
- Begin to understand the effect of their behaviour on their environment
- Exploring objects using their senses- developing curiosity




Characteristics of Effective Learning

Thinking creatively and critically: Thinking

A Unique Child: how a child is learning	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
Having their own ideas (creative thinking) • Thinking of ideas that are new and meaningful to the child • Playing with possibilities (what if? what else?) • Visualising and imagining options • Finding new ways to do things	• Use the language of thinking and learning: think, know, remember, forget, idea, makes sense, plan, learn, find out, confused, figure out, trying to do. • Model being a thinker, showing that you do not always know, are curious and sometimes puzzled, and can think and find out. I wonder? • Give children time to talk and think. Make time to actively listen to children's ideas. • Encourage open-ended thinking, generating more alternative ideas or solutions, by not settling on the first suggestions: What else is possible? • Always respect children's efforts and ideas, so they feel safe to take a risk with a new idea and feel comfortable with mistakes. • Encourage children to question and challenge assumptions. • Help children to make links to what they already know.	• In planning activities, ask yourself: Is this an opportunity for children to find their own ways to represent and develop their own ideas? Avoid children just reproducing someone else's ideas. • Build in opportunities for children to play with materials before using them in planned tasks. • Play is a key opportunity for children to think creatively and flexibly, solve problems and link ideas. Establish the enabling conditions for rich play: space, time, flexible resources, choice, control, warm and supportive relationships. • Recognisable and predictable routines help children to predict and make connections in their experiences. • Routines can be flexible, while still basically orderly. • Provide extended periods of uninterrupted time so that children can develop their activities. • Keep significant activities out instead of routinely tidying them away, so that there are opportunities to revisit what they have been doing to explore possible further lines of enquiry. • Plan linked experiences that follow the ideas children are really thinking about. • Represent thinking visually, such as mind-maps to represent thinking together, finding out what children know and want to know. • Develop a learning community which focuses on how and not just what we are learning. • Setting leaders should give staff time to think about children's needs, to make links between their knowledge and practice.
Making links (building theories) • Making links and noticing patterns in their experience • Making predictions • Testing their ideas • Developing ideas of grouping, sequences, cause and effect	• Help children to become aware of their own goals, make plans, and to review their own progress and successes. Describe what you see them trying to do, and encourage children to talk about what they are doing, how they plan to do it, what worked well and what they would change next time. • Talking aloud helps children to think and control what they do. Model self-talk, describing your actions in play. • Value questions, talk, and many possible responses, without rushing toward answers too quickly. • Sustained shared thinking helps children to explore ideas and make links. Follow children's lead in conversation, and think about things together.	
Working with ideas (critical thinking) • Planning, making decisions about how to approach a task, solve a problem and reach a goal • Checking how well their activities are going • Flexibly changing strategy as needed • Reviewing how well the approach worked	• Encourage children to choose personally meaningful ways to represent and clarify their thinking through graphics. • Take an interest in what the children say about their marks and signs, talk to them about their meanings and value what they do and say. • Encourage children to describe problems they encounter, and to suggest ways to solve the problem. • Show and talk about strategies – how to do things – including problem-solving, thinking and learning. • Encourage children to reflect and evaluate their work and review their own progress and learning. • Model the plan-do-review process yourself.	

Statutory ELG: Managing Self

Children at the expected level of development will:

- Set and work towards simple goals, being able to wait for what they want and control their immediate impulses when appropriate.

54

Thinking creatively and critically-CoETL

Education Endowment Foundation

London South Early Years Stronger Practice Hub

Early Mathematics

Teaching the association between number and quantity

This includes teaching the child that counting can be used to find out ‘how many’ are in a collection because the last number they say tells them how many there are (cardinal value). As children become more familiar with quantities, the adult can encourage them to realise how many items there are in a very small group without having to count them all (subitising).

Supporting children with **matching** or **comparing quantities** can also be effective, as can providing opportunities for **subitising**. Subitising is when you look at a very small group of objects and realise how many there are without counting.

It seems to be particularly helpful to focus on **one to one correspondence**. This means helping children to pair one number word with one (and only one) item. Exploring the idea that **numbers are made up of other numbers** can also be effective.

Education Endowment Foundation

London South Early Years Stronger Practice Hub

Early Mathematics

Teaching and modelling how to make comparisons and connections

Adults provide opportunities for children to make comparisons. They draw the child's attention through conversation about what is the same, similar, and different. Sometimes this involves mathematical tools - such as scales, measuring tapes, and jugs - to discuss comparisons.

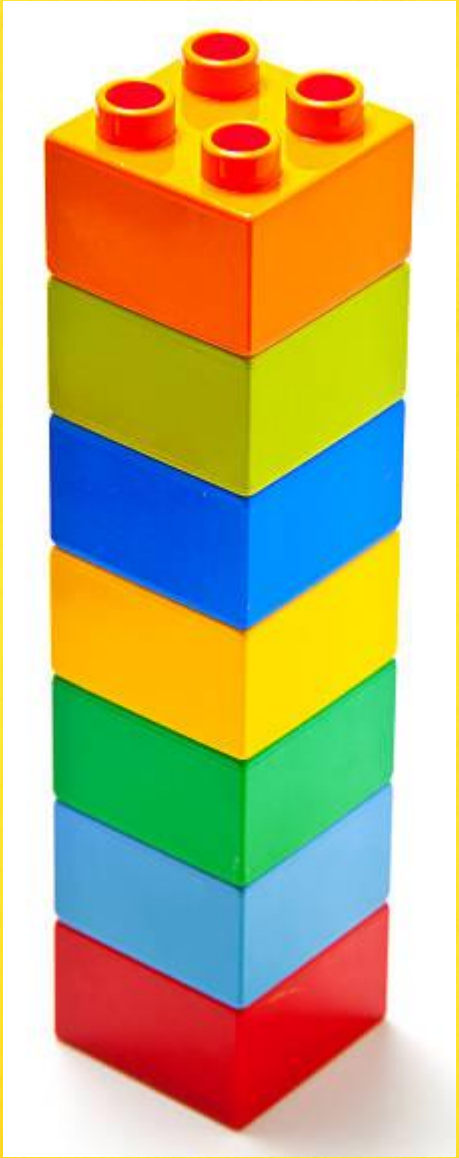
Research does indicate that supporting children in activities such as **block-building opportunities** and **arranging objects** in order of size

Adults model and encourage children to make connections and spot patterns. They support the child to use attributes to identify the units that repeat in patterns and sequences and to analyse rules. This approach can develop a child's spatial reasoning. Spatial reasoning is understanding the shape and location of objects, including in relation to you.

Education Endowment Foundation

London South Early Years Stronger Practice Hub


28
27
26
25
24
23
22
21
20
19
18
17
16

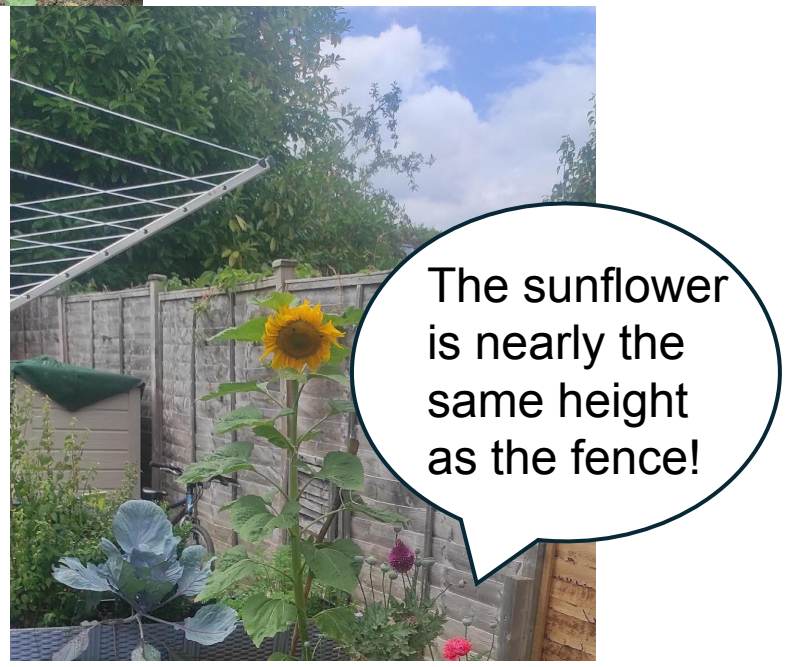



London South
Early Years
Stronger Practice Hub

London South Early Years
Stronger Practice Hub

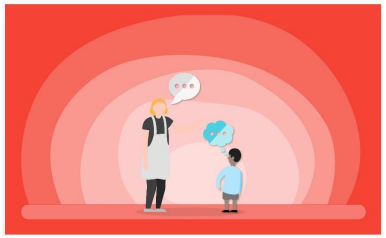
Activities to promote Early Maths

- Counting leaves, petals, seeds
- Subitising seeds- recognising quantities/arrangements by sight
- Arranging seeds in 10 frame egg boxes to accurately count ten to make packets of 10 seeds to sell or give as gifts. (Ten Little seeds book)
- Seed collections- categorising the seeds-have bean, sunflower and lemon. Organise in different bowls. Identifying the sunflower seed- describing its unique features
- Measuring tapes, measuring sticks - find objects the same size as the sunflower. Tall, height, length (lay things flat on the ground to emphasise length
- I am shorter than the sunflower, we are the same height, the sunflower is taller than me...taller than the fence etc
- Make rulers with large numbers
- Setting growing competition
- Comparisons-evidencing growing on a calendar, diary etc- 1st day, 2nd day etc.

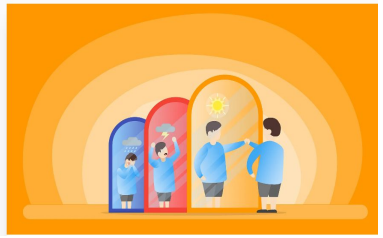


Education Endowment Foundation

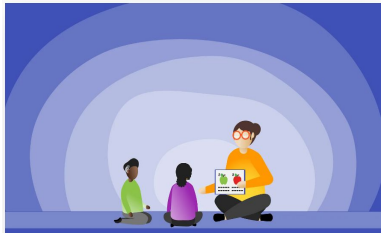
https://educationendowmentfoundation.org.uk/support-for-schools/evidence-for-the-early-years/early-years-evidence-store



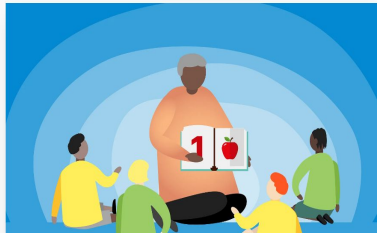
Communication and Language



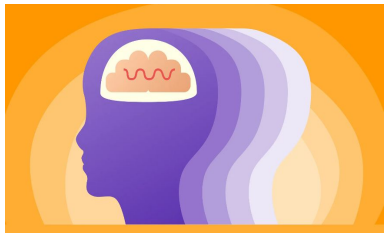
Personal Social and Emotional Development



Early Literacy



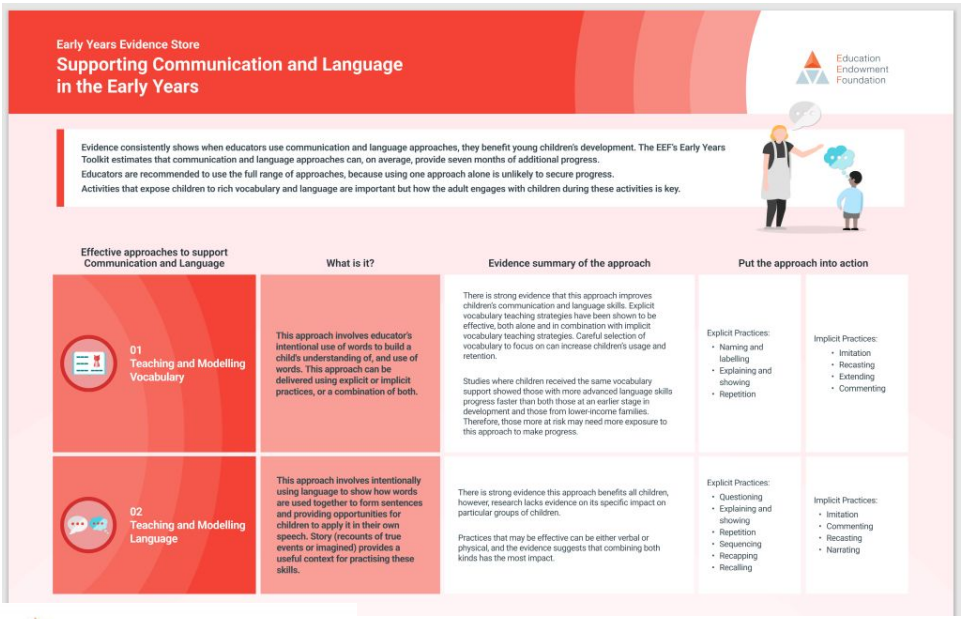
Early Mathematics



Self-Regulation and Executive Function

Physical Development

Downloadable summary of the evidence



Early Years Evidence Store

Supporting Communication and Language in the Early Years

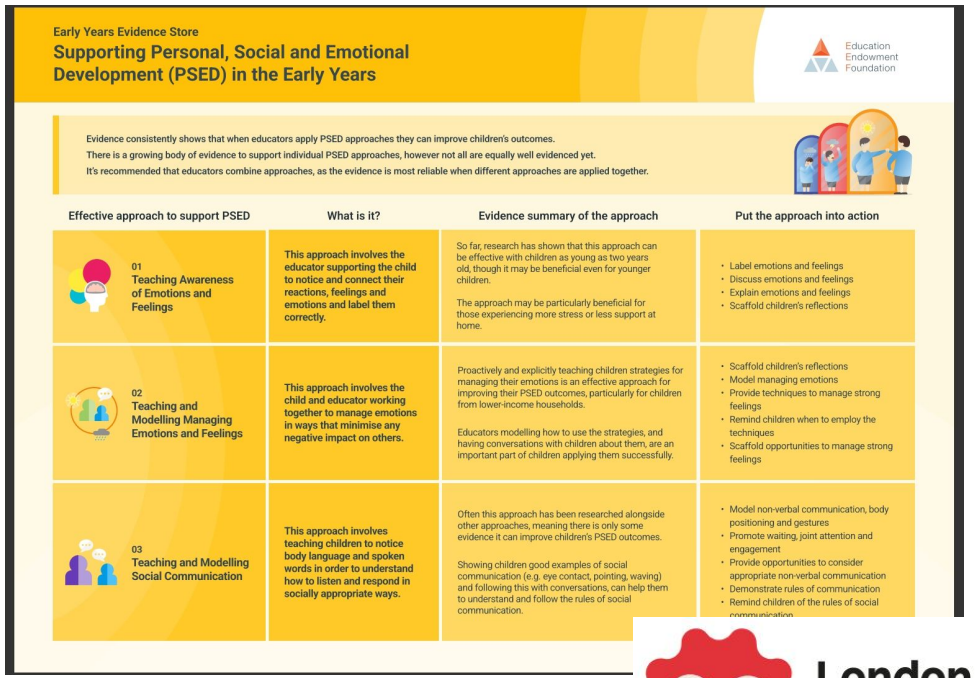
Education Endowment Foundation

Evidence consistently shows when educators use communication and language approaches, they benefit young children's development. The EEF's Early Years Toolkit estimates that communication and language approaches can, on average, provide seven months of additional progress.

Educators are recommended to use the full range of approaches, because using one approach alone is unlikely to secure progress.

Activities that expose children to rich vocabulary and language are important but how the adult engages with children during these activities is key.

Effective approaches to support Communication and Language	What is it?	Evidence summary of the approach	Put the approach into action	
01 Teaching and Modelling Vocabulary	This approach involves educator's intentional use of words to build a child's understanding of, and use of words. This approach can be delivered using explicit or implicit practices, or a combination of both.	There is strong evidence that this approach improves children's communication and language skills. Explicit vocabulary teaching strategies have been shown to be effective, both alone and in combination with implicit vocabulary teaching strategies. Careful selection of vocabulary to focus on can increase children's usage and retention. Studies where children received the same vocabulary support showed those with more advanced language skills progress faster than both those at an earlier stage in development and those from lower-income families. Therefore, those more at risk may need more exposure to this approach to make progress.	Explicit Practices: • Naming and labelling • Explaining and showing • Repetition	Implicit Practices: • Imitation • Recasting • Extending • Commenting
02 Teaching and Modelling Language	This approach involves intentionally using language to show how words are used together to form sentences and providing opportunities for children to apply it in their own speech. Story (recounts of true events or imagined) provides a useful context for practising these skills.	There is strong evidence this approach benefits all children, however, research lacks evidence on its specific impact on particular groups of children. Practices that may be effective can be either verbal or physical, and the evidence suggests that combining both kinds has the most impact.	Explicit Practices: • Questioning • Explaining and showing • Repetition • Sequencing • Recapping • Recalling	Implicit Practices: • Imitation • Commenting • Recasting • Narrating



Early Years Evidence Store

Supporting Personal, Social and Emotional Development (PSED) in the Early Years

Education Endowment Foundation

Evidence consistently shows that when educators apply PSED approaches they can improve children's outcomes.

There is a growing body of evidence to support individual PSED approaches, however not all are equally well evidenced yet.

It's recommended that educators combine approaches, as the evidence is most reliable when different approaches are applied together.

Effective approach to support PSED	What is it?	Evidence summary of the approach	Put the approach into action
01 Teaching Awareness of Emotions and Feelings	This approach involves the educator supporting the child to notice and connect their reactions, feelings and emotions and label them correctly.	So far, research has shown that this approach can be effective with children as young as two years old, though it may be beneficial even for younger children. The approach may be particularly beneficial for those experiencing more stress or less support at home.	• Label emotions and feelings • Discuss emotions and feelings • Explain emotions and feelings • Scaffold children's reflections
02 Teaching and Modelling Managing Emotions and Feelings	This approach involves the child and educator working together to manage emotions in ways that minimise any negative impact on others.	Proactively and explicitly teaching children strategies for managing their emotions is an effective approach for improving their PSED outcomes, particularly for children from lower-income households. Educators modelling how to use the strategies, and having conversations with children about them, are an important part of children applying them successfully.	• Scaffold children's reflections • Model managing emotions • Provide techniques to manage strong feelings • Remind children when to employ the techniques • Scaffold opportunities to manage strong feelings
03 Teaching and Modelling Social Communication	This approach involves teaching children to notice body language and spoken words in order to understand how to listen and respond in socially appropriate ways.	Often this approach has been researched alongside other approaches, meaning there is only some evidence it can improve children's PSED outcomes. Showing children good examples of social communication (e.g. eye contact, pointing, waving) and following this with conversations, can help them to understand and follow the rules of social communication.	• Model non-verbal communication, body positioning and gestures • Promote waiting, joint attention and engagement • Provide opportunities to consider appropriate non-verbal communication • Demonstrate rules of communication • Remind children of the rules of social communication

Education Endowment Foundation

London South Early Years Stronger Practice Hub

Reflection

What is the first thing you will take away from this evening and will try with the children?

London South Early Years
Stronger Practice Hub

Questions

London South Early Years
Stronger Practice Hub

Get Involved!

Contact the hub on:

- EYSPH@londonsouthtsh.org
- 020 7407 1769 ext 216

Follow us on:

- 𝕏 @LondonSouthEY

- @londonsoutheysph

London South Early Years
Stronger Practice Hub