

# Developmental milestones

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## BIRTH TO 3 MONTHS

### EMOTIONAL SKILLS

- Communicate everything they feel so that they can receive the care they need to survive.
- By 10 weeks, infants can mirror their parents' joyous emotions and divert their gaze from parents' expressions of sadness.
- Can display sadness (distress), contentment (joy), interest, anger and disgust (recoiling).
- Cry in response to another's cry.

### SOCIAL AND FAMILY RELATIONSHIPS

- Regard their caregiver's face.
- Make eye contact.
- Engage almost exclusively with adults.
- Object permanence has not yet developed, with the result that babies are equally contented with various caregivers.
- Can discriminate the social expressions of others.
- At 4-10 weeks, begin social smiling spontaneously to a parent's face, voice or smile.
- Can imitate facial gestures.

### COGNITIVE (THINKING) SKILLS

- Exploration of the environment is unplanned.
- Inspect their surroundings.
- Inspect their own hands.
- Focus and concentration span are fleeting, although early signs of deficits in attention skills can be detectable already.

### LANGUAGE (COMPREHENSION) SKILLS

- Listen to pitch, intonation and intensity of others' language.
- Respond to voices.
- Locate sounds by moving eyes.
- Conversational turn-taking builds parent-child relationship.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Vocalise reflexively but adults respond as if speech were deliberate.
- By the end of this period, babies' sounds become social, made in response to adults' speech or to capture adult attention.
- Cry to communicate when they are uncomfortable, distressed or hungry.
- Use different types of cries to signal different needs.
- Coo and gurgle with pleasure.
- Use some vowels and consonants.
- Repeat satisfying sounds.

## GROSS MOTOR SKILLS

- Neonates have little control against gravity.
- Movements and postures appear lopsided and asymmetrical.
- Reflexes (which are innate responses to stimulation) become integrated in these early months, permitting subsequent development of purposeful movement.
- Hold head up momentarily while in prone position.
- Lift head when supported at adult's shoulder.
- Kick reciprocally.
- Roll or fall from side to supine position.
- Repeat satisfying actions.

## FINE MOTOR (HAND) SKILLS

- Grasp and release are dominated by reflexes.
- Arm movements are random.
- Grasp with hand tightly fist.
- Release starts as an avoiding reaction in response to touch on the back of the hand.
- By 3 months, arms move to midline spontaneously and simultaneously.

## SELF-CARE SKILLS

- Feeding skills are initially reflexive but come under voluntary control throughout this stage.
- Open mouth in response to food.
- Coordinate sucking, swallowing and breathing.
- Clutch and pull at clothing.

## BEHAVIOUR

- Wake every 3 to 4 hours to allow for feeding.

## 3 TO 6 MONTHS

### EMOTIONAL SKILLS

- Can display joy, surprise and anticipatory excitement.
- Need soothing by a caregiver to learn to manage their emotional arousal.
- Will self-soothe or use facial expressions, vocalisations and gestures to recruit parents' help when distressed.
- Their emotional state reflects their parent's mood.

### SELF-CONCEPT AND SELF-ESTEEM

- Babies' self-concept and sense of worth are formed by feedback that they are accepted.
- Smile at their own actions.

### SOCIAL AND FAMILY RELATIONSHIPS

- With attuned care, infants learn to trust their caregiver and that their needs will be responded to sensitively and in a timely fashion.
- Face-to-face interactions with parents are mutually regulated.
- Smile at people and objects.
- Cry, smile, kick, coo and laugh to recruit attention.
- Respond gaily to social play.
- Lift arms to primary caregiver.

### COGNITIVE (THINKING) SKILLS

- Object permanence develops.
- Memory advances allow for connection to caregivers.
- Infants' ability to point, grasp, explore and exchange socially with carers promotes cognitive mastery of the environment.
- Cause-and-effect understanding emerges. They understand that actions can manipulate objects and therefore will repeat an action in order to repeat its outcome.
- Focus emerges as infants detect events and are interested in attending to them.
- Explore objects through mouthing.
- Look for partially hidden objects.
- Have rudimentary goals and will recruit parent help to attain them.
- Can make basic predictions.
- Anticipate the trajectory of an object.
- Begin rattle play.
- Shake or bang toys to make different sounds.
- Repeat a familiar activity.

### LANGUAGE (COMPREHENSION) SKILLS

- Comprehension is developing at a faster rate than speech.
- Respond to their own name.

### SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Begin to respond to opportunities at turn taking in 'conversation' with caregivers.
- Babble using vowel sounds such as *ee* and *uh*, which are produced before consonants such as *m* and *b*.
- Imitate vocalisations that are within their repertoire.

### GROSS MOTOR SKILLS

- Control against gravity of the head and upper trunk and some limb movements is emerging in lying.
- Control of side-to-side and supported rotational movement is beginning.
- Head, eyes, hands and feet can be aligned with body midline in lying and while sitting with support.
- Able to still self in lying and sitting.
- Bear weight on hands in prone position.
- At 4 months, roll from supine to side and prone to side.
- Bear some weight in supported standing.



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## FINE MOTOR (HAND) SKILLS

- Increasing voluntary control of grasp.
- Grasp becomes more functional and can accommodate different sized objects.
- Release is still accidental.
- There is some control over arm movements and posture.
- Forearm has voluntary supination (the thumb side of the forearm faces up), allowing objects to be viewed more easily.
- Infants use vision to guide their reaching.
- Play is predominantly tactile and increasingly visual.
- Scratch surfaces.
- Clutch at bedding and caregivers' clothing.
- Reach for an object that attracts their interest.
- Reach towards objects with both hands.
- Rake objects toward self.
- Grasp feet.
- Hold out objects but do not release them.
- Transfer objects from hand to hand with ulnar grasp (fingers closed against palm).
- Hold an object in each hand at the same time.
- Poke fingers into holes and at objects.
- Reach objects on opposite side of the body.
- Use both hands in coordinated exploration.

## SELF-CARE SKILLS

- Feeding is no longer driven by reflexes. Infants can now inhibit the rooting reflex.
- Feed self a biscuit.
- May develop strong food preferences.
- Suspicious of new tastes, with a strong preference for sweet foods.
- Swallow puréed foods.
- Drink from an adapted cup.
- By 6 months, can pull off their hat.

## BEHAVIOUR

- Sleeping becomes more nocturnal.
- Most can sleep continuously for 6 hours.

## 6 TO 9 MONTHS

### EMOTIONAL SKILLS

- Enjoyment, fear, anger and sadness emerge.
- Emotional state of others affects infants' own emotional state.

### SELF-CONCEPT AND SELF-ESTEEM

- Smile at self in mirror.

### SOCIAL AND FAMILY RELATIONSHIPS

- Show a strong preference for familiar people, especially their primary caregiver.
- Separation distress ('stranger anxiety') emerges.
- Have strong preferences for familiar toys.
- Demonstrate affection to adults.
- Smile at people.
- Enjoy teasing.
- Infant to infant interactions increase.
- Imitate others at play.
- Observe their parents at play.
- Look to others' emotions before acting (social referencing).
- Aggression emerges, sometimes in the form of biting when crowded or competing for access to a caregiver or toys.
- Will fight for a disputed toy.

### COGNITIVE (THINKING) SKILLS

- Intentionality is being developed in response to infants' ability to explore physically and visually. Infants are learning that they can act voluntarily and that their actions have an effect.
- Repeat actions in order to repeat an outcome.
- Curiosity develops.
- Attention is drawn to a dominant stimulus and infants are easily distracted by another.
- Find objects after watching being hidden.
- Play for 2 to 3 minutes with a single toy.

## LANGUAGE (COMPREHENSION) SKILLS

- Listen to the vocalisations of others.
- Recognise some words and different tones of voice.
- Can respond to a few words.
- Look at pictures briefly.
- Recognise names of family members or pets.
- Understand some words such as *bye bye*, *no*, and their own name.
- Respond to simple requests with gestures.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Practise sound production and will play sound games with carers, repeating some sounds, simple words such as *dada* or an emphasised syllable.
- Produce intonation patterns.
- Use social gestures.
- Speech sounds start to be limited to those of the infant's own language.
- Babbling employs reduplicated sounds such as bababa and contains phonemes that will be heard later in first word approximations.
- Demand by pointing and vocalising.
- Imitate coughs and other sounds.
- Vocalise loudly to recruit attention.

## GROSS MOTOR SKILLS

- Control of rotational body movements is strengthening, allowing one body segment to twist on another (e. g. trunk over pelvis).
- Use movement for exploration.
- Develop transitional movement sequences (unless placed in a baby walker).
- Roll over and over.
- Sit solo.
- Move in and out of sitting.
- Creep and crawl, backwards first.
- Pull to stand.
- Stand while holding on.

## FINE MOTOR (HAND) SKILLS

- Reach is more accurate, aided by increasing forearm supination.
- Development of hand control is facilitated by gains in postural control, particularly being able to sit.
- Mouthing reduces and tactile exploration through fingering increases.
- Use a radial palmar grasp whereby an object is held in the palm with the thumb and radial fingers pressing the object into the palm.
- Release begins during mouthing or during bimanual play when one hand pulls an object from the other hand.
- Release can occur against a surface.
- By the end of this stage, release is voluntary.
- Extend arms protectively.

## SELF-CARE SKILLS

- Develop increasing awareness of their clothing as separate from themselves.
- Hold and drink from bottles or spout cups with lids.
- Mouth and gum solid food.
- Bite voluntarily.
- Feed self finger foods with whole hand grasp.
- Pull off loose booties.

## BEHAVIOUR

- The first signs of following parents' directives appear.
- Infants test out how parents will respond to their actions.



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## 9 TO 12 MONTHS

### EMOTIONAL SKILLS

- Emotional repertoire now includes anxiety, fear, affection, protest, elation, surprise, frustration, shame, wariness and negativism.
- Show humour and fearful shyness.
- Separation distress peaks from 10 to 18 months.
- Emotional state of others affects infant's own emotional state.
- Will try to comfort distressed peers, perhaps by giving them their rug or pacifier.

### SELF-CONCEPT AND SELF-ESTEEM

- Recognise that they are separate individuals from their parents.
- Show guilt at misdeeds.

### SOCIAL AND FAMILY RELATIONSHIPS

- Show clear preferences for people, objects and environments.
- Like to be in constant sight and hearing of an adult.
- Demonstrate affection to adults.
- Discern others' emotional expressions and modify their actions accordingly.
- Can play alongside one other child.
- Enjoy turn-taking social games (e.g. peekaboo).
- Show but do not yield toys to companions.
- Begin to use imitation in play.
- Are learning to cooperate.
- Aggression is used by half of all infants.

### COGNITIVE (THINKING) SKILLS

- Cognitive development is highly dependent on children's exploration and hence motor skills.
- Intentionality is now established: infants learn that they can act voluntarily and their actions have an effect.
- Perform actions to attain a desired outcome.
- Cause-and-effect understanding is continuing to develop.
- Begin to see the connection between actions and outcomes e. g. putting lids on.

## LANGUAGE (COMPREHENSION) SKILLS

- Recognise words as symbols for objects.
- Understand simple directives or commands.
- Understand 'No'.
- Listen selectively to familiar words.
- Enjoy looking at books.
- Respond to simple verbal requests.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- May produce utterances of one or more words.
- Imitate familiar words.
- Babble single vowel-consonant syllables, e. g. *ba*.
- Use vocalisations to express desires.
- Imitate sounds and gestures not previously in their repertoire.

## GROSS MOTOR SKILLS

- Climb horizontally over low obstacles in crawling.
- Cruise furniture.
- Stand solo briefly at 10 to 11 months.
- Walk solo briefly at 11 to 14 months.
- When first walking solo, have a wide base, short stride and no arm swing.
- Arms are held in 'high guard' for trunk control.
- At 11 to 14 months, stoop and recover objects.



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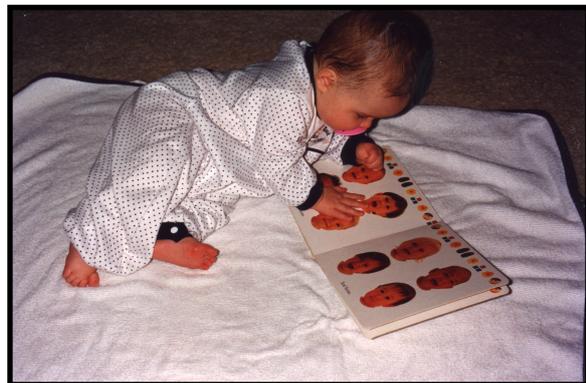


Photo by Louise Porter

## FINE MOTOR (HAND) SKILLS

- Movement on all fours supplies sensory input to the hands and arms.
- Arm strength is enhanced.
- Can grasp using finger tips and distal (end portions) of fingers.
- The thumb side of the hand is developing as the skill side.
- Cognitive development and improved accuracy of reach encourage experimentation with new objects.
- Vision is less necessary to guide reaching and grasping.
- Can pick up increasingly small objects.
- Put objects into and out of containers.
- At 9 months, use an inferior pincer grasp.
- By 12 months, use a superior pincer grasp.
- Use both hands freely.
- Try to imitate scribble.

## SELF-CARE SKILLS

- Infants now understand the functional use of self-care objects.
- They increasingly cooperate with dressing.
- Insist on doing self-care tasks independently.
- Finger feed a variety of foods using a pincer grasp.
- Grasp spoon with fist.
- Chew by munching.
- Hold arms out to assist with dressing upper body.
- Pull off socks.

## BEHAVIOUR

- Use behaviours to express desires.
- Will attempt to change adults' intent using persuasion or protest.
- By 1 year of age, most babies sleep through most nights, although night wakings remain common throughout early childhood.

## 12 TO 18 MONTHS

### EMOTIONAL SKILLS

- Emotion self-regulation begins to emerge, with the comforting of carers.
- Angry if interrupted, which indicates the capacity to form plans.
- Display extremes of emotions.
- Infants can realise that another's distress is not their own, although they are confused about its causes and uncertain how to help.
- Seek predictability, supplied by the use of routines or a daily rhythm.

### SELF-CONCEPT AND SELF-ESTEEM

- Self-awareness continues to develop: recognise own facial features.
- Recognise the difference between self (me) and other people (you).
- Show pleasure at achievement of self-selected goals.

### SOCIAL AND FAMILY RELATIONSHIPS

- Use their primary caregiver for 'emotional refuelling' while moving away briefly but repeatedly, and returning.
- Hug and kiss adults.
- Pull adults to show them something or to recruit their help.
- Begin to prefer interacting with peers.
- Strong preference for familiar playmates.
- Can play in parallel with one other child.
- Peer interactions are minimally coordinated, with infants able to copy each other's actions and take turns.
- Play is becoming more experimental but is ritualistic (e.g. run-and-chase).
- Able to share – because the concept of ownership is not fully developed.
- Infants' developing mobility permits more frequent peer interaction which, combined with lack of language proficiency, produces high numbers of negative interactions including aggression. Half of their interactions are negative.
- Begin to recognise racial differences.

## COGNITIVE (THINKING) SKILLS

- Understanding of cause-and-effect and object permanence is now well established.
- Learn primarily through exploration.
- Trial-and-error learning is beginning to be informed by insight.
- Show some understanding of categories.
- Can concentrate for some time on self-selected tasks but attention span is limited on adult-directed activities (typically 3 to 4 minutes).
- Focus is rigid as competing stimuli must be ignored to maintain focus.
- Easily distracted.
- Can form plans.
- Identify incongruity and therefore can laugh at events that are unexpected or out of place.

## LANGUAGE (COMPREHENSION) SKILLS

- Multiword comprehension is beginning, whereby children can understand three or more words out of context.
- Understand 50 words (nouns, verbs and adjectives).
- Can point to some named objects.
- Can respond to simple and often-repeated commands such as 'Give me your cup'.
- Understand *Where* questions when these are accompanied by gestures.
- Enjoy looking at books.
- Identify at least one body part.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Are beginning to use words purposefully, expressing a variety of communicative functions.
- By 18 months, can use a few words appropriately.
- Over this period, develop a spoken vocabulary of around 20 words.
- Words are approximations of their adult equivalent e.g. *bobo* for bottle.
- Communicate by pointing accompanied with a word e. g. *Wassat?* (What's that?).
- Will repeat familiar words on request and in imitation.
- Use exclamations: *Oh-Oh!*
- Say *No* meaningfully.
- Refer to self by name.
- Sing spontaneously.

## GROSS MOTOR SKILLS

- Walking continues with 'bow legs'.
- Will throw large balls underarm (with a two-handed toss) unless taught otherwise.
- Vertical climbing is beginning, first onto their parents' lap and, later still, up playground equipment.
- Pull toy while walking.
- At 15 months, crawl up stairs.
- Crawl down stairs or go down on their bottom.
- At 15 to 18 months, trot (walk quickly with no airborne phase).
- At 15 to 18 months, throw a ball underarm while sitting (with no aim).
- At 15 to 18 months, throw a ball forward while standing (with no aim).
- Walk into a large ball while trying to kick it.
- Pick up toy from the floor without falling.
- Carry large toy while walking.
- Move to music.

## FINE MOTOR (HAND) SKILLS

- Precision grip on small objects is established.
- Refine learned manipulation patterns to combine them into more complex and longer sequences.
- There is further differentiation of the two sides of the hand.
- Have controlled release of objects.
- Are interested in 'tool' use.
- Grip is static, with movement coming from the shoulder, elbow and wrist.
- In play, can increasingly use bilateral hand skills (two hands) with one hand stabilising the material and the other manipulating it.
- Hold two objects in the hand at once.
- Build a three-block tower.
- Hold a crayon or texta and scribble.
- Rotate and examine three-dimensional aspects of objects.
- Turn pages of a book two or three at a time.
- Paint with whole-arm movement, changing hands.
- Deliberately throw or drop objects to watch them fall.

## SELF-CARE SKILLS

- Can anticipate self-care activities.
- Developing trunk stability allows for more participation in dressing.
- Grasp is now delicate, with ability to use appropriate force.
- Release of objects is now deliberate and purposeful.
- Finger feed part of a meal.
- Can use a spoon to self-feed, with some spilling.
- Take bite-sized pieces from a plate.
- Independently drink from a cup, with some tipping.
- Indicate when wet or soiled.
- Try to push off soiled nappies.
- Take off shoes, socks, hat, mittens and coat.
- Put on hat.
- Try to put on shoes (on wrong feet).
- Undo bows and snap fasteners.
- Hold head in position for hair brushing.
- Bring hairbrush to head.

## BEHAVIOUR

- Can desist from a desired but forbidden behaviour 40 per cent of the time.
- Can persist at undesired tasks 14 per cent of the time.
- Pull adults to show them something or to gain help.
- Rigid focus leads to apparently 'obstinate' behaviour.



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## 18 TO 24 MONTHS

### EMOTIONAL SKILLS

- Now experience guilt, embarrassment, pride, and jealousy (envy).
- Sense of ownership emerges and so they will defend their possessions.
- Assume that what upsets them is the same as what causes another's distress.
- May show fear at departure of primary caregivers and cry in relief at their return.
- Have elevated cortisol (stress hormone) levels in unfamiliar settings.
- Are learning that they can exercise some autonomy (self-determination).

### SELF-CONCEPT AND SELF-ESTEEM

- The emergence of embarrassment signals that toddlers already have developed a reputation with themselves.
- Self-description emerges, as children now see themselves as separate individuals with their own desires and the ability to assert and act on these.
- They see themselves as agents, able to influence events.
- They can use self-referent pronouns: *me*, *mine*, and *I*.

### SOCIAL AND FAMILY RELATIONSHIPS

- Show affection towards other children.
- Imitate social partners more creatively.
- Enthusiastic about the company of peers.
- Can take turns in simple games.
- Play comfortably in groups of two children.
- Play both in parallel and associatively.
- Have high rates of both prosocial and antisocial behaviour.
- Display acts of sympathy and attempt to comfort others.
- Defend possessions, revealing that a sense of ownership has emerged.
- Sharing appears.
- Imitate adult behaviour in play.

## COGNITIVE (THINKING) SKILLS

- Attention span lengthens, but toddlers cannot change the focus of their attention on command or give equally long concentration on adult-directed activities.
- Concentration for adult-led activities is around 3 to 4 minutes.
- Deferred imitation is now made possible by memory storage and representational thought.
- Children can now use some foresight before acting.
- Complete simple puzzles.
- Vary creatively their own imitation of a model.
- Find objects that they did not observe being hidden.
- Sort and match objects.
- Recall recent events.
- Remember where things belong.
- Play by self, initiating their own play.
- Constructive play emerges.
- Symbolic play emerges.
- Fantasy (make-believe) play commences, e.g. playing house.
- Play also becomes symbolic, first directed at the self and then towards objects, e.g. putting a doll to bed.
- Increased use of nonrealistic objects in pretend play.
- Activate mechanical toys.

## LANGUAGE (COMPREHENSION) SKILLS

- Receptive vocabulary growth continues to be much more rapid than expressive vocabulary.
- Can now understand some words out of context.
- Comprehension of personal pronouns develops.
- At 18 months, understand 100 to 200 words.
- By 2 years, understand more than 1000 words.
- Begin to understand temporal words such as *soon* and *later*.
- Begin to distinguish between common objects, e.g. a cat versus a dog; milk versus juice.
- Identify 3 to 6 body parts.
- Enjoy nursery rhymes.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- This is an echolalic stage, when children repeat (echo) part of what they hear. Most children grow out of this by 2.5 years of age.
- Turn taking in primitive conversations is beginning to occur.
- Use speech to recruit attention.
- Use words with or instead of gestures, e. g. indicate *Yes* or *No* with words or by shaking the head.
- At 18 months, use 10 words; at 24 months, use 50 or more words.
- Once 50 words are acquired, can combine these into two-word sentences, e. g. 'Want bikky'.
- Imitate 3- to 4-word phrases.
- May use jargon (syllable strings that sound like language).
- Attempt to sing songs with words.

## GROSS MOTOR SKILLS

- Legs are now straight in walking – that is, no longer bow-legged.
- Rotational changes in the alignment of the lower limb bones continue.
- The development of ball skills depends heavily on exposure to ball play.
- Climb onto an adult chair, hold on, turn and sit.
- Walk up and later down stairs with hand held, two feet per step.
- Brief airborne phase begins in running.
- Rise on tip-toes with hand support.
- Squat.
- Can propel self on ride-on toys without pedals.

## FINE MOTOR (HAND) SKILLS

- Significant changes in hand skills occur. Cognitive skills allow more complex movement patterns to be used, while development of perceptual-motor ability allows for refinement of earlier hand skills.
- Pencil grasp becomes more controlled.
- Eye-hand coordination is beginning in ball play (unless poor vision is uncorrected).
- Can use isolated finger movements.
- Build a six-block tower.
- Use a fingertip grasp for precision tasks.
- Use a palmar grasp for power tasks.
- Can hold objects with appropriate pressure, e. g. so that a biscuit is not crushed.
- Can place and release accurately.
- Imitate vertical and circular strokes in drawing.
- Manipulate objects into small openings.

## SELF-CARE SKILLS

- Can integrate sensory experiences and make accurate motor responses to allow for tasks such as dressing and threading.
- Have distinct food preferences.
- Unwrap food.
- Rotary chew solid food.
- Scoop food, feeds self with spoon.
- Lift foot for putting on or taking off shoes and pants.
- Remove loose shoes, push down shorts, remove socks on request.
- Open mouth for teeth to be brushed.
- Hold toothbrush and approximate brushing.
- Allow wiping of nose.
- Wash and dry hands partially.
- Try to wash body.
- May show an interest in toileting.
- Can indicate wet pants.
- Help with simple household tasks.

## BEHAVIOURS

- Cooperation with parents increases, although compliance does not.
- Can follow a series of two simple but related directives. Fixed attention skills and need for autonomy can make it difficult to redirect toddlers when they are focused on an idea or action.
- Their fixed focus, the emergence of the needs for autonomy and increasing independence, can cause their behaviour to appear to be 'defiant'.



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## 2 TO 3 YEARS

### EMOTIONAL SKILLS

- Separation distress diminishes.
- Show spontaneous affection for familiar playmates.
- From 30 months, guilt, shame and pride emerge.
- By 3, self-conscious shyness emerges.
- Experience one emotion at a time and completely: Can be swamped by it.
- Easily roused to anger when frustrated.
- Frustrated meltdowns peak.
- Physical aggression peaks from 24 to 42 months, declining thereafter – more rapidly for girls than for boys.

### SELF-CONCEPT AND SELF-ESTEEM

- Self-assertion (sometimes aggressively) occurs as children's sense of agency is threatened by the actions of others.
- Self-esteem is now being fed by children's competence at tasks as well as by their sense of worth.
- Take pride in their achievements.
- Know their own gender.

### SOCIAL AND FAMILY RELATIONSHIPS

- Can play by themselves for extended periods.
- Can engage in pretend play.
- Flexible enough to incorporate and adjust to new and different play partners.
- Sharing is now difficult as they defend their possessions., using *Mine*.
- Can play near or in parallel with other children.
- Join in briefly with other children's play.
- Accommodate up to three children in a group.
- Participate in simple group activities, e. g. singing, clapping, dancing.
- By the age of 3, may make a special friend.
- Negative interactions decrease; positive interactions increase.
- Act to help others in distress.

## COGNITIVE (THINKING) SKILLS

- Learning occurs through exploration and adult mediation.
- Planning emerges as children develop means-end analytical skills.
- Can plan actions mentally without acting them out.
- Can relate one experience to another using 'If ... then' logic.
- Selective attention emerges as children's focus improves and they begin to be able to filter out distracting information.
- Concentration span for adult-led activities may be only 6 minutes.
- Can transfer their attention when bid, unless already engrossed.
- Can self-correct their thinking.
- Match and use associated objects, e. g. sock and shoe.
- Sort objects by size.
- Know 2 or 3 primary colours.
- Can rote count from 1 to 5.
- One-to-one number correspondence is beginning, such that they can count 2 or 3 objects.
- Can complete 3 to 4 piece puzzles.
- Identify body parts with their function.

## LANGUAGE (COMPREHENSION) SKILLS

- Have a 250-word receptive vocabulary comprising nouns, verbs, prepositions and adjectives.
- Understand simple time concepts such as *tomorrow*.
- Enjoy simple stories and request their repetition.
- Understand 2 or 3 prepositions, e. g. *under, in, on*.
- Respond accurately to common multiword sentences, e. g. 'Put your cup on the table'.
- Cannot understand compound commands, e. g. 'Take your coat off and put your slippers on'.
- Understand negatives: *no, don't can't*.
- Understand *What* and *Where* questions.
- Point to pictures of common objects when these are named.
- Begin to understand *long* and *short*.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Can participate in conversations, sustaining them for 2 to 3 turns.
- At age 2, 50 per cent of their speech is intelligible.
- At age 3, around 75 per cent of their speech is intelligible but the children become frustrated at not being understood.
- Non-routine word combinations emerge at age 2.
- Have an expressive vocabulary of 100 words.
- Their average sentence length is 2 to 3 words.
- Ask for what they want.
- Use pronouns, *I*, *me*, *you* and *mine*.
- Will ask *What* and *Where* questions e. g. 'Where's Mummy?' 'What are you doing?'
- Use plurals of nouns.
- Tell simple stories about recent experiences.
- Identify some colours.
- Can use most vowel and consonant sounds accurately.
- Make negative statements, e. g. 'Can't do it'.

## GROSS MOTOR SKILLS

- Legs develop 'knock knees', which will peak at around 3.5 years of age.
- Walk with arms at sides, with a narrower base, longer stride, but still pushing off with toes.
- Are flat-footed.
- Will have 'pigeon toes' (in-toeing) if very flat footed.
- Have little body rotation in walking.
- Airborne phase in running lengthens.
- Can stand on one leg for 1 to 2 seconds.
- At 2 years, walk up and down stairs, placing two feet per step.
- At 2.5 years, walk up with support, placing one foot per step.
- Begin to jump, usually with one foot leading.
- May have little sense of danger when climbing.
- Climb in and out with help for hand placement and weight shift.
- Can jump from a bottom step.
- Can kick a ball and retain balance.
- Need to be shown how to position arms to catch a ball.

## FINE MOTOR (HAND) SKILLS

- The ability to make manipulative movements within the hand improves.
- For the majority, handedness is established.
- String four large beads.
- Turn book pages singly.
- Imitate the drawing of a face.
- Imitate directional movements when drawing: vertical, horizontal and circular strokes.
- Use scissors to snip paper.
- Manipulate play dough.
- Turn knobs.

## SELF-CARE SKILLS

- Take pride in achievements with self-help skills.
- Resist assistance.
- Understand and can stay away from common dangers.
- Hold cup or glass with one hand, with the other poised to help.
- Can pour liquids, with some spilling.
- Use spoon well, with minimal spilling.
- Spear food with fork.
- Open jars.
- Unzip clothes.
- Pull pants down.
- Pull pants up from the ankles.
- Remove coat, jumpers, T-shirts.
- Put on coat with assistance.
- Put on socks and shoes (not always on the right feet).
- Untie and remove shoes.
- Identify clothing appropriate for different occasions.
- Comb and brush hair.
- Wash and brush teeth (not thoroughly).
- Wipe nose on request.
- Independent daytime toileting control when adult regulates toilet trips (toilet timed).
- Can anticipate the need to urinate.

## BEHAVIOURS

- Object to changes in routines. Their day needs a rhythm with advanced warning of any changes.
- Meltdowns are a common tool to communicate protest.
- Despite the emergence of language, the children's behaviour is not yet under verbal control.
- Can follow simple two-step commands.
- Make constant demands for parents' engagement.
- Development of language and reasoning skills facilitates cooperation.
- Continue to need daytime naps until 3 years of age, and only intermittently until 5 years, typically in response to sleep deprivation by night.



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## 3 TO 4 YEARS

### EMOTIONAL SKILLS

- Can now talk about and express their own emotions verbally.
- Young children are serial emoters: They feel one thing at a time. This leads to piteous cries of 'You don't love me anymore, do you?' when a parent is angry with them.
- Emotional self-regulation begins, focused on attaining self-control and internalising norms for social behaviour.
- Can begin to tolerate frustration as emotions start to become self-regulated, although inconsistently.
- Have a better idea about the likely cause of another's distress. Therefore, their attempts to comfort others are more relevant.

### SELF-CONCEPT AND SELF-ESTEEM

- View self as a whole person with a body, mind and feelings.
- They are now aware that tasks have standards and want to attain goals by themselves
- Describe themselves in concrete terms of their appearance, what they wear and own, and who is in their family.
- Their focus on the physical self-concept and limited experience of hurting and healing can lead to panic at physical injury.
- Self-evaluation arises from achievement standards and lead to shame at or pride in attainments.
- Self-assertion becomes less strident.
- Gender awareness solidifies, with increased knowledge about gender stereotypes.



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## SOCIAL AND FAMILY RELATIONSHIPS

- Can accept the absence of their primary caregiver if in a supportive environment.
- May temporarily fixate (for some months) on the same-sexed parent.
- Can use language to negotiate solutions to conflict but from a single perspective.
- Cooperate more with other children.
- Join in play with other children in an associative fashion: commenting on each other's actions and exchanging toys.
- Can function comfortably in groups with four members.
- Can show clear preferences for one or two friends.
- Select as friends peers who match their temperament and skill levels.
- True reciprocal friendships develop.
- Many have an imaginary companion.
- Fantasy play is increasingly inventive.
- Begin to act out whole scenes in their dramatic play.
- With guidance, can take turns and share.
- Increased use of language for social problem solving, the refinement of empathy and development of moral reasoning (conscience') allow aggression to begin to decline.
- Sex-segregated play begins.
- Dominant group members (often boys) use both prosocial and coercive means to gain access to resources and secure status.

## COGNITIVE (THINKING) SKILLS

- Concentration span is longer, but the object of attention is fixed.
- Concentration span for adult-led activities is around 9 minutes.
- Cannot alternate focus.
- Learn through observing and imitation, testing predictions, and via adult explanations.
- Have an increased understanding of concepts, functions and grouping of objects.
- Actions are goal-directed.
- Clearer sense of time.
- Can follow 3-part routine commands.
- Plan out play in advance.
- Act out sequences with toys.
- Can put graduated sizes in order.
- Recognise and match six colours.
- Can count up to five objects, touching each one (rational counting).
- Name basic shapes and colours.
- Complete simple picture puzzles.
- Know the sequence of routine events.

## LANGUAGE (COMPREHENSION) SKILLS

- There is a large growth in vocabulary during this year.
- Understand children's stories.
- Understand concepts such as *smaller, less, same*.
- Can state some opposites, e. g. 'Hot and ....?'.
- Can carry out a series of 2 to 4 related directives.
- Understand when told, 'Let's pretend'.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Talk a lot – and rapidly.
- Sentences are longer and more varied.
- May repeat the initial sound, e. g. b-b-b-baby. This is a normal developmental phase, coming about because they have many ideas to express at a time when speech does not yet come automatically: Their mouth can't keep up with their brain.
- Use new words meaningfully.
- Will make requests, tell jokes, protest and agree.
- Ask many *Why* and *How* questions in a search for information.
- May substitute some sounds for others, e. g. *barf* for *bath*.
- Can talk about past experiences.
- Use 'ed' at the end of some verbs to indicate past tense.
- Speech becomes largely understandable to strangers, although there are still some articulation errors.



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## GROSS MOTOR SKILLS

- At this age, motor skills depend largely on practice.
- Stop-start and turning are more efficient while walking and running.
- Develop a longer airborne phase during running, with arm swing, longer stride, increased speed, stop-start, and cornering abilities.
- Can run around obstacles.
- Stand on one leg for 3 to 5 seconds.
- Some can hop on one foot.
- Can walk on toes.
- Can walk on heels.
- Jump with two feet together, 4 to 5 jumps in a sequence.
- Can walk up stairs, with one foot per step.
- Walk or jump down stairs, with two feet per step.
- Are more aware of danger during climbing but still need supervision and assistance to assess risk.
- Scoop ball to chest when catching.
- May catch a bounced ball more easily than one that has been thrown.
- Ride a tricycle.

## FINE MOTOR (HAND) SKILLS

- Precision grasps of tools are now established but with practice will be refined over the next 3 to 5 years.
- In-hand manipulation skill of moving small objects from the fingertips and thumbtip to the palm and back again (translation) is developing.
- This movement can occur even when other small objects remain in the hand. (This is called stabilisation.)
- Use a fingertip grasp on pencil.
- Draw a circle.
- Draw the face of a person.
- Imitate a cross.
- Draw a somewhat recognisable picture that is meaningful to self.
- Cut along a line and around a circle.
- Can roll play dough into a ball and mould a biscuit shape.

## SELF-CARE SKILLS

- Can now perform many self-care tasks with diminishing supervision.
- Hold a cup by its handle.
- Drink securely, with one hand holding the vessel.
- Pour well from a small pitcher.
- Wipe up spills.
- Can dress and undress without help, except for difficult fastenings and shoe laces.
- Do up and undo large buttons.
- Wash hands unassisted.
- Wash body well in bath.
- Wipe nose without request.
- Use toilet independently, except for thorough wiping.
- Improved concentration span and more intense focus can lead to renewed toileting accidents as their play is not interrupted as much for them to notice a full bladder.

## BEHAVIOUR

- Can become obsessive about and might dictate parental adherence to rigid routines.
- Advances in language skills and longer concentration span lead to the emergence of whingeing (whining) when children are disappointed and cannot get past it.
- Activity levels begin to come under self-control so that they become appropriate for the situation.
- Aggression levels remain high if children receive controlling discipline, but decline with parental guidance.
- Are eager to please, although often self-willed.
- Increasing independence.
- Capable of some deception.



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## 4 TO 5 YEARS

### EMOTIONAL SKILLS

- Finer discriminations between emotions continue to increase with age.
- Serial emoting leads to declarations in anger that they are not someone's friend.
- Show concern and sympathy for others. Offer help to others voluntarily.
- Their repertoire of helping behaviours has now expanded from a simple hug or pat to helping, sharing, offering verbal sympathy, protecting and defending victims and expressing anger towards the source of their distress.

### SELF-CONCEPT AND SELF-ESTEEM

- Emerging ability to scan their memory and monitor their own thinking causes them to be impressed with the power of their mind.
- Self-esteem is inflated as a result. However, it is binary: They see themselves in terms of good/bad.
- Family membership is a strong source of self-esteem.

### SOCIAL AND FAMILY RELATIONSHIPS

- Choose their own friends.
- Desire to be like their friends.
- Want to please friends.
- Play cooperatively to achieve a common goal.
- Children's more extensive vocabulary allows them more routinely to use words in social play to solve problems, rather than reacting with aggression.
- Can negotiate and conform to group decisions.
- Play simple competitive games that are not too highly organised.
- Negotiate and direct roles, rules and tasks during social play.
- Agree to rules.
- Can share and take turns more reliably (although these skills occur sooner in children with early experience in group settings).
- Dramatic play more closely mirrors reality, with attention to detail.
- Reactive exclusionary manoeuvres emerge ('We're not playing with you') in response to real or perceived injustices.
- Girls' dyadic friendships are fragile; boys congregate in groups, which are more stable.
- Interested in exploring gender differences.
- Are now aware of racial stereotypes.
- Sixty to ninety per cent judge discrimination to be unfair.

## COGNITIVE (THINKING) SKILLS

- Can now integrate spatial, cause-and-effect and representational thinking into problem solving.
- Concentration span for adult-led activities is around 12 minutes, although can be up to double this when the activity is attractive.
- By 5 years, can divide their attention (e. g. complete a task while listening to adult instructions) and alternate their attention (e. g. between their construction and a picture of it that they are copying).
- Can now pay selective attention reasonably automatically, ignoring competing input.
- Begin to develop meta-cognitive skills to manage their own thinking and scan their own memory.
- Responding to problems is increasingly flexible.
- Acquire increased understanding of concepts such as time, including sophisticated concepts such as *yesterday* and *last week*.
- Moral reasoning is refined. Can judge right and wrong.
- Can distinguish fantasy from reality.
- Capable of deliberate lying.
- Increasing cognitive awareness of the perceptions of others.
- Count objects in sequence with one-to-one correspondence.
- Match pictures of familiar object pairs.
- Can describe what will happen next.
- May start thinking and asking about death and dying.

## LANGUAGE (COMPREHENSION) SKILLS

- Vocabulary and concept knowledge continue to grow.
- Can now use these skills to express ideas, solve problems, and plan ahead.
- Can listen for extended periods (within their concentration span) to stories although they might misinterpret the events.
- Can follow three unrelated commands in the correct sequence.
- Understand comparatives, e. g. *big*, *bigger*, *biggest*.
- Understand sequences of events, with some explanation.
- Can put three pictures into a sequence to tell a story.
- Understand *first*, *middle* and *last*.



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## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Use language to find out about their world.
- Can use language to solve problems and resolve conflict.
- Can use language to describe imaginary events.
- Have an expressive vocabulary of 1500 words.
- Average length of sentences is five words.
- Ask questions using *Who* and *How*.
- Can define words such as *carrot* and *firefighter*.
- Adapt their language for their listeners, e. g. use more complex sentences when talking with an adult compared with talking with a baby.
- In addition to *and*, use other conjunctions such as *because*, *when* and *if*.
- Can sing songs and recite short poems from memory.
- Chanting and swearing emerge as children play with the rhythms and patterns – and prohibitions – of language.
- May still have some difficulty with consonants such as *s* and *t* and consonant blends such as *str* and *gl*. This will also depend on where these fall within a word: beginning, middle or ending.

## GROSS MOTOR SKILLS

- When walking, legs are almost straight again at the knee, ankle and mid-foot. That is, knock-knees have corrected.
- Physical growth slows, with the result that food requirements reduce.
- Can run on toes.
- Can walk a straight line, although still with some wobbles at 48 months.
- At 48 months, can take a standing jump over a rope held stationary at 15 cm height, with feet parallel on takeoff and landing and synchronised. By 60 months, height can be 30 cm.
- Jump up to 20 sequential jumps forward.
- Walk up and down stairs with no hands, one foot per step – although might use the handrail when in crowds.
- Catch a 20 to 24 cm ball with an efficient and secure catch in forearms, with elbows bent.
- By 5 years, can catch in hands a 20 to 24cm ball thrown in their midline.
- Can kick a soccer ball into a box one metre away.
- Turn somersaults.

## FINE MOTOR (HAND) SKILLS

- Two sides of the hand – the skill (thumb) side and the stability (little finger) side – are well established.
- In the majority of children, the arches of their hand are well established, giving greater control and endurance with hand use.
- The two hands are able to perform different movements simultaneously and proficiently to carry out an activity.
- The preferred hand becomes increasingly specialised.
- Draw a stick figure.
- Copy a square.
- Print a few capital letters.
- Cut around a circle.
- Draw, name and describe a recognisable picture.
- Able to fold paper with reasonable accuracy.
- Can place paper clips on paper.

## SELF-CARE SKILLS

- Can perform many self-care tasks independently with verbal prompts only, although will procrastinate.
- Use spoon and fork competently.
- Can cut easy foods with a knife.
- Serve self and help set the table.
- Dress with supervision.
- Place shoes on the correct feet.
- Know front from back of clothing.
- Night time toileting is mostly reliable, although many continue to wet their bed until 6 years.

## BEHAVIOURS

- Can desist from a desired but forbidden behaviour 85 per cent of the time.
- Can persist at unattractive tasks 30 per cent of the time.
- Insistence on routine reduces.
- Cooperation and demandingness alternate.
- Have an over-reverence for rules that can lead to tattling on peers who break a rule.

## 5 TO 6 YEARS

### EMOTIONAL SKILLS

- Protect other children and animals.
- Accurately interpret the source of a friend's distress.
- Comfort playmates in distress.
- Can feel more than one emotion at a time as long as it is in the same category.
- Their ability to understand emotions has a direct effect on their social competence.

### SELF-CONCEPT AND SELF-ESTEEM

- More specific feedback to children upon school entry causes a decline in their self-esteem about their competence, although to more realistic levels.
- Children begin to distinguish their skill levels in various academic and non-academic domains.

### SOCIAL AND FAMILY RELATIONSHIPS

- Play simple competitive games that are not too highly organised.
- Voluntarily offer help to others.
- Can delay gratification – that is, sacrifice an immediate outcome to gain a longer-term one – and so can withdraw from disputes.
- Quarrels are frequent but of short duration and soon forgotten.
- Children forgive each other's lack of tact, perhaps aware that they too can be tactless.
- Ten to 15 per cent still show moderate levels of aggression, particularly when being raised under controlling discipline.
- Proactive (unprovoked) bullying emerges, particularly under controlling disciplinary regimes.



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## COGNITIVE (THINKING) SKILLS

- Moral reasoning is advancing, with children able to judge particular behaviours as right or wrong.
- Attention span has increased for adult-led activities to around 15 minutes, although this can be extended if the activity is of interest.
- Divided attention between tasks is now possible.
- Can alternate their focus and can ignore distractions.
- Can direct their attention on adult command.
- Advances in working memory allows children to think flexibly.
- Can use time concepts accurately, e. g. *tomorrow*.
- Sequential skills have improved such that they can retell a story from a book with reasonable accuracy.
- Name some letters and numbers.

## LANGUAGE (COMPREHENSION) SKILLS

- Language continues to develop, although at a slower rate than previously.
- Have a receptive vocabulary of at least 20,000 words.
- Demonstrate pre-academic skills of letter, word and number recognition.
- Laugh at multiple meanings of words.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Most children can use the complex forms of language, with few obvious differences between their grammar and that of adults.
- Have an expressive vocabulary of over 2000 words.
- They still need to learn subject and verb agreement.
- On the irregular verbs, will misapply the rule for turning verbs into past tense, e. g. will say *runned* or *runned-ed* instead of *ran*.
- Can take appropriate turns in conversation.
- Communicate well with family, friends or strangers.
- Give and receive information.
- Can now report on daily events.
- A few consonant sounds (e. g. *ch* and *j*) will not be fully mastered until the ages of 6 or 7.

## GROSS MOTOR SKILLS

- Running and jumping are now more rhythmical and efficient, with help from arm movements.
- Use a reciprocal arm swing when walking.
- Use an adult pattern for ascending and descending stairs.
- By 6 years, hop on the spot 10 or more times.
- Can run and kick a ball. The ball does not have to be stationary.
- Hit a ball with a bat or stick.
- Skip with alternating feet.

## FINE MOTOR (HAND) SKILLS

- Hand movements continue to improve in efficiency and control.
- Can hold several small objects in the hand while picking up or releasing one in the thumb and fingertips.
- Draw a triangle and diamond.
- Add trunk and arms to their drawing of a person.
- Draw identifiable objects without a model.
- Copy own name in large, irregular letters.
- Copy numbers unevenly.
- Cut around objects.

## SELF-CARE SKILLS

- Dress and groom independently, with decreased supervision.
- Efficiency of performance improves.
- Dawdling over self-care tasks lessens with the children's increased awareness of time and desire to avoid the consequences of being late.
- Spread soft bread toppings with a knife.
- Brush teeth unassisted.
- Carry liquid in open container without spilling.
- Wash hands at appropriate times, e. g. before meals.
- Tidying up (packing away) is still a challenge for their sequential, organisational and language skills.

## BEHAVIOURS

- Self-control of activity levels is now reasonably reliable.
- By school entry, the majority of children exhibit low to moderate levels of all forms of aggression that remain stable or decline steadily through the early and middle school years. However, as many as 60 per cent of those three-year-olds with *severe* antisocial behaviours maintain these high rates into the early school years and beyond.



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## 6+ YEARS

### EMOTIONAL SKILLS

- Children are still serial emoters, but may be beginning to understand that they can feel two emotions at once, e. g. love and anger.
- Now understand remorse and regret.
- By 8 years of age, most children have reasonably reliable control of anger and frustration.

### SELF-CONCEPT AND SELF-ESTEEM

- Sensitive to criticism, perhaps because of recent decline in self-esteem.
- If children's sense of worth is made conditional on their competence, they might strive to be the best and first at activities.

### SOCIAL AND FAMILY RELATIONSHIPS

- Play continues to be the main vehicle driving development in all domains, particularly social skills where companionship is necessary for practising social competencies.
- Increasingly play games with rules.
- May be sensitive to losing.
- Can reliably label race.

### COGNITIVE (THINKING) SKILLS

- Executive control is active, allowing flexible responses to tasks. These skills include response inhibition, maintenance and updating of information and shifting between tasks.
- Have volitional control of attention.
- Are lively intellectually.
- Thrive on exploration.
- Can now focus on several attributes of an object simultaneously (termed decentration).
- Begin to use logic to solve problems.
- Can reverse the steps in a problem-solving sequence.
- Can discern differences between appearances and reality.
- Are clear that matter is conserved, even when the shape of the container alters.

## LANGUAGE (COMPREHENSION) SKILLS

- Vocabulary continues to grow.
- Understand jokes, word puns and figurative language.
- Can understand more complex stories.

## SPEECH (EXPRESSIVE LANGUAGE) SKILLS

- Pragmatic skills improve (using language for different purposes, taking turns, using eye contact, adapting language to different listeners or contexts).
- Conversation skills are refined.
- Sentence structure is more complex.
- Most speech sounds in English are mastered.

## GROSS MOTOR SKILLS

- By 6 to 7 years, children display a mature running pattern. Further refinement during childhood depends on training and on practice with new movement challenges.
- By 7 years, leg and foot alignment is similar to adults' – that is, there is slight out-toeing.
- Anticipate and prepare to catch.
- Catch 15 to 25 cm ball in hands easily and repetitively, with elbows bending to absorb the impact.
- Catch to the side of the body.
- Catch a 5 cm (tennis) ball.
- Throw a ball in the air and catch it.

## FINE MOTOR (HAND) SKILLS

- As dynamic eye skills (e. g. tracking across a page) have developed, children's eye-hand coordination continues to improve (as long as their vision is clear).
- Most have a well established dynamic tripod pencil grip, with the pencil moved by moving the fingertips.
- Proficient in-hand manipulation skills and use of gravity to assist.
- Copy a rectangle.
- Write letters and numbers with some accuracy, but still with some errors.
- Letter size decreases, with letter formation more consistent.

## SELF-CARE SKILLS

- Can perform most necessary self-care tasks independently although will continue at times to seek adult support and company.
- Cut and spread with a knife.
- Select appropriate clothing.
- Turn clothing right side out.
- Tie shoelaces.
- Do up back buttons.
- Blow and wipe nose independently.

## BEHAVIOURS

- Of boys aged over 5 years, 3.7 per cent are frequently aggressive, whereas 2.3 per cent of girls are.
- Physical aggression declines, partly because children expect each other to self-regulate, and partly because it gets perpetrators into trouble. It is replaced with relational aggression.
- While 65 per cent of children use relational aggression infrequently throughout childhood, around 35 per cent increase their use of it as they age.



Photo by Louise Porter

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