

What the Brain Needs to Learn and Develop

Highland Council Psychological Service



Works for Positive Change

Ways to support brain development through the years

Ante-natal period

During this time, prenatal sensory experiences help shape the brain and nervous system. Try:

- Talking to your baby.
- Playing music to your baby.
- Touching your pregnancy bump and feeling your baby respond.
- Shining a light and move it across your bump (32 weeks +).

2 - 6 months old

Significant wiring of the brain occurs during this time. Try:

- Talking to your baby.
- Singing to your baby.
- Expose your baby to different styles of music.
- Watching your baby notice the world around them.
- Looking at your home from your baby's point of view to make sure there are interesting things to look at.
- Making sure your baby can see your face and your expressions.
- Making eye contact during daily routines like feeding and nappy changing.
- Playing lots of different sensory games, such as rubbing noses, patting knees, touching elbows.
- Touch, cuddle and hold your baby, or try massaging your baby gently.

- Providing other 'touch' experiences for your baby, such as putting them on different surfaces (blankets, towels, bumpy, cold).
- Begin to create routines around meal times, nap times and other important parts of the day.
- Placing your baby on areas of the floor where it is safe to move around to encourage rolling, crawling and walking.

6 - 12 months old

During this time, your child's brain undergoes a rapid growth spurt that helps form connections between what they see, hear, feel and taste. Your child is also developing language skills, thinking skills and learning to move. Try:

- Talking to your baby as you interact with them to help them make connections between sounds and words.
- Cuddling up and sharing stories with your baby. Allow your baby to explore books how they want to - there is no right or wrong way to read to a baby.
- Making time to read with your baby each day.
- Providing lots of interesting things for your baby to touch and explore.
- Offering your baby containers that they can dump and fill, to help them learn about objects and how things work.
- Expecting mess! Allow your baby to touch their food and explore different textures with their fingers.
- Dancing to music. Sway or bounce to the beat.
- Making sure your home has safe challenges to encourage your baby to move (make a small obstacle course out of cushions for your baby to climb over, around and through).

12 - 18 months old

During this time, your child's brain is able to process speech more quickly. Your child will understand more of what is being said to them than they are able to say themselves. Try:

- Talking about what you are doing.
- Talking about what your child is doing as they are doing it.
- Saying things again and again. Repeat favourite songs, stories and nursery rhymes.
- Reading books with your child every day.
- Following your child's lead when playing.
- Providing lots of opportunities to explore and play with interesting and challenging materials (such as blocks, water, sand, nesting toys).
- Allowing your child to make choices, within limits (whether they want red or blue paint for their picture, or an apple or a pear for snack).
- Focusing on the process of play, not the final product.
- Making sure there are plenty of safe, low places for climbing.

18 - 24 months

During this time, your child is developing language skills, thinking skills, developing socially and emotionally and learning to move. Try:

- Talking to your child.
- Taking the time to listen to your child.
- Repeating, expanding or restating what your child is saying.

- Reading to your child every day.
- Encouraging your child to turn pages of books as you read with them.
- Providing 'hands on' experiences (such as sand, water tray, playdoh, finger painting).
- Encouraging imitation by showing your child how to do things.
- Providing props that encourage imaginative play (such as hats, dress up clothes, toy telephone).
- Playing sharing and turn-taking games.
- Using distractions to calm your child or avoid disputes.
- Encouraging your child to help with dressing and to use a spoon or fork.
- Providing lots of opportunities to walk, run, climb and explore.
- Making a safe obstacle course to provide safe challenges.

2 - 3 years old

During this time, your child is continuing to develop language skills, thinking skills, developing socially and emotionally and learning to move. Try:

- Asking your child lots of questions.
- Allowing plenty of time for play.
- Following your child's lead and giving them just enough support to help them master new skills.
- Helping your child identify their feelings (use words such as happy, sad, upset and angry).
- Letting your child do things for themselves (such as pouring their own drink, washing their own hands).

- Providing lots of opportunities for your child to use the large muscles in their arms, legs and body (such as dancing, running, jumping, hopping and climbing).
- Providing toys and activities where your child has to use their fingers and hands (such as finger painting, drawing, colouring, building blocks, stringing chunky beads, playing musical instruments).

3 - 4 years old

During this time, brain development shows your child's increasing ability to understand their environment. They will begin to solve problems in their daily life. Try:

- Talking to your child through daily routines.
- Using descriptive words when talking about objects (tall tree; fluffy dog).
- Letting your child help set the table for meal times. Count to make sure there is enough for everyone.
- Letting your child help with simple cooking activities, and ask questions (such as, 'What do you think will happen when we put the cake mix into the oven?').
- Letting your child help with simple chores around the house. Explain why things have to be done (such as, 'We have to water the plant and keep it in the sun so it will keep growing.').
- Following a daily routine, and reminding your child what is coming next (after dinner it will be time for a bath; it is time for a story, then once we have read the story it will be time for bed).
- Providing puzzle games, building blocks and stacking toys for your child to take apart and put back together again.

4 - 5 years old

During this time, your child is increasing in their ability to understand their environment. They will continue to learn how to solve problems in their daily life. Try:

- Asking your child counting questions (such as, 'How many steps do you have to take from the pavement to the front door?' or 'How many carrots are on your plate?').
- Letting your child help with the laundry by matching socks or sorting clothes for each family member.
- Using questions with your child to solve problems (such as, 'Who is shorter?' or 'Whose hand is bigger?').
- Having a treasure hunt and giving your child clues to find objects using directional words (inside, behind, under, above etc.).
- Filling plastic bottles with sand, rice, marbles, feathers and other objects, and compare the different sounds you hear when you shake the bottles.

6 - 7 years old

During this time, your child's brain development accelerates as they learn new skills and concepts at school. Try:

- Making time to read with your child every day.
- Acting out stories together from books, television or your child's imagination.
- Making a quiet place at home for your child to do homework.
- Being aware of how much time your child is spending on screens, as they need plenty of exercise and playtime for brain development and physical development.

8 - 10 years old

During this time, your child's brain continues to develop. Your child has a growing need for independence in their decision-making and thinking processes. Try:

- Making reading for fun a part of your child's daily routine.
- Making a quiet place at home for your child to do homework.
- Encouraging your child to spend plenty of time playing. Consider limiting screen time to one to two hours per day to encourage more active play.

Adolescence

During this time, your teenager's brain undergoes a massive reorganisation. Brain connections become stronger and faster. Unused connections are 'pruned'. Try:

- Encouraging practice at skills your teenager may want to use in future.
- Giving your teenager opportunities to try things out without commitment.
- Letting your teenager know you are there for them if they want to talk. Sending a text or an email may work better.

Things to keep in mind:

- Hormones can have major effects on the brain, and as a result, teenage behaviour.
- Teenagers may display risk-taking behaviours and make choices without considering the consequences. Try to support your teenager with decision making. Help them gather information, work out what is important, come up with possible options, consider consequences, make a choice and create a plan.

Ways to support sleep in children and young people

Age	Hours of night time sleep to aim for
4	11 hours 30 minutes
5	11 hours
6	10 hours 45 minutes
7	10 hours 30 minutes
8	10 hours 15 minutes
9	10 hours
10	9 hours 45 minutes
11	9 hours 30 minutes
12 -13	9 hours 15 minutes
14 - 16	9 hours

(Recommendations from Millpond Children's Sleep Clinic)

Things to try:

- Keep a regular bedtime schedule and a routine which works for your family. (One typical routine: light snack; bath time; put on pyjamas; brush teeth; read a story, put your child to bed.)
- Use relaxation techniques (such as, a warm bath; relaxation music; reading a book).
- Avoid screens in the bedroom as much as possible. Encourage charging of phones, tablets etc. to be done in a different room.
- Create an environment that is favourable to sleep in (such as, a dark, quiet room at a cool temperature).
- Keep a sleep diary, which may help to reveal habits or experiences that are contributing to poor sleep. Think about what time your child went to bed, how long did it take them to fall asleep, how many times did they wake up during the night, did they take any naps during the day, were they anxious about something, etc.

Extra sleep tips for teenagers. Try:

- Talking to your teenager about their sleep problems.
- Promoting the benefits of good sleep (sleep helps memory and performance).
- Encouraging exercise for better sleep.
- Suggesting your teenager cuts out the caffeine.
- Suggesting your teenager does not binge on food before bedtime. Equally, it is important that your teenager is not hungry at bedtime.
- Encouraging them to develop their own bedtime routine.
- Letting your teenager know that good sleep habits last a lifetime.

Ways to support children and young people to be active

Children and young people should engage in physical activity for at least 60 minutes per day. Try:

- Considering ways for children to "earn" screen time .
- Agreeing a family limit to screen time per day .
- Making bedrooms a TV- and computer-free zone .
- Setting "no screen time" rules to encourage kids to be active.
- Encouraging participation in house chores such as setting the table or taking the bins out.
- Choosing gifts such as a scooter, skateboard, ball or kite to encourage active play.
- Leading by example by also reducing your TV time and other sitting-based tasks.

Physical activity for early years (birth – 5 years)

Active children are healthy, happy,
school ready and sleep better



BUILDS
RELATIONSHIPS
& SOCIAL SKILLS



MAINTAINS
HEALTH &
WEIGHT



CONTRIBUTES TO
BRAIN DEVELOPMENT
& LEARNING



IMPROVES
SLEEP

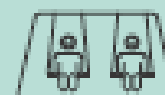
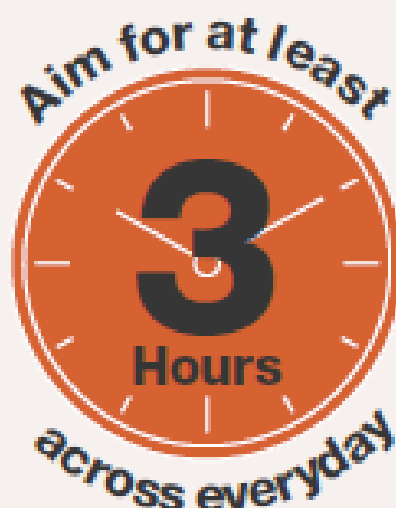


DEVELOPS
MUSCLES
& BONES



ENCOURAGES
MOVEMENT
& CO-ORDINATION

Every movement counts



PLAYGROUND



JUMP



CLIMB



MESSY PLAY



THROW/CATCH



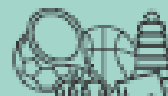
SKIP



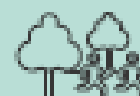
OBJECT PLAY



DANCE



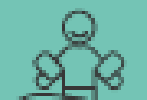
GAMES



PLAY



TUMMY TIME



SWIM



WALK



SCOOT



BIKE

Move more. Sit less. Play together

UK Chief Medical Officers' Guidelines 2011 Start Active, Stay Active: www.bit.ly/startactive

Physical activity for children and young people (5 – 18 Years)



BUILDS
CONFIDENCE &
SOCIAL SKILLS



MAINTAINS
HEALTHY
WEIGHT



DEVELOPS
CO-ORDINATION



STRENGTHENS
MUSCLES
& BONES



IMPROVES
SLEEP



IMPROVES
CONCENTRATION
& LEARNING



IMPROVES
HEALTH
& FITNESS



MAKES
YOU FEEL
GOOD

Be physically active

Spread activity
throughout
the day

All activities
should make you
breathe faster
& feel warmer



PLAY



RUN/WALK

Aim for
at least
60
minutes
everyday



BIKE



ACTIVE TRAVEL



SWIM



SKATE

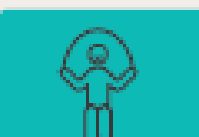
Include muscle
and bone
strengthening
activities
**3 TIMES
PER
WEEK**



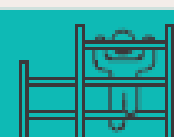
SPORT



PE



SKIP



CLIMB



WORKOUT



DANCE

Sit less



LOUNGING

Move more

Find ways to help all children and young people accumulate
at least 60 minutes of physical activity everyday

UK Chief Medical Officers' Guidelines 2011 Start Active, Stay Active: www.bit.ly/startactive

Ways to support children and young people to eat healthily

Children and young people need to eat healthy food to be able to learn and develop. Try:

- Taking your child(ren) food shopping with you and help them prepare a meal by themselves.
- Getting your children used to cooking healthy food by letting them help with Change4Life healthy recipes.
- Explaining to your child how to get the balance of their diet right using the 'eatwell plate'.
- Showing your child how to read food labels (for example, to check the sugar and fat in snacks). Even small children can understand the traffic light coding on some food packs.

Further ways to encourage children and young people to eat well and be more active might include trying to get healthy as a family. Try:

- Eating at the table together.
- Including your children in family activities (such as walking the dog, washing the car).
- Banning "sweetened" drinks from the home.
- Making sure the whole family eats breakfast every day.
- Decreasing screen time, and replacing it with exercise.
- Getting active on holiday (such as cycling, hiking or camping).
- Preparing more meals at home.
- Having healthier takeaways - make healthier takeaway choices.
- Avoiding over-sized portions - start with smaller portions and have seconds if still hungry.
- Walking for charity.

Breathing Relaxation

Find a quiet spot to sit or lie comfortably with your eyes closed. Place one hand in the middle of your ribcage, and the other hand just below, in the middle of your stomach, as you breathe. Breathe in through your nose, and out through your mouth.

Feel your stomach go in and out, up and down. Just feel it for a few minutes. Keep your shoulders down.

If you can, try breathing in through your nose for a count of 4. Then, if you can, hold your breath for a count of 2. Finally, breathe out of your mouth for a count of 6. So, in for 4, hold for 2, out for 6...Repeat this a few times.

Feel the breath as it comes in through your nose and all the way to your stomach. Concentrate on the breath. Try to make it a little bit deeper and a little bit slower. Do this for a few minutes.

Think of a colour that you like. Imagine you are breathing in that colour. It is going all the way through your body. Now think of a colour that you don't like. Imagine that when you breathe out the breath is that colour. So, breathe in the colour that you like, and breathe out the colour that you don't like. Do this for 6 breaths.

Progressive Muscle Relaxation

Sit or lie down in a comfortable position and take a deep breath. In through your nose and out through your mouth...slowly....keep your shoulders down as you breathe. You may wish to close your eyes.

Starting with your *hands* and *arms*, clench your fists tightly and tense the muscles in your arms. Very slowly relax them. Repeat this a few times.

Now think about your *shoulders*. Raise your shoulders so that they are almost touching your ears. Hold and then release. Repeat this a few times.

Now to think about your *eyebrows*. Tighten them by drawing them together then slowly releasing the tension in your forehead. Repeat this a few times.

Tense your *jaw* by biting your back teeth together tightly. Hold and then release. Repeat this a few times. To relax your jaw, try opening your mouth until it feels relaxed.

Think about your *neck* and let your chin fall forward towards your chest until the muscles in the back of your neck feel quite tight. Slowly, pull it back until it feels relaxed. Repeat this a few times.

Pull your *stomach* in as tightly as you can then gradually relax those muscles. Repeat this a few times.

Using your *heels*, push down hard against the floor until the tops of your *legs* are as tight as possible. Slowly relax and then repeat.

For the bottom half of your *legs* point your *toes* as hard as you can, then slowly release. Repeat this a few times.

When you are ready, take a few deep breaths and begin to become familiar with your surroundings. Open your eyes when you are ready.

Three Senses

A helpful mindfulness trick is simply to notice what you are experiencing right now through three senses – sound, sight, touch. Be aware that, sometimes, other thoughts will pop in to your head. This is normal! Accept these thoughts, then bring yourself back to thinking about what you are experiencing right now.

Take a few slow breaths and ask yourself:

What are three things I can hear?

This could be the clock on the wall, a car going by, music in the next room, your breath

What are three things I can see?

This could be the table in front of you, that person walking by the window, your shoes

What are three things I can feel?

This could be the chair under you, the floor under your feet, your watch on your wrist

Think of these answers to yourself slowly, one sense at a time.

Remember, it is normal for thoughts to pop in to our minds during mindfulness exercises. We have to train our minds to accept these thoughts, and then bring ourselves back to being mindful again.

Helpful Visualisation

By using your imagination you can feel calmer and more relaxed.

Read this page and then sit quietly in a comfortable position, close your eyes and breathe smoothly, in and out using your stomach. Keep your shoulders down. Think of a peaceful place as described below.

Think of a place you like to be. A place which feels calm and comfortable. A place which relaxes you and you enjoy being there.

Think of the clothes you are wearing in this place. What material are they, how do they feel against your skin. Think of how you are sitting or lying. Think of what is straight ahead of you, what colour it is and what it looks like. Look around you and take note of what it looks like. Pause here for a bit while you do this.

Imagine how warm you feel here and how it feels in your muscles to be here. Think about the chair you are sitting on, what does it feel like? If you are lying on the ground think about what that feels like. Is it comfortable, soft or hard? Pause here for a bit while you think of all this.

What can you hear? Are there any birds in the distance or people talking? Be yourself here, you can completely relax here. Notice how calm it is here and stay here a bit longer.

Now let this place disappear gradually. Open your eyes slowly. Move your body again slowly. Be aware of how more relaxed you are feeling.

Web links for further information

Internet safety

Information both for children/young people and also for parents/carers about staying safe online

- http://www.highland.gov.uk/info/1361/childcare_and_family_care/46/staying_safe_online_-_internet_safety/3
- <https://www.thinkuknow.co.uk/parents/Listing/?cat=199,200,201,202,203,205&ref=44551>

Exercise

Disney inspired ideas for fun exercises for children

- <https://www.nhs.uk/10-minute-shake-up/shake-ups#GESUjl2J9hksjdf1.97>

Healthy eating

Interactive 'Eatwell Guide' plate to show children what makes up a healthy meal.

- <http://www.nhs.uk/Livewell/Goodfood/Pages/the-eatwell-guide.aspx>

Pictures of what constitutes one portion for a variety of fruit and vegetables.

- <https://www.bbcgoodfood.com/howto/guide/what-counts-five-day>

Relaxation

Listen to relaxation and mindfulness scripts

- <http://franticworld.com>
- <http://www.quietmindcafe.com/index.html>

References

Australian Early Development Census. (2015). Brain development in children. Retrieved from <https://www.aedc.gov.au/Web silk/Handlers/ResourceDocument.ashx?id=a82d2564-db9a-6d2b-9fad-ff0000a141dd>

Department of Health. (2011). Start active, stay active.: Report on physical activity in the UK. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216370/dh_128210.pdf

KidCentral. (n.d.). Brain development. <https://www.kidcentraltn.com/category/development>

NHS Choices. (n.d.). Physical activity guidelines for children and young people. Retrieved from <http://www.nhs.uk/Livewell/fitness/Pages/physical-activity-guidelines-for-young-people.aspx>