

10 Breaths

When something wonderful touches you, savour the experience by offering it 10 full breaths. By paying close attention to special moments, we come to see that opportunities for happiness present themselves many times each day.

Give your 10 breaths to anything that seems wonderful to you

- Something beautiful from Nature
- A special moment with your child/partner/friend
- A piece of music
- Eating something delicious
- A work of art

- 1 Stop whatever you are doing
- 2 Close your eyes, place a hand on your belly and take 3 deep breaths to calm yourself.
- 3 Open your eyes and focus on your special object/person/experience
- 4 Stay focused on whatever has caught your attention as you 'count with your body', 10 slow breaths, by pressing and releasing in turn, each finger resting on your belly.
- 5 If you are still entranced by your special moment, repeat the 10 breaths practice.

Babe-ometer



Conception

Pregnancy

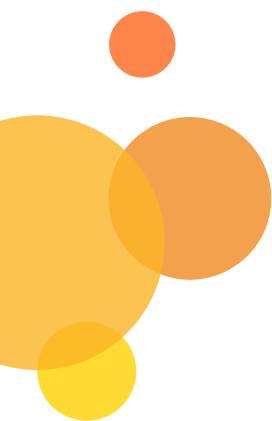
First scan

First movements

Boy or girl?

Preparing for the birth

Birth



Babe-ometer



Use any of the statements below to identify how you are feeling at each stage of the pregnancy on the BABE-OMETER over the page. Add your own feelings if they are not written here.

1. Finally!

2. This is amazing!

3. Finally, I feel like a grown-up

4. Let's have five children!

5. We made a real person!

6. I can't wait to kick a footy with my child

7. Having a baby won't change my life

8. I'm not sure how I feel about this

9. My life's not my own any more

10. Will I be a good parent?

11. I can't wait to meet you!

12. How will I cope?

13. I won't be able to go out with my mates as much

14. Who will the baby look like?

15. There goes my sex life!

16. I hope the baby's alright

17. I wonder if the baby will grow to like the things I like?

18. What were we thinking?!

19. This is terrifying!

20. Oh no!



Baby brain – development in utero



Brain Stem

- Hindbrain
- Midbrain
- Forebrain

Neural Tube
(forms spinal cord)



25 Days



50 Days



100 Days



20 Weeks



28 Weeks



35-40 Weeks (full term)



Baby brain – development in utero



Cerebrum

Pituitary Gland

Hypothalamus

Cerebellum

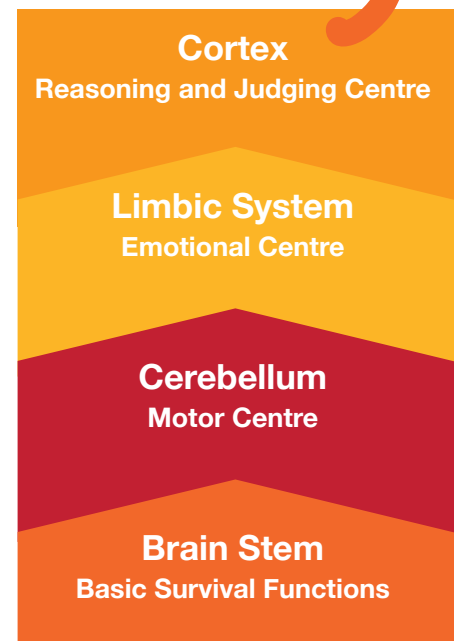
Brain Stem



35-40 Weeks (full term)



Bottom-Up Brain Development



The brain is comprised of different structures that grow and develop at different rates and different times.

The **brain stem** area of the brain develops first and is responsible for basic functions that **keep us alive** such as heart rate, breathing and regulating our body temperature. The brain stem is fully developed at birth. It is the part of the brain that is 'hard wired' and least susceptible to change.

Connected to the brain stem is the **cerebellum** or motor centre of the brain. This area is responsible for **movement** and develops over the first few years of life. Development in this area is seen in babies gaining head control, sitting, crawling and walking. In the next few years, children will gain greater co-ordination, learn to skip, kick a ball, ride a bicycle, cut, draw and eat with cutlery.

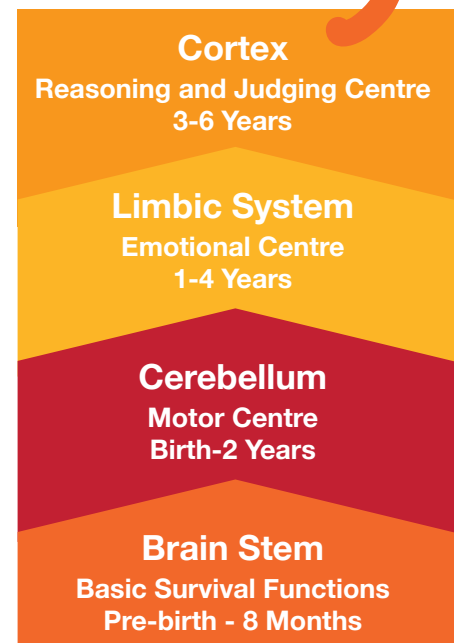
The **limbic system** is the **emotional** centre of the brain and rules the lives of young children up to around four years. During the toddler years, the limbic system goes through a period of rapid development. This helps explain their bursts of irrational behaviour and tantrums. Toddlers need our help to manage their **strong** feelings. Young children **feel** then **act**, they **can't think** then **act**. This is due to the emotional centre of their brain developing before the cortex, or the thinking part of their brain. Young children basically view the world through an emotional lens.

The **cortex**, or thinking part of the brain, is the last part to develop. This is the part of the brain responsible for reasoning, planning and problem solving. This is the part of the brain that enables humans to **think** before they **act**. As children grow and develop, the cortex is gradually able to help us to pause when we are flooded by **strong** emotions, thus allowing us to **feel, think, then act**.

Unlike the brain stem, the limbic system and cortex are highly susceptible to change due to experience and the environment in which the child lives.



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Brain Food Fun for Kids



The following activities are suggested to enable parents and children to have fun together whilst also assisting brain development in their children through play.

Babies and Toddlers

Baby Aerobics:

These are fun to practise at nappy change time. With baby lying on the floor:



Hold baby's ankles and 'march' her legs-gently bending alternate knees up to her tummy as you sing:

*The Grand old Duke of York
He had ten thousand men
He marched them up to the top of the hill
And he marched them down again.*



Hold baby's ankles as above but bend both knees together up to her tummy as you sing:

*Row, row, row your boat
Gently down the stream
Merrily, merrily, merrily, merrily
Life is but a dream.*



A variation for older babies with good head control:

Hold your child firmly with both hands and raise him overhead as if he were a flying aeroplane. Look at him and smile as you sing:

*Fly, fly, fly your plane,
Fly your plane up high.
Merrily, merrily, merrily, merrily,
High up in the sky!*



Hold one of baby's ankles with one hand and baby's opposite hand with your other hand. Gently cross and uncross baby's arm and leg over her tummy as you sing:

*Hot cross buns
Hot cross buns
One a penny, two a penny
Hot cross buns.*



Pick up baby so that she is facing you. Hold baby firmly with your hands under her armpits and wrapped around her body. Lift baby up and down looking at her face as you say:

*Up, up in the air like this
Down, down, for a great big kiss (kiss baby here)
Up, up
Down for a kiss (another kiss)
You're my very special baby (give baby a cuddle here)*



Brain Food Fun for Kids



Baby Aerobics:

- ★ For a young baby, practise this while he is lying on his back looking up at you. For a toddler, you could sit him on your knee with his back leaning against your chest. Hold both baby's hands and alternately stretch his arms wide open and bring them back to cross over his chest, as you sing or say:

*Open, shut them
Open, shut them
Lay them in your lap.
Open, shut them
Open, shut them
Give a little clap! (clap baby's hands together here)*

*Open, shut them
Open, shut them
Don't get in a muddle.
Open, shut them
Open, shut them
Give yourself a cuddle! (wrap your arms around baby here)*

Clap and Bounce Knee Games:

- ★ With baby sitting or lying on your knee facing you, hold her hands and clap them together rhythmically in time to this rhyme:

*Pat-a-cake, pat-a-cake, baker's man
Bake me a cake as fast as you can
Pat it and prick it and mark it with B
And put in the oven for Baby and me!*

- ★ With baby sitting on your knee and facing away from you with baby's back resting against your chest, hold baby's legs around the ankles and cross her legs back and forth in time to this rhyme:

*Leg over leg
As the dog went to Dover
When he came to a stile,
JUMP, he went over! (holding baby's thighs, lift him up towards you)*

- ★ With baby sitting on your knee and facing away from you, hold baby's body under his arms as you bounce your knees up and down in time to the rhyme:

*Father and Mother and Uncle Tom,
Got up on a pony and rode along
Father fell off (lift baby off your knee to one side of your body)
And Mother fell off (lift baby off your knee to the other side of your body)
And Uncle Tom rode on, and on, and on (bounce faster and faster)*



Brainy Baby



Your baby is making big developmental moves even before that pregnancy test comes back positive.

Here's how the foetal nervous system develops.

The foetal nervous system, i.e., your baby-to-be's brain and spinal cord, is one of the very first systems to develop. In fact, it's making big strides before you even know you're pregnant.

The parts of your baby's brain

Before we get into the science of brain development, here's a quick anatomy primer on your baby's brain. There are five parts, each responsible for different functions:

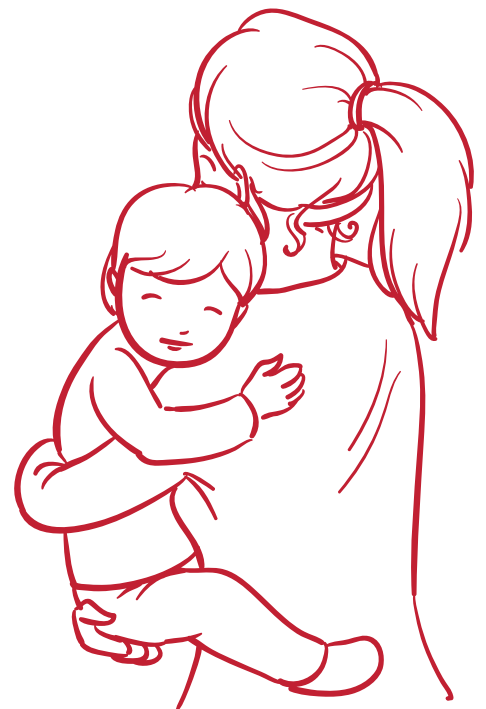
1. **Cerebrum:** This is the biggest part of the brain, and it's responsible for thinking, remembering and feeling. This is where the cerebral cortex and its various lobes (including the frontal and temporal lobes) reside.
2. **Cerebellum:** The area in charge of motor control – sitting, walking, running, drawing.
3. **Brain stem:** The engine driving many of your baby's most vital functions, including heart rate, breathing and blood pressure.
4. **Pituitary gland:** This pea-sized gland releases hormones into your body that are responsible for growth, metabolism and more.
5. **Hypothalamus:** This area deals with body temperature, hunger and thirst, sleep and emotions.

With the biology lesson out of the way, read on to find out how and when these various parts start developing.

First trimester: Baby starts moving

A mere 16 days after conception, your baby's neural plate forms (think of it as the foundation of your baby's brain and spinal cord). It grows longer and folds onto itself, until that fold morphs into a groove, and that groove turns into a tube — the neural tube. Around 4 weeks after conception, brain neurons are already growing at an astounding rate - 250,000 per minute and at 5 weeks after conception the first synapses begin forming in the spinal cord.

Once the neural tube closes, at around week 6 or week 7 of pregnancy, it curves and bulges into three sections, commonly known as the forebrain, midbrain and hindbrain. Just to the rear of the hindbrain sits the part that will soon turn into your baby's spinal cord. Soon, these areas bubble into those five different regions of the brain that we're most familiar with: the **cerebrum**, **cerebellum**, **brain stem**, **pituitary gland** and the **hypothalamus**. Of course, all of these foetal brain areas need more time to be fully up and running!



Brainy Baby



At the same time, special neural cells form and migrate throughout the embryo to form the very beginnings of nerves. Your baby's nervous system is made up of millions upon millions of neurons; each of these microscopic cells has tiny branches coming off them so that they can connect and communicate with each other. With this comes baby's first synapses, which essentially means baby's neurons can communicate and create early baby movements.....like curling into the foetal position.

Other movements follow quickly, with your baby wiggling his developing limbs at around 8 weeks. Also around week 8 of pregnancy, neurons from the brain will have connected with the developing taste buds. But your baby can't quite taste the surrounding amniotic fluid yet: He or she still needs taste pores, or small pits on the surface of the tongue that allow the molecules from food to come in contact with the taste receptors that make up taste buds.

By the end of the first trimester, your baby-to-be has stored quite a repertoire of motion, though you won't be able to feel any of it quite yet. And at about the same time as baby first wiggles his limbs, he begins to develop the sense of touch. At 12 weeks gestation the development of new bodily structures is nearing an end as most of your baby's systems are now fully formed.

Second trimester: Baby sucks, swallows, blinks and dreams

During the second trimester, steady contractions of baby's diaphragm and chest muscles occur (think of them as practice breathing movements). Baby's first sucking and swallowing impulses kick in around 16 weeks. By 17 weeks the foetal brain begins to regulate the heartbeat in preparation for supporting your baby in the outside world, at 140 to 150 beats per minute. Continuous breathing movements & coordinated sucking & swallowing reflexes are now developed – most of the survival reflexes your baby will need at birth are being perfected in utero right now.

At around 18 weeks of pregnancy, you'll feel baby's first kick (but don't worry if it takes a few weeks longer — that's common, especially among first-time mums). Around the same time, your baby's nerves become covered with myelin, a protective insulation that speeds messages between nerve cells (myelin continues to grow until your baby's first birthday).

By 21 weeks, your baby's natural reflexes will allow him to swallow several ounces of amniotic fluid every day. And all of that swallowing means baby's tasting, too – another sense that's now in full gear. And at 24 weeks, another big reflex occurs: Blinking.

At the tail-end of trimester two, your little one's brainstem (heart rate, breathing, blood pressure) is almost entirely mature, resting just above the spinal cord but below the cerebral cortex (the last area to mature). By now, the nervous system is developed enough so your baby is startled by loud noises outside the womb — and may even turn his head toward the sound of your voice! Another exciting development: At 28 weeks, foetal brainwave activity features sleep cycles, including REM (the stage when dreaming occurs).



Brainy Baby



Third trimester: Baby's brain grows

The third trimester is brimming with rapid development of neurons and wiring. Baby's brain roughly triples in weight during the last 13 weeks of gestation. And it's starting to look different, too: Its' formerly once smooth surface is becoming increasingly grooved and indented (like the images of brains you're might be used to seeing).

At the same time, the **cerebellum** (motor control) is developing fast — faster now than any other area of your baby's brain (its surface area increases 30-fold in the last 16 weeks of pregnancy!). By 32 weeks most of your baby's body is sensitive to touch resembling the light stroke of a feather. The development of the sense of touch isn't just a consequence of a maturing brain. It turns out that by sensing stimuli in the womb (i.e., as a baby starts to feel the amniotic fluid around him), the somatosensory receptors help to develop his whole nervous system—including his brain, spinal cord and even the system that controls his digestive system.

All of this growth is big news for the cerebral cortex (thinking, remembering, feeling part of the brain). Though this important area of the brain is developing rapidly during pregnancy, it really only starts to function around the time a full-term baby is born — and it steadily and gradually matures in the first few years of life, thanks to your baby's enriching environment.

Eating to support baby's brain development

Brain development begins with the anatomical formation of the brain and spine, and proceeds with “traffic flow,” or the establishment of the nervous system. While it may not seem obvious, this brain development and growth depends largely on nutrition. Proper nutrition during pregnancy helps ensure your baby will develop normally inside and outside of the womb, especially in the areas of thinking, learning, behaviour and language development.

Because your baby's nervous system starts developing right out of the starting gates, it's important to consume folate (aka folic acid or vitamin B) daily as soon as you think you might want to get pregnant. This nutrient is imperative for foetal cell growth, tissue development and DNA - and consuming enough before (and early in) pregnancy reduces a baby's chance of serious neural tube defects (like spina bifida) by 70 percent. Emerging research in the Journal of the American Medical Association also suggests that the nutrient can reduce the chances your child will be born with an autism spectrum disorder by up to 40 percent. So take your prenatal vitamin, and make sure to eat plenty of folate-rich foods (like leafy greens and whole grains).

What are the best bets in terms of healthy, nutritious foods? Plenty of lean protein, omega-3 fats, iron, zinc and folate, as well as other nutrients.

Another important nutrient for brain (and eye) development: omega-3 fatty acids, specifically DHA (aka docosahexaenoic acid). Getting enough - especially during your third trimester, when baby's brain is developing the fastest - is vital, since it's a major structural fat in the brain and eyes. The good news: DHA is found in lots of safe-to-eat fatty, cold water fish (like salmon, trout and cod), along with seaweed and DHA-fortified eggs.

Eating a well-balanced diet that includes healthy meals and snacks full of wholesome food (not too many sweets and fried foods) and a daily prenatal vitamin gives your baby the best chance at normal brain development. Make sure you avoid substances like alcohol and cigarettes, as they are known to impair the formation and wiring of your baby's brain. So grab those almonds, leafy greens and lean meats, and get to munching!

References

<http://www.pbs.org/wnet/brain/episode1/index.html>

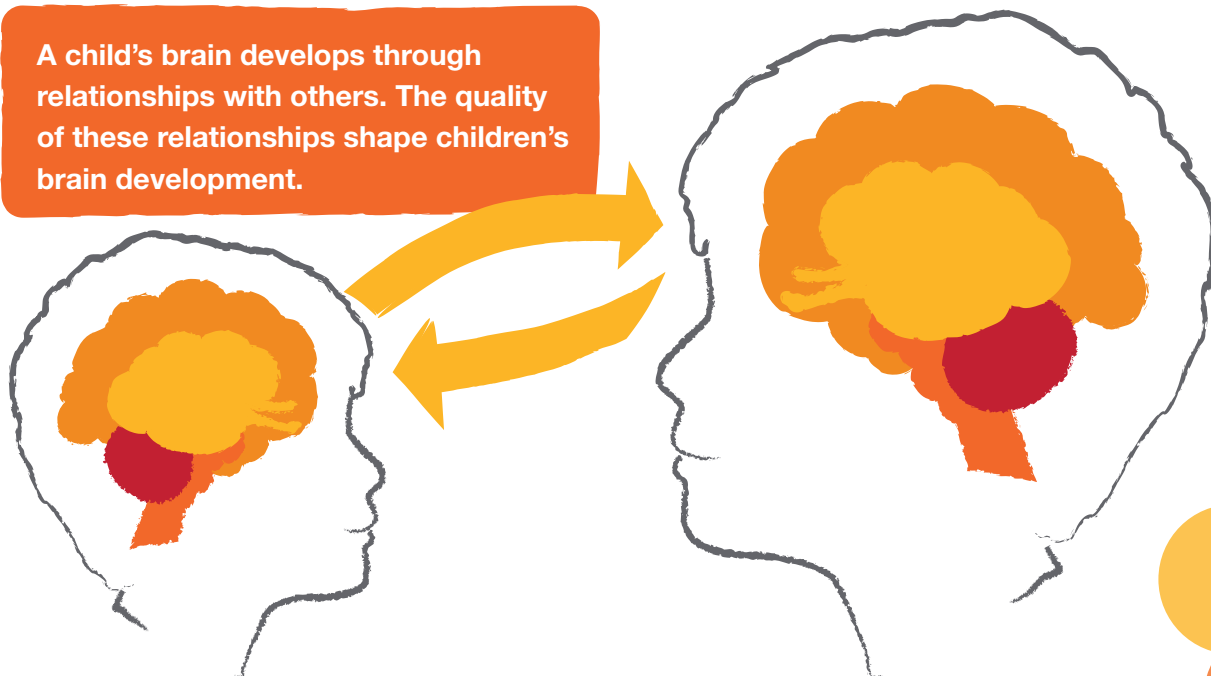
<https://www.whattoexpect.com/pregnancy/fetal-development/>

<https://thousanddays.org/eating-to-support-babys-brain-development/>

Connecting Brains



A child's brain develops through relationships with others. The quality of these relationships shape children's brain development.

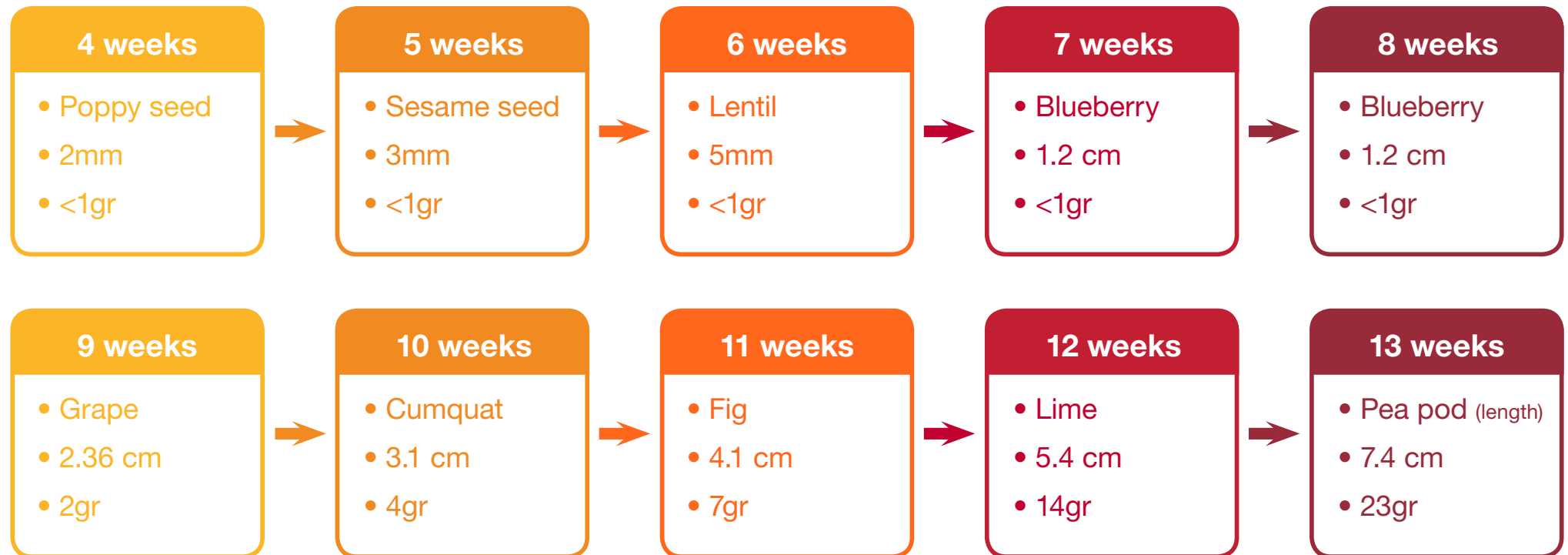


Notes

Growing like a mushroom - Tracking the growth of your baby in utero



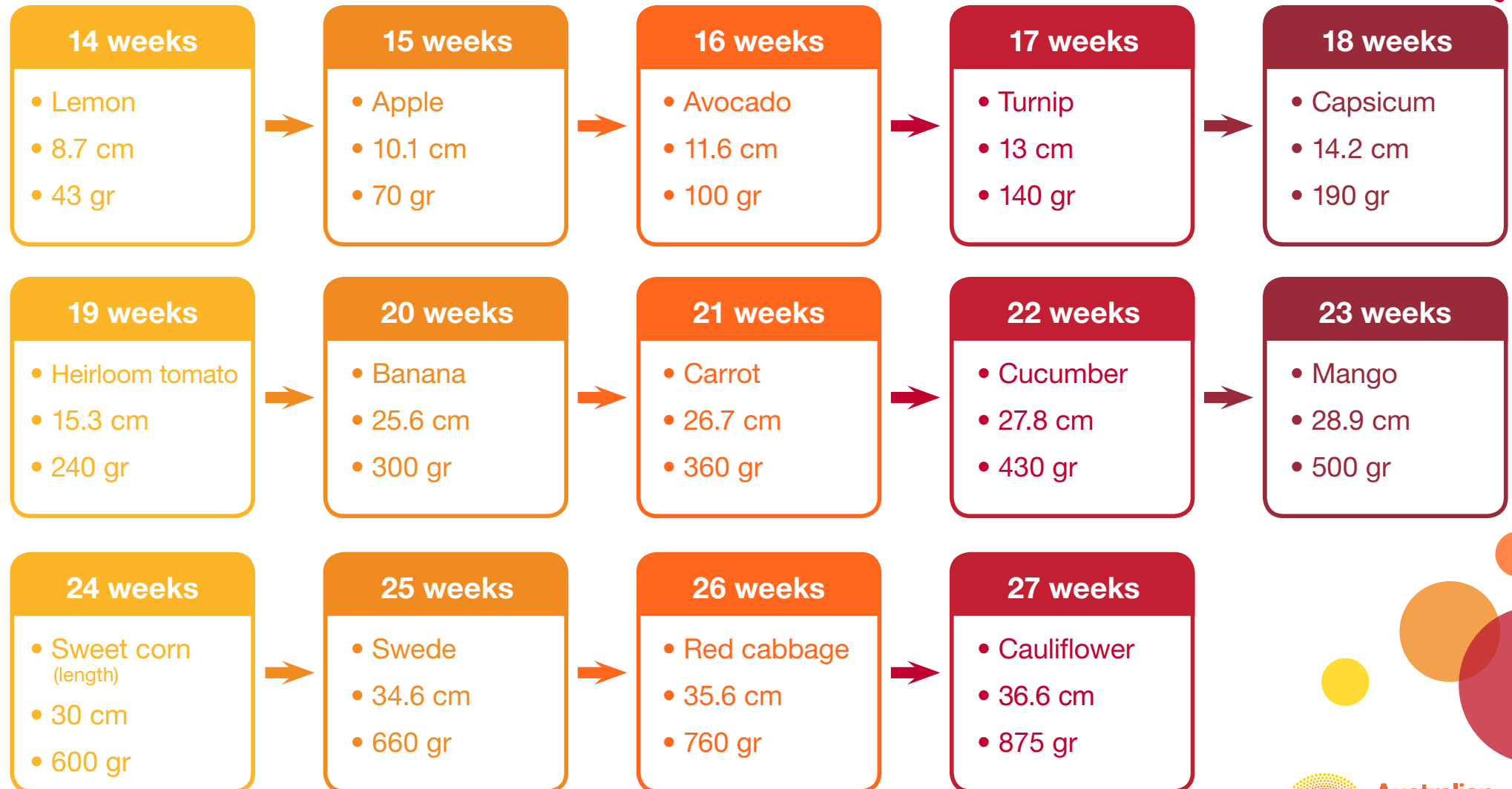
First Trimester



Growing like a mushroom - Tracking the growth of your baby in utero



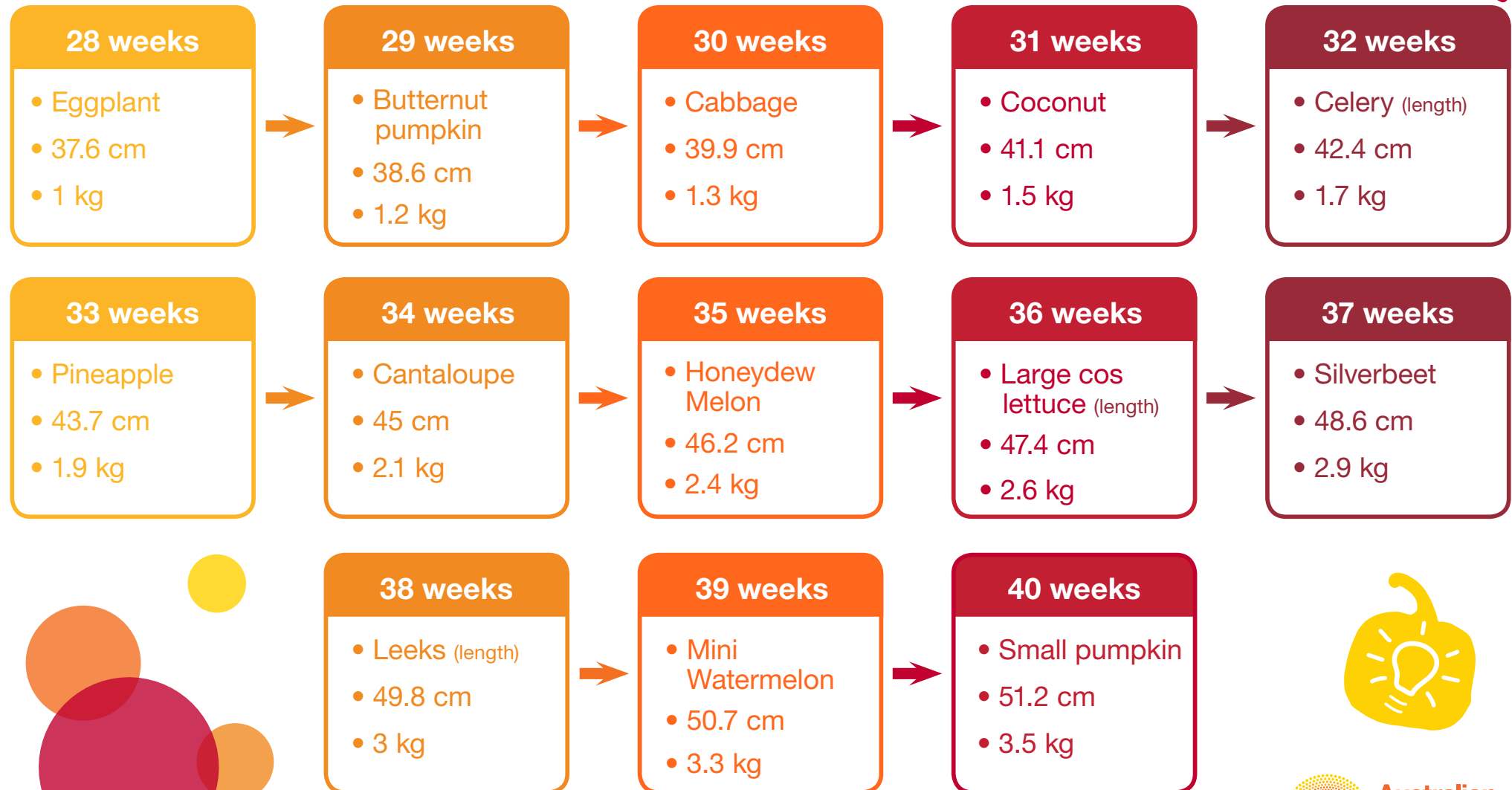
Second Trimester



Growing like a mushroom - Tracking the growth of your baby in utero



Third Trimester




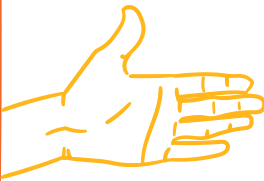



Have I told you lately that I love you?



Each of us has our favourite ways of receiving messages of love.

Use the chart below to show how you and your partner prefer to receive love. Then wonder about what you can do for your baby so that he/she gets the message, 'I am loved'.

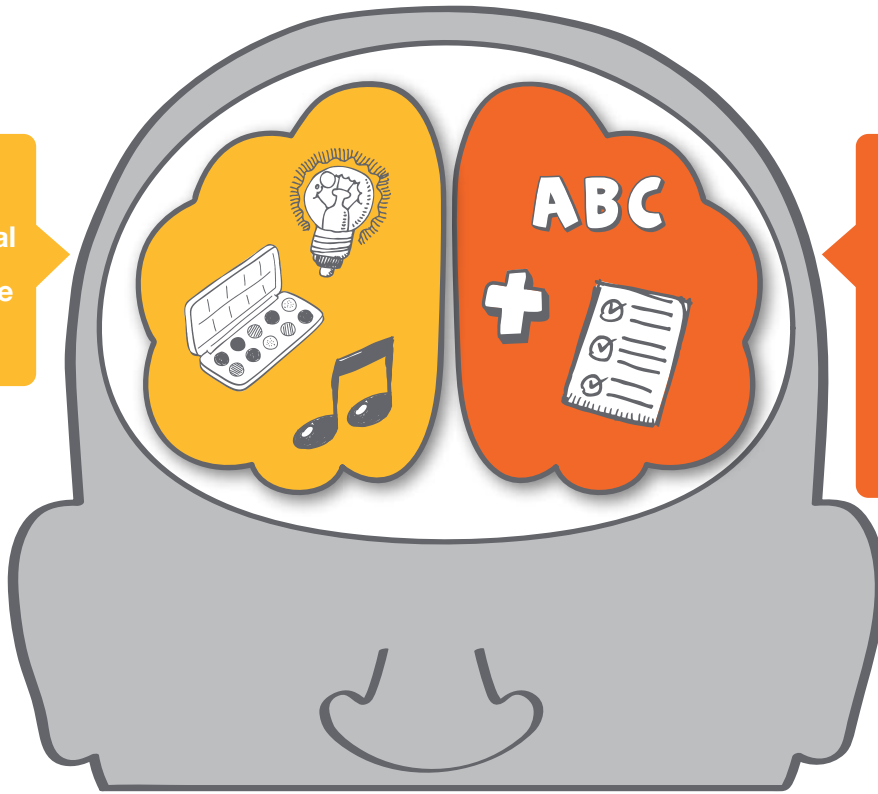
	My Preferences	My partner's preferences	Wondering about our baby
Kind Words 			
Quality time 			
Gifts 			
Doing helpful things 			
Loving touch 			

Adapted from Chapman, G. (2010), *The Five Love Languages*

Left and Right Brain

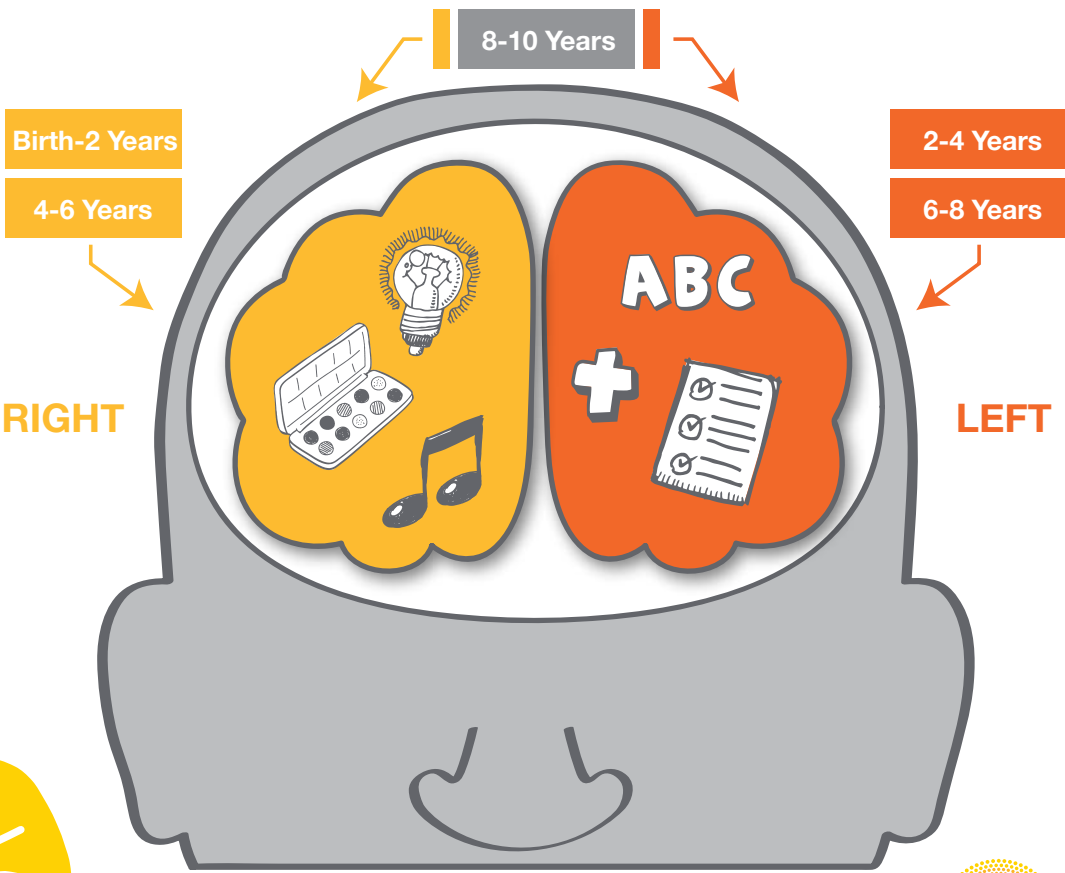


RIGHT
Non-Verbal
Big Picture
Sensory



LEFT
Logical
Language
Lists
Linear
Literal

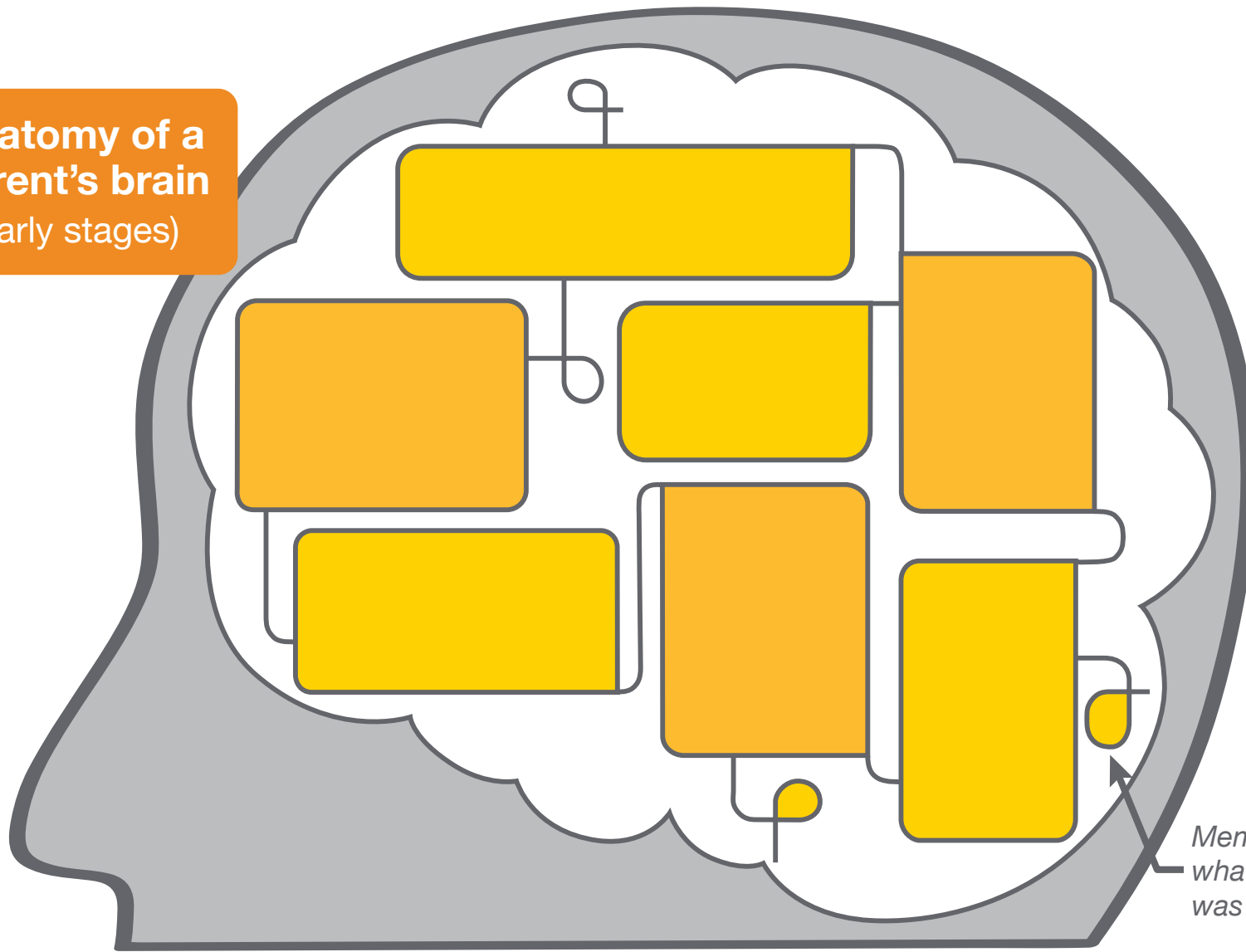
Lateral Brain Development



Incomplete Parent Brain



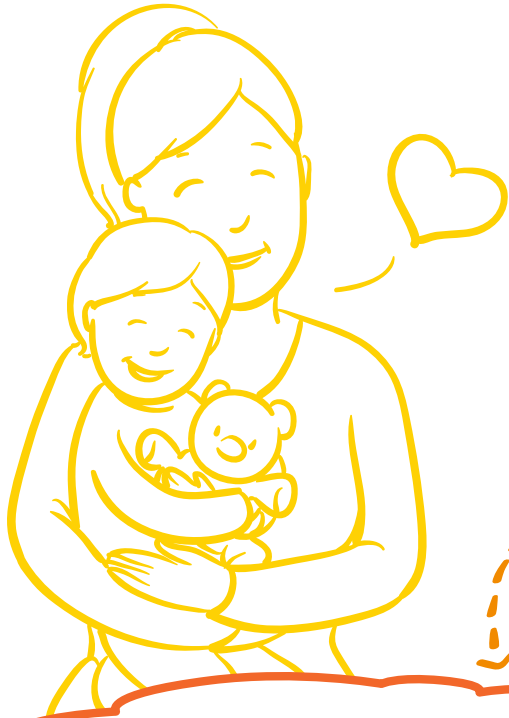
Anatomy of a Parent's brain
(early stages)



Memory of what life was like



Playtime Fun Grows Healthy Brains



Parent smiles at baby while playing
'This little piggy' with his toes

Parent's eyes light up with pleasure

Baby looks at parents happy face

'Feel good' hormones are
released in the baby's brain

Baby feels good and more
connections grow in his brain

With hundreds of repetitions of playtime fun with people who love him, baby becomes better able to manage big feelings and to relate to other people



Pregnancy week by week



Protect unborn brains! Women who get 400 micrograms of folic acid daily this early on reduce baby's risk of neural tube defects by up to 70%.

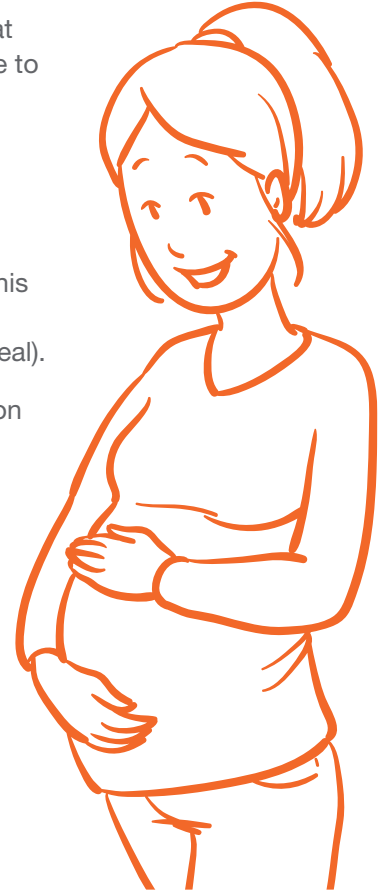
First Trimester

Baby's Growth During First Trimester

During the first trimester alone your baby changes from a single fertilized cell (a zygote), to the embryo that implants itself in your uterine wall, to a peach-sized bundle of growing limbs and body systems. Organs take shape, and baby starts to move. Here are a few of the big highlights happening in this exciting time:

- **Baby's bones:** By about week 6, baby starts to sprout arms, legs, hands and feet — and fingers and toes around week 10.
- **Hair and nails:** Skin begins forming between weeks 5 and 8, with hair follicles and nail beds forming around week 8.
- **Digestive system:** By about week 8, baby's intestines will begin forming, and your baby will have already gone through two sets of kidneys (with the third and final set on its way!).
- **Sense of touch:** Your baby will have touch receptors on his face (mostly lips and nose) around week 8. By week 12, he'll have receptors on his genitals, palms and the soles of his feet.
- **Eyesight:** Optic nerves (which pass info from the eyes to the brain and back) and lenses begin to form by week 4, with the retina beginning to form around week 8.
- **Heart:** By week 5, the tube that will become your baby's heart begins to beat spontaneously. It will become stronger and more regular — and you'll be able to hear it! — around week 9 or 10 (though sometimes later, depending on your baby's position in your uterus).
- **Brain:** By about week 8 of pregnancy, your baby's brain will be wiggling his developing limbs.
- **Sense of taste:** Your baby will have developed taste buds that connect to his brain by about week 8 — but he'll need taste pores before he can taste the surrounding amniotic fluid (which, by the way, tastes like your most recent meal).

Other major first-trimester milestones include the formation of muscles, the production of white blood cells to fight off germs and the development of vocal cords.



Pregnancy week by week



Weeks 1 & 2

Gearing Up to Ovulate

No, there's no baby or even an embryo in sight (at least not yet) — just an anxious egg and a whole bunch of eager sperm at their respective starting gates. But in weeks one and two of pregnancy — the week of and immediately following your last menstrual period — your body is working hard to gear up for the event that paves the way for the baby: the big O, or ovulation. Right now, your uterus has begun preparing for the arrival of a fertilized egg, though you won't know for sure if that egg has successfully matched up with sperm until next month.

Weeks 3

Conception and Fertilization

This week you ovulated, and the moment you've been waiting for has finally arrived: You've conceived! Meaning your soon-to-be-foetus has started on its miraculous transformation from solitary cell to bouncing baby boy or girl. Once the winning sperm makes its way through the egg's outer layer, the single-cell fertilized egg — or zygote — immediately forms a barrier to keep other sperm out. But your zygote doesn't stay single for long: Within hours, it divides into two cells, then four, and so on, until the growing cluster comprises around 100 cells just a few days after that crucial first meeting between sperm and egg. Some will form the embryo, others the placenta, but for now, it's still just one microscopic ball of cells that's a fifth the size of the period at the end of this sentence.

Implantation

Tiny? Yes. But don't underestimate its potential. As it divides, the blastocyst as it's now called (don't worry, you'll come up with a cuter name soon) travels this week from your fallopian tube to your uterus — a trip that takes about six days. Once it arrives during week 4, it will implant itself in the uterine wall and grow for the next nine months. In other words, congratulations! You've got yourself a baby-in-the-making, ready to begin the incredible journey that will end in your arms.

Boy or Girl?

So will your lone little cell miraculously become a girl or a boy? Though it will be months before you can find out for sure (if you decide to before delivery day), that remarkable determination has already been made, believe it or not.

The fertilized egg contains 46 chromosomes — 23 from you, 23 from Dad. The mother (that's you!) always provides an X chromosome, but the father can provide either an X or a Y. If the sperm that fertilizes your egg carries an X, the XX zygote will be a girl. If the sperm is Y-bearing, your XY zygote will be a boy.



Pregnancy week by week



Weeks 4

Placenta and Embryo Begin Forming

While you may have just started to wonder whether you're pregnant, your soon-to-be baby has already found its home: The blastocyst has completed its journey from your fallopian tube to your uterus. Once there, it burrows into your uterine lining and implants — making that unbreakable connection to you that'll last the next eight months (and a lifetime after that). As soon as that little ball of cells is settled in your uterus, it will undergo the great divide, splitting into two groups. Half of what's now called the embryo will become your son or daughter, while the other half forms the placenta, your baby's lifeline — which channels nutrients and carries waste away until delivery.

Development of the Embryo and Amniotic Sac

Despite its extremely tiny size — no longer than one millimetre and no bigger than a poppy seed (think about that as you eat your morning bagel) — your little embryo is busy setting up house.

While the amniotic sac (also called the bag of waters) forms around it, so does the yolk sac, which will later be incorporated into your baby's developing digestive tract.

The embryo now has three distinct layers of cells that will grow into specialized parts of your baby's body.

- The inner layer, (the endoderm) will develop into your baby's digestive and urinary systems, liver and lungs
- The middle layer, (the mesoderm) will soon be your baby's heart, circulatory system, sex organs, bones, kidneys and muscles.
- And the outer or top layer, (the ectoderm) will eventually form your baby's neural tube -- from which the brain, backbone, and spinal cord and nerves will sprout. Some of these cells will further specialise, sprouting outward to cover the body with skin, hair and nails.

In the meantime, the early version of the placenta, the chorionic villi, and the umbilical cord, which delivers nourishment and oxygen to your baby, are already working.

Weeks 5

The Heartbeat May Be Visible

It takes a lot of developing to become a baby — all the major and minor bodily systems (digestive, circulatory, nervous and so on) and organs (heart, lungs, stomach...you get the idea) have to form from scratch.

The first system to be operational is the circulatory system, or blood — along with its companion organ, the heart, which you may even be able to see beating on an early ultrasound (though it's more commonly visible at week 6 or 7). When you're 5 weeks pregnant, your baby's heart is made up of two tiny channels called heart tubes and they're already hard at work. When those tubes fuse together, your baby will have a fully functioning heart.

Also in the works this week are several other organs, including the kidneys and liver. The neural tube which connects the brain and spinal cord, will close this week. His upper and lower limb buds begin to sprout — these will form his arms and legs. The intestines are developing and the appendix is in place.

Baby's Head Takes Shape

Below the opening that will later form your baby's mouth, small folds exist where the neck and the lower jaw eventually develop. As early as this week, his facial features, like cheeks and chin, are already forming. His nostrils are becoming distinct and the earliest version of his eyes' retinas are forming. And those little indentations on both sides of the head are ear canals in the making. Small dots on the face will form the eyes and button nose in a few weeks.



Pregnancy week by week



Weeks 6

When hearing develops

Around week 6 of pregnancy, even though your little embryo is still smaller than a pea, the cells inside her developing head are already beginning to arrange themselves into unique tissues that will eventually be her brain, face, eyes, ears and nose. Although you can't distinguish ears on an ultrasound yet, the complex maze of tubes that make up the inner ears are starting to pinch off from the rest of the cells inside the head.

Throughout your first and second trimester, your baby's ears continue to develop: The inner ear connects with neurons in the brain responsible for processing sounds, and the miniscule bones of the middle ear (which sense the vibration of sound waves) form.

Weeks 7

At 7 weeks pregnant, most of that growth is concentrated in the head (the better to store all those smarts) as new brain cells are generated at the rate of 100 per minute.

Baby's Arms and Legs Start Developing

Her arm and leg buds have grown longer (and stronger), dividing into hand, arm and shoulder segments and leg, knee and foot segments (though the limb buds look more like paddles than hands or feet at this early stage).

Baby's Got Kidneys and Liver

The kidneys are in place now, too, and are poised to begin their important work of waste management. Soon, your baby will start producing urine. The liver is churning out large amounts of red blood cells until the bone marrow forms and takes over.

Also forming this week are your baby's mouth, tongue, teeth and palate.

Your baby is a jumping bean, moving in fits and starts unfortunately you won't feel this yet.

Weeks 8

Baby's Got Lips, Nose and Eyelids

Many changes take place this week – the embryonic tail is gone, and all organs, muscles, and nerves are beginning to function. Even though she has webbed hands and feet, her teeny fingers and toes are just starting to differentiate now, and she can bend at the wrist. The upper lip is forming, the protruding tip of that cute button nose and tiny, very thin eyelids are beginning to cover the eyes.

Heartbeats and Movements

All this growing is exciting for your baby too. How do you know? Her heart is beating at the incredible rate of 150 to 170 times per minute — about twice as fast as yours. And even though you can't yet feel it, she's now making spontaneous movements as she twitches her tiny trunk and limb buds.



Pregnancy week by week



Weeks 9

The eyelids are fused and won't open until around week 27. The wrists are more developed, and the fingers and toes are clearly visible. By week's end, the inner workings of the ears are complete. Though you can't yet identify the sex of your baby by ultrasound, the genitals have begun to form. By now the placenta has developed enough to support most of the critical job of producing hormones.

The End of the Embryo Period

Would you believe your baby is only an embryo for one more week and is already developing into a foetus (which means "little one")? The head has straightened out and is more fully developed and the ears are continuing to grow, making baby look more human. Plus, toes are visible, and all of baby's essential organs (heart, brain, kidneys, liver and lungs) are functioning.

Baby's Heartbeat Is Audible on Ultrasound

While it's way too early to feel anything, it's not too early to hear something (possibly). Your baby's heart is developed enough — and has grown large enough — for its beats to be heard with a Doppler, a handheld ultrasound device that amplifies the lub-dub sound the heart makes. But don't worry if your practitioner can't pick up the sound of your baby's heartbeat yet. It just means your shy gal is hiding in the corner of your uterus or has her back facing out, making it hard for the Doppler to find its target. In a few weeks, or at your next visit, that miraculous sound is certain to be audible for your listening pleasure.

Weeks 10

The Start of the Foetal Period

Congratulations! Your baby has officially graduated this week from embryo to foetus, and with that change are a whole bunch of others happening in her development.

Baby's Bones Form

Your baby's growth is fast and furious when you are 10 weeks pregnant. In fact, your baby is really taking a human shape now. Bones and cartilage are forming and small indentations on the legs are developing into knees and ankles. The arms, complete with elbows, can flex already. Though your baby's arms are taking shape and getting stronger, each one is still teeny-tiny.

Baby's First Teeth

The tooth bud fairy is making an appearance this week, heralding the arrival of your baby's little choppers, which are forming under the gums. But those pearly whites won't break through the gums until your baby is close to six months old. Other systems are a go, too. Your baby's stomach is producing digestive juices, the kidneys are producing larger quantities of urine and, if it's a boy, your little one is already producing testosterone.

Weeks 11

Baby's Got Fingers and Toes

While you can't tell this baby's gender by its cover yet, ovaries are developing if it's a girl. And by week 11 of pregnancy, baby has distinct human characteristics: hands and feet in front of her body, ears nearly in their final shape, open nasal passages on the tip of her tiny nose, a tongue and palate in the mouth and visible nipples. Hair follicles are forming on the crown (as well as over the rest of the body). Those hands and feet have individual fingers and toes (meaning goodbye to those frog-like webbed hands and feet). Meanwhile, fingernail and toenail beds begin to develop this week; in the next few weeks, the nails themselves will start to grow

At the same time, your baby's body is straightening and her torso is lengthening (sounds like a yoga pose, doesn't it?). Other poses your baby can assume now: stretches, somersaults and forward rolls.

Pregnancy week by week



Weeks 12

Foetal nerve cells have been multiplying rapidly and synapses (neurological connections in your brain) are forming. Your baby has acquired more reflexes: touching the palms makes the fingers close, touching the soles of the feet makes the toes curl down and touching the eyelids makes the eye muscles clench.

Baby's Digestive System Begins Working

This week marks a turning point for your baby. At 12 weeks pregnant, the Herculean task of developing new bodily structures is nearing an end, as most of your baby's systems are fully formed – though there's still plenty of maturing to do.

Now comes the maintenance phase, during which your foetus' systems continue to evolve for the next 28 weeks and the organs get to work. These systems include:

- The foetal digestive system is beginning to flex its muscles — literally — as it starts practicing contraction movements, a skill your little peanut will need after birth to push food through the digestive tract.
- The bone marrow is busy making white blood cells — weapons that will one day help your baby fight infection once he's out of your safe haven.
- And the pituitary gland at the base of the brain has started producing the hormones that'll enable him to make babies of his own in a few decades or so.

Foetal Heartbeat

If you haven't already had the pleasure, it's likely that at this month's check-up you'll finally hear your baby's foetal heartbeat — a sound that will make your heart race with joy!

Weeks 13

Baby's Intestines & Vocal Cords Are Developing

At 13 weeks pregnant, tiny bones are beginning to form in her arms and legs. Because she can move them in a jerky fashion, she may be able to get her thumb into her mouth (a habit that may come in handy for self-soothing when she's a newborn). Your baby's intestines are also in for some big changes. Up until this point, they've been growing in a cavity inside the umbilical cord, but now they're moving to their permanent address, in your baby's abdomen.

And to serve your growing fetus' needs, the placenta is continuing to grow, eventually weighing around 0.7 kg at birth.

Also developing this week: your baby's vocal cords (the first step toward saying, "I love you, Mommy!"). Because sound can't travel through your uterus, you won't be able to hear any sounds or cries just yet, but you can bet those vocal cords will get a good workout once she's born.

Source: <https://www.babycenter.com.au/>



Pregnancy week by week



Second Trimester

Baby's Growth During Second Trimester

A few more exciting things going on this trimester:

- **Hair, skin and nails:** By around week 15, baby's first tiny hairs are starting to sprout, and by week 22, he's got eyelashes and eyebrows, too. Baby's skin is now covered in lanugo (a downy "fur coat" that keeps him warm until builds up more fat in the third trimester) and, by week 19, vernix caseosa (a greasy layer of oil and dead skin cells that shield his skin from acidic amniotic fluid) — both of which will shed before birth.
- **Digestive system:** Baby's digestive system was fully formed by the end of the first trimester. So now baby is starting to suck and swallow in preparation for life outside of the womb. What's more, he can even taste the foods you eat via your amniotic fluid — which research has shown can influence his preferences outside of the womb (all the more reason to chow down on a healthy pregnancy diet filled with a variety of fresh fruits and veggies). Baby's waste systems are working hard too: Although he still gets his nutrition via your placenta, all of that swallowing means he's also peeing about every 40 minutes.
- **Senses:** Baby's ears and eyes are moving into their correct positions. By week 22 of pregnancy, his developing senses mean he's starting to smell, see and hear, and those little eyes are beginning to open.
- **Eyesight:** Optic nerves (which pass info from the eyes to the brain and back) and lenses begin to form by week 4, with the retina beginning to form around week 8.
- **Heart:** By 17 weeks, baby's heart is no longer beating spontaneously, as his brain is now regulating his heartbeat — which you should be able to hear with a stethoscope by week 20. In week 25, capillaries begin forming to carry oxygenated blood through his body.
- **Brain:** In addition to controlling your baby's heartbeat and inducing kicks, by 24 weeks your baby's brain will start blinking those little eyelids.

It's only natural that as you get used to the idea of the baby growing inside you, you might start talking to her, crooning lullabies and encouraging your spouse to chat with your belly. It's not all in vain — beginning in the second trimester of pregnancy, your baby can detect sounds from outside your body. The voices, tunes and noises she hears in utero do, in fact, help her get used to the environment she'll enter at birth.

Weeks 14

Baby Is Standing Up Straight

Your baby is leaping and bounding, he's on the move almost constantly — and those movements are a far cry from those jerky twitches of last trimester (though you won't feel any of them for weeks to come). They are now ballet-like, smooth and fluid. Speaking of ballet, it'll be years before you'll start nagging your offspring to stand up straight — but unbelievably, he is doing it right now, without any prodding! No slouch anymore, your baby's neck is getting longer, helping his head stand more erect. This gives your fetus a more straightened-out appearance.



Pregnancy week by week



Baby's Sprouting Hair and Lanugo

By week 14 of pregnancy, your baby could be sprouting some hair (though the final colour may not be determined until birth) and the eyebrows are filling in, too. Hair growth isn't limited to the baby's head, though. He is also covered with a downy coating of hair called lanugo, largely there for warmth. Not to worry — you won't give birth to a monkey: As fat accumulates later on in your pregnancy (the baby's fat, not yours, though that will accumulate, too), it will take over the function of keeping your little bean toasty, so most of the lanugo sheds. Some babies, though — especially those born early — still have a fuzzy coating at delivery (it disappears soon afterward).

Other developments this week include a roof of his own (inside your baby's mouth, that is) as well as some digestive system activity: His intestines are producing meconium, which is the waste that will make up his first bowel movement after birth.

Weeks 15

Baby Is Looking More Like a Baby

With each passing week, your foetus is also looking more and more like the baby you're picturing in your dreams. By now, the ears are positioned properly on the sides of the head (they used to be in the neck) and the eyes are moving from the side of the head to the front of the face — where they'll soon meet your loving gaze.

So what keeps your baby busy all day? Mostly, your foetus is in rehearsals — practice, practice, practicing and getting ready for that big debut. Babies work on breathing, sucking and swallowing so that when they are born they'll have the skills necessary to survive. Your foetus is also holding daily aerobics classes — kicking, curling toes and moving those little arms and legs — but because he doesn't weigh much yet, you won't feel the foetal movements going on inside your abdominal gym.

Weeks 16

The backbone and tiny muscles in his back are gaining strength, so he can straighten out his head and neck even more. And thanks to his developing facial muscles, your baby is capable of making a few expressive frowns and squints, even at this early stage.

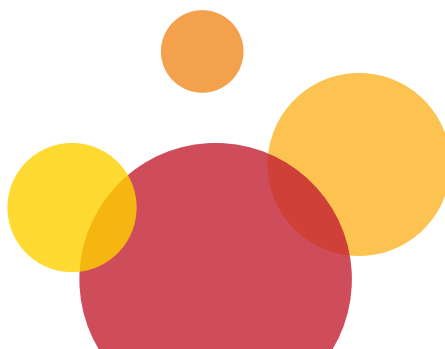
Around week 16 of pregnancy, it's likely that the hearing structures are well-established enough for your baby to start detecting some limited noises. Some of these are sounds that you might not even notice yourself — the gurgle of your stomach and whoosh of air in and out of your lungs. Over the next few weeks though, your baby will hear more and more of the outside world.

Baby's Eyes Are Working

His eyes are finally working too, making small side-to-side movements and perceiving light (although the eyelids are still sealed). But long before birth — in fact, throughout most of your pregnancy — your baby's eyes and brain are developing to prepare for outside stimuli. In fact, it takes more than six months of meticulous development in utero before your little one's eyes are ready to process visual information from the outside world.

Baby's Skin Is Transparent

Your foetus is becoming a looker too — with a face that has both eyebrows and eyelashes — but a skinny looker, since there's no baby fat yet. And here's the skinny on baby skin: It's practically translucent now, so if you took a peek inside your uterus, you'd be able to see your baby's blood vessels under that thin skin.



Pregnancy week by week



Baby Can Hear Your Voice

Listen up: Tiny bones in your foetus' ears are in place, making it likely that the baby can hear your voice when you're speaking (or singing in the shower) at 16 weeks pregnant. In fact, studies have found that babies who hear a song while they're in the womb recognize the same tune when it's sung to them after they're born (so choose your lullabies with that in mind).

What does it sound like in there?

Even when her ears are fully developed, the sounds she hears in utero are muffled.

The louder a sound, of course, the more likely your baby can hear it. A barking dog, honking horn or wailing siren is going to sound more distinct than quiet background music — but that's not necessarily a bad thing. The sounds your cutie gets used to in utero will be less likely to startle her after she's born.

Mother's voice is clearest

When you're pregnant, the clearest noise your baby will be able to make out is yours. While most sound is transmitted through the air — and then through your uterus, when you speak, the sound of your voice reverberates through your bones and the rest of your body, amplifying it. Studies have shown that a foetus's heart rate increases when she hears her mother's voice, suggesting your baby becomes more alert when you speak. So reading out loud, carrying on conversations and singing the songs you'll be repeating to your baby over the coming years will help her to get to know your voice.

But don't despair, Dad — babies also learn to recognize other voices (including yours!) and sounds that they hear often in utero. Researchers have discovered that newborns react differently to words and sounds that were repeated daily throughout the third trimester compared to those they never heard during pregnancy. And from inside the uterus, it turns out that deeper, lower sounds are easier to make out than high-pitched ones. So when you read or sing to your baby, she's learning your voice!

Weeks 17

Baby's Practicing Sucking and Swallowing

Baby body fat is beginning to form and will continue to accumulate through the end of your pregnancy. Baby's heart is now regulated by the brain (no more random beats) and is churning out 140 to 150 beats per minute — about twice as fast as yours. And since practice makes perfect, your baby is sharpening his sucking and swallowing skills in preparation for feeding. In fact, most of the survival reflexes your baby will have at birth are being perfected in utero right now.

Fingerprints Are Forming

Here's some proof that your baby is truly one of a kind (as if you needed any!). Within the next week or so, the pads on your baby's fingertips and toes will become adorned with completely individual swirls and creases, aka fingerprints.

Weeks 18

Move Baby Move

Most women begin to feel movement somewhere between weeks 18 and 22, though veteran moms tend to feel the baby moving a little sooner than first-timers. Chalk it up to laxer abdominal muscles (there has to be some benefit to those!) or merely the fact that second-timers are more likely to recognize a kick when they feel it.

A mom's perception of movement is very erratic during the second trimester. Though your baby is almost certainly moving continually, you probably won't be feeling it consistently until he or she is bigger and packing a more powerful punch. In fact, it's not unusual for a day, or two, or even three to go by during the early weeks of movement without hearing from (or, rather, feeling) your baby.

Pregnancy week by week



Baby Is Yawning

Your baby may be large enough now or anytime in the next few weeks for you to feel him twisting, rolling, kicking and punching his way around the womb. And now for the skill of the week: The art of the yawn has been mastered by your baby, along with hiccupping (you may feel those soon, too!). In fact, you might catch a glimpse of that adorable yawn and all those other foetal movements at your ultrasound this month.

Baby's Nervous System Is Maturing Quickly

Something you won't see on the ultrasound — but you'll learn is in working order — is your baby's nervous system, which is maturing rapidly when you're 18 weeks pregnant. Nerves, now covered with a substance called myelin that speeds messages from nerve cell to nerve cell, are forming more complex connections. And those in the brain are further developing into the ones that serve the senses of touch, taste, smell, sight and hearing. Speaking of hearing, your baby's is growing more acute, making your little one more conscious of sounds that come from inside your body (which means you could both be listening to each other hiccup!).

Weeks 19

Vernix Develops

Your little one has a cheesy varnish. Say what? You read that right — a protective substance called vernix caseosa (vernix is the Latin word for “varnish”; caseosa means “cheese”) now covers your foetus' skin. It's greasy, white and made up of lanugo (that downy hair), oil from your baby's glands and dead skin cells. This waxy “cheese” may not sound too appealing, but it's there for good reason: Vernix protects your baby's sensitive skin from the surrounding amniotic fluid. Without it, she'd look very wrinkled at birth (sort of what you'd look like if you soaked in a bath for nine months). The vernix sheds as delivery approaches, though some babies — especially those born early — will still be covered with it at birth, so you might get a look at your baby's first anti-wrinkle cream.

Weeks 20

Boy or Girl?

Though the external genitals in both male and female fetuses still have a way to grow, you'll be able to find out your baby's gender via the second trimester ultrasound, usually scheduled for anytime between 18 and 20 weeks. If you're carrying a girl, your baby's uterus is fully formed this week and the vaginal canal is starting its development (which means that in a few decades, you might be a grandma!). Your little girl also has primitive eggs in tiny ovaries now, seven million of them. By birth, that number will be down to two million. If your foetus is a boy, the testicles have begun their descent this week, though they're still in the abdomen waiting for the scrotum to finish growing so they'll have a place to go in a few weeks.

Weeks 21

Baby's Moving and Sleeping

Your developing baby still has a great deal of room in your womb — though like anyone who lives in one space for a long time, this tenant will soon begin to feel cramped. Until those uterine walls start closing in, however, there's plenty of space for twisting, turning and even an occasional somersault. With all that belly dancing going on, it's hard to believe your baby is getting any shut-eye at all. But believe it or not, your foetus sleeps as much as a newborn.



Pregnancy week by week



Baby's Taste Buds Develop

When you're 21 weeks pregnant, your baby swallows a bit of amniotic fluid each day — not only for nutrition and hydration, but also to practice swallowing and digesting skills he'll need as soon as he arrives in your arms. And keep this in mind: The taste of the amniotic fluid differs from day to day depending on what you've eaten (spicy enchilada one day, sweet banana the next). That smorgasbord of flavours won't be lost on your baby since your little one has very developed taste buds already. In fact, researchers have noted that babies who were exposed to certain tastes in utero via the amniotic fluid were more eager to eat foods with those same tastes after birth. Want your peanut to eat his broccoli later? Eat yours now!

Baby's Getting Coordinated

Your little action figure is able to choreograph Matrix-like moves at 21 weeks pregnant. Arms and legs are finally in proportion, neurons are now connected between the brain and muscles and cartilage throughout the body is turning to bone. All these upgrades combine to give your baby more control over limb movements, which explains all that kicking, stretching and bodysurfing (or rather bellysurfing) you may have started feeling.

Weeks 22

Baby's Grip, Vision and Hearing Are Getting Stronger

This week, your sweetie is making more sense of the world as she develops her sense of touch. In fact, your little one's grip is quite strong now, and since there's nothing else to grab in utero, she may sometimes hold on tight to that umbilical cord (but don't worry — it's tough enough to handle it). The sense of sight is also becoming more fine-tuned. Your foetus can now perceive light and dark much better than before, even with those fused eyelids. But remember — unless you're shining a flashlight over your belly (which you can do, by the way), it'll be mostly dark for your baby inside that cozy womb of yours. She can also hear your voice, your heartbeat, your gurgling stomach and the whoosh-whoosh of blood circulating through your body.

Weeks 23

Your baby's skin is a bit saggy since it grows a lot faster than fat — but soon he'll start to fit his frame as fat deposits fill things out. By the time your baby is born, he will be pleasantly plump and filled out, from chubby cheeks to chubby toes. And although at 23 weeks pregnant, your baby's organs and bones are visible through his skin (which has a red hue due to developing veins and arteries beneath), he'll become less transparent once those fat deposits settle in.

You Can Hear Baby's Heartbeat Through a Stethoscope

You've probably heard your developing baby's heartbeat through a Doppler a number of times already but by now you can also hear it through a standard stethoscope.

Weeks 24

Baby's Face Is Formed

That beautiful face (though still tiny) is almost fully formed, complete with eyelashes, eyebrows and hair. When fat deposits are made, your baby's very tender skin is still very transparent, which means a close look would let you see clear through to all the organs, bones and blood vessels. Fortunately, that see-through look won't last much longer.



Pregnancy week by week



Foetal Hearing

By week 24 all kinds of sounds can be heard by your baby in your womb: air exhaling from your lungs, those gastric gurgles produced by your stomach and intestines, you and your partner's voice (which your baby will be able to recognize at birth) and even very loud sounds such as honking horns, barking dogs or a wailing fire truck. Babies have been shown to turn their heads in response to voices and noises.

Weeks 25

Baby's Lungs Are Gearing Up to Breathe

Your baby's skin is turning pinker — not because he's getting overheated (in fact, the amniotic fluid is perfectly climate-controlled, keeping him at an always comfortable temperature), but because small blood vessels, called capillaries, are forming under the skin and filling with blood. Later this week, blood vessels will also develop in your baby's lungs, bringing them one step closer to full maturity — and one step closer to taking that first breath of fresh air. But at 25 weeks pregnant, those lungs are still very much works-in-progress. Though they are already beginning to produce surfactant, a substance that will help them expand with oxygen after baby is born, the lungs are still too undeveloped to sufficiently send oxygen to the bloodstream and release carbon dioxide when she exhales.

Baby's Nose Starts Working

The lungs aren't the only system that's gearing up for air intake. Your baby's nostrils and nose are starting to work this week (it was previously believed that the nostrils stay plugged up until around now in the pregnancy, but the latest research shows they open much earlier and stay that way through all three trimesters). That allows your little one to begin taking practice breaths. Of course since there's no air in there, your baby is really only "breathing" amniotic fluid, but it's the practice that counts, right? Baby could also be able to smell various scents in utero by this week, too, and if not that sense will kick in by the third trimester.

Weeks 26

Baby's Eyes Open

Look who's looking! It's your baby! His eyes — which have been closed for the past few months (so that the retina, the part of the eye that allows images to come into focus, could develop) — are beginning to open at 26 weeks pregnant. That means your baby is able to see what's going on now, though unfortunately the view in your uterus isn't all that exciting. But do try this at home for kicks: Shine a flashlight at your stomach. Your little peanut might kick in response (as in: "Get that light out of my eyes!"). Right now, the iris, which is the coloured part of the eye, still doesn't have much pigmentation (that'll fill in over the next month or two), so it's too early to start guessing your little one's eye colour. And even the colour your baby is born with might not be the permanent shade. You may be kept guessing until he's a year old, with the most dramatic changes occurring between six and nine months.



Pregnancy week by week



Brain-Wave Activity Kicks In

Look what else is going on this week: Your baby's brain-wave activity is gearing up at this stage in foetal development, which means your little one can not only hear noises but can now also respond to them. Not in so many words, of course, but with an increase in pulse rate or movement.

Weeks 27

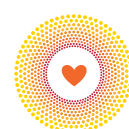
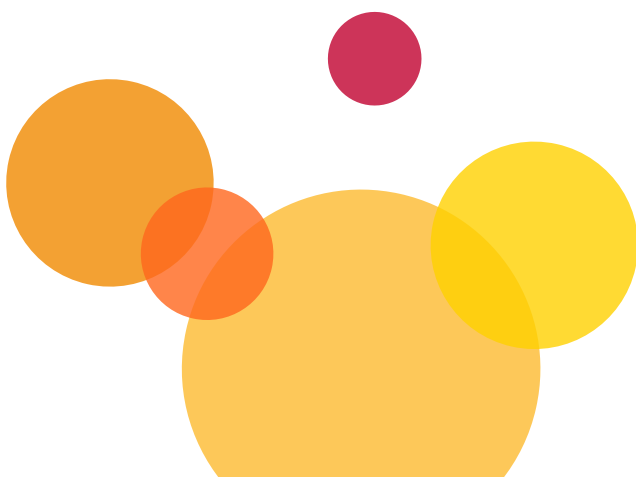
Baby Recognizes Your Voices

Big news: Your baby may recognize both your and your partner's voices by now. His auditory development (hearing) is progressing as the network of nerves to the ears matures — though the sounds he hears are muffled thanks to the creamy coating of vernix covering them. So this might be a good time to read and even sing to your baby (or rather, your tummy) — and a good chance to start memorizing those nursery rhymes and lullabies you'll need to be repeating (and repeating) pretty soon. While you're at it, here's another way to have some family fun at 27 weeks pregnant: Your partner might be able to hear baby's heartbeat by pressing an ear to your stomach.

Baby's Tasting...and Hiccupping

Your baby's taste buds are very developed now too (with more than he will ever have outside the womb, actually). Need a taste test? If you eat some spicy food, your baby will be able to taste the difference in the amniotic fluid (but keep in mind that you'll have different mealtimes, with his coming about two hours after yours). Some babies will even respond to that spicy kick by hiccupping. And although hiccups (which feel like belly spasms to you) may seem like they're disturbing him, he isn't stressed at all. It's just one more sensation babies need to get used to.

Source: <https://www.babycenter.com.au/>



**Australian
Childhood
Foundation**

Pregnancy week by week



Third Trimester

Baby's Growth During Third Trimester

Here are a few of the highlights happening in your third trimester of pregnancy:

- **Bones:** As your baby transforms cartilage to bone in months 7 and 8, he'll be getting all of her calcium from you — so be sure to eat plenty of calcium-rich foods.
- **Hair, skin and nails:** By week 32 of pregnancy, baby's formerly see-through skin will become opaque. In week 36, fat continues to accumulate as your baby sheds his vernix (the waxy substance that protects his skin from your amniotic fluid) and lanugo (the hairy coat that keeps him warm in there).
- **Digestive system:** In the final weeks of pregnancy, meconium — or baby's first poop, consisting mostly of blood cells, vernix and lanugo — starts to build up in baby's intestines.
- **Five Senses:** Your baby's touch receptors will be fully developed around week 29 or week 30. By week 31 of pregnancy, your baby will get signals from all five senses, perceiving light and dark, tasting what you eat, and listening to the sound of your voice.
- **Brain:** In the third trimester your baby's brain will grow faster than ever, test-driving some nifty skills including blinking, dreaming and regulating his own body temperature.

Around week 34 of pregnancy, baby's body turns southward, settling into a heads-down, bottom-up position — unless, of course, your baby remains stubbornly in the breech position (in which case your doctor will likely attempt to manually turn baby around week 37).

Weeks 28

He's busy these days blinking (outside in the real world, blinking is necessary to help keep foreign objects out of the eyes). That skill is just one of an already impressive repertoire of tricks he's working on, like coughing, more intense sucking, hiccupping and, perhaps most important, better breathing.

Baby Might Be Dreaming

Dreaming about your baby at 28 weeks pregnant? Your baby may be dreaming about you, too. Brain wave activity measured in a developing fetus shows different sleep cycles, including the rapid eye movement phase — the stage when dreaming occurs.



Pregnancy week by week



Weeks 29

Since space in your baby's living quarters is now at a premium, you'll be feeling jabs and pokes from elbows and knees, mostly. And they'll be more vigorous (and also less erratic) than before because your baby is stronger and excitedly responding to all sorts of stimuli — movement, sounds, light and that candy bar you ate half an hour ago.

Your baby may begin to smile this week, especially in her sleep.

Weeks 30

Baby's Brain is Getting Bigger

Your baby's brain is growing at a quick pace these days. Until now, its surface was smooth — but now, your foetus' brain is taking on characteristic grooves and indentations - the surface of your baby's brain begins to wrinkle (the wrinkles are called convolutions) so that it can hold more brain cells. The reason for the different appearance: Those wrinkles allow for an increased amount of brain tissue — a necessary change as your baby prepares to develop street smarts for life outside your womb.

Lanugo Is Disappearing

Now that baby's brain and new fat cells are regulating his body temperature, the lanugo — that soft, downy hair covering your little bean's body — is beginning to disappear. But you may see a few leftover strands of fur on your newborn's back and shoulders when he's born.

Bone Marrow Is Making Red Blood Cells

Another big change at 30 weeks pregnant: Your baby's bone marrow has completely taken over production of red blood cells (before, tissue groups and then the spleen took care of producing the blood cells). This is an important step for your baby because it means she'll be better able to thrive on her own once she's born.

Weeks 31

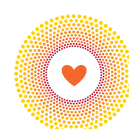
Your baby's brain connections are developing at a rapid pace, which is a good thing since he has to make trillions of them! He's now processing information, tracking light and perceiving signals from all five senses. Sure, your baby can't smell anything right now, but that's only because he's still submerged in amniotic fluid and needs to be breathing air to get a whiff of anything. Lucky for you — and your baby — yours will be one of the very first scents he breathes in, a scent that will quickly become his very favourite.

Baby's Sleep Cycles

He's also putting in longer stretches of sleep, which is why you're probably noticing more defined patterns of wakefulness (and movement) and rest (when he's pretty still).

Pedalling His Feet and Sucking His Thumb

Your baby is making faces, hiccupping, swallowing, breathing, pedalling with little hands and feet along your uterine wall and even sucking his thumb. In fact, some babies suck their thumbs so vigorously while in the womb that they're born with a callus on their thumb.



Pregnancy week by week



Weeks 32

In these past few weeks, it's all about practice, practice, practice as she hones the skills she'll need to thrive outside the womb — from swallowing and breathing to kicking and sucking. In anticipation of that momentous transition to mouth feeding, your baby's digestive system is all set and ready to go. And though you're weeks away from D-day, your baby's looking more and more like a newborn: As fat accumulates under her skin, it's no longer transparent and is now opaque.

Weeks 33

Baby Differentiates Day From Night

If your uterus had eyes, here's what you'd see: your foetus acting more and more like a baby, with his eyes closing during sleep and opening while awake. And because those uterine walls are becoming thinner, more light penetrates the womb, helping your baby differentiate between day and night (now if only baby can remember that difference on the outside!).

Foetal Immune System Is Developing

Good news! Your baby has reached an important milestone about now: She's got her own immune system. Antibodies are being passed from you to your little one as she continues to develop her foetal immune system, which will come in handy once she's outside the womb and fending off all sorts of germs.

Weeks 34

Your baby closes his eyes when he snoozes and opens them when he's awake, helping him settle into a sleep schedule.

Gender Differences

If your baby is a boy, then this week the testicles are making their way down from the abdomen to the scrotum. (Some baby boys — 3 to 4 percent — are born with undescended testicles, but they usually make the trip down sometime before the first birthday.)

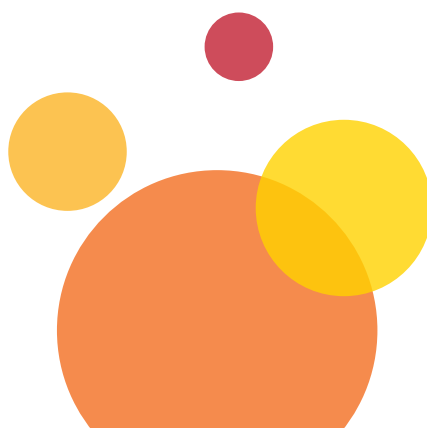
Tiny Fingernails and Toenails

In other baby-related developments, those tiny fingernails have probably reached the tips of his fingers by now — and are getting ready for that first postpartum manicure.

Weeks 35

With less space in your uterus now, your baby's movements have shifted from kicks and punches to rolls and wiggles.

Something else that's developing at a mind-boggling pace these days: your baby's brain power. Luckily, the part that surrounds that amazing brain — the skull — remains soft. And for good reason: A soft skull will allow your baby to squeeze more easily through the birth canal.



Pregnancy week by week



Weeks 36

Foetal Skull and Bones

When you're 36 weeks pregnant, your baby's skull bones are not fused together yet so the head can easily (well, relatively easily) manoeuvre through the birth canal. And your baby's skull isn't the only soft structure in her little body. Most of her bones and cartilage are quite soft as well (they'll harden over the first few years of life) — allowing for an easier journey into the world during delivery.

Baby's Digestion Still Needs to Catch Up

By now, many of your baby's systems are pretty mature, at least in baby terms — and just about ready for life on the outside. Blood circulation, for instance, has been perfected and your baby's immune system has developed enough to protect your little one from infections outside the womb. Others, however, still need a few finishing touches. Once such notable example: digestion — which actually won't be fully mature until sometime after birth. Why? Inside her little gestational cocoon, your baby has relied on the umbilical cord for nutrition, meaning that the digestive system, though developed, hasn't been operational. It will take the first year or two to bring it up to speed.

Weeks 37

Baby's Kicking and Moving

At 37 weeks pregnant, your baby's lungs are likely mature — but that doesn't mean he's finished growing yet. In fact, until the end of week 38 he's technically considered "early term. It's a little crowded in your uterus, so your baby may not be kicking as much, though he's probably stretching, rolling a bit and wiggling (all of which you'll be able to feel!).

Practicing for Birth

Right now, your tiny superstar is rehearsing for his big debut, simulating breathing by inhaling and exhaling amniotic fluid, sucking his thumb, blinking and pivoting from side to side (one day you feel his bottom on the left side, the next it has flipped around to the right).

Baby's Head Is Huge!

Here's an interesting fact: Your baby's head (which, by the way, is still growing) will be at birth the same circumference as his chest. And guess what's making an impression (literally) these days on those shoulders and hips? Fat — causing little dimples in those cute elbows, knees and shoulders, along with creases and folds in the neck and wrists.

Weeks 38

Baby's Preparing for Birth

At 38 weeks pregnant, all systems are almost go! As you prepare for baby's ETA, he's getting ready too, big-time, and continues to shed vernix and lanugo. Your baby is also swallowing amniotic fluid, some of which winds up in his intestines, where it — along with other shed cells, bile and waste products — will turn into your baby's first bowel movement (meconium) and perhaps your first nappy change. His lungs are still maturing and producing more and more surfactant, a substance that prevents the air sacs in the lungs from sticking to each other once he starts to breathe. Most other changes this week are small but important: He's continuing to add fat and fine-tune his brain and nervous system (so he can deal with all the stimulation that awaits him once he makes his entrance into the world).



Pregnancy week by week



Weeks 39

Baby Is Full-Term

Congratulations! At 39 weeks pregnant, you've got what is officially considered a full-term baby. Your baby's brain is still growing at an astonishing rate (a pace that will continue for the first three years of life) – with changes you'll be able to recognize firsthand as your baby's skill-packed bag of tricks expands almost daily.

No Tears Just Yet

Heard that babies cry a lot? There's definitely truth to that rumour — as you'll find out soon enough (and usually in the middle of the night). But what you may not have heard is that tiny babies don't produce tiny tears when they cry, since their tear ducts aren't open for business yet. While you'll be consoling your crying baby right from the get-go, it won't be until sometime after the first month that you'll be wiping tears off those chubby cheeks.

Baby's Skin Is White

Your baby's skin has now finally changed from pink to white, no matter how dark-skinned she will be eventually (pigmentation will occur soon following birth). That's because a thicker fat layer has been deposited over the blood vessels, making your baby's cheeks kissably round.

Weeks 40

This is the moment your baby and you have been waiting for! At 40 weeks pregnant, you're at the official end of your pregnancy. You (or actually the placenta) are still providing the antibodies he'll need to fight off infections for the first six months of his life, but if you plan on breastfeeding your milk will give him more antibodies to boost his immune system (especially colostrum, a thin, yellowish precursor to breast milk that's super rich in antibodies and feeds your baby for the first few days postpartum).

Baby's Vision at Birth

The first thing you're likely to look for when your new arrival makes that dramatic (and possibly fashionably late) entrance: proof positive that your baby is actually a boy or a girl. That major mystery solved once and for all, you'll also notice that baby (besides being cute as can be — and yours!) is wearing a little leftover travel dust consisting of blood, vernix, lanugo and amniotic fluid. From your baby's perspective, you'll look a bit blurry — babies at birth can focus only about an inch away — but that's okay. Just be sure to say hello to your new arrival, since your baby will very likely recognize the sound of your voice and your partner's.

Your Newborn Will Love Being Swaddled

You'll notice your little one is still curled in the foetal position (though her arms and legs may flail a bit). That's because after nine months in such cramped quarters, it'll take a while before your baby realizes she has room to spread out. And because it's the only position she has really known, it's a comforting one to be in. That's also why so many newborns like to be swaddled — it reminds them of your uterus.



Pregnancy week by week



Weeks 41

It seems like your baby has opted for a late checkout, quite a popular option judging by the numbers. Fewer than five percent of babies are born on their actual due dates — and around 10 percent decide to overstay their welcome in Hotel Uterus, thriving well into the tenth month. Remember, too, that most of the time an overdue baby isn't overdue at all — it's just that the due date was off. That's okay — there's still work to be done at 41 weeks pregnant.

Why Foetal Stress Hormones Can Be Good

Gearing up for the big day is your baby's endocrine system, which is responsible for hormone production. Researchers theorize that baby actually sends some chemical signals (aka hormones) to the placenta to trigger labor to begin (as in: "Get me out of here, Mom!"). Other hormones are standing by, too. During childbirth, your baby will produce more stress hormones than any other time in her life (and you thought you were stressed out now!). But those hormones will actually help your baby adjust rapidly to life outside the womb and help all those survival instincts kick in as she becomes untethered from the placenta that has provided support for the past nine months.

Baby's First Breath

Another big milestone ahead for your baby will be taking that first breath of air. In fact, the first breath at birth requires considerably more effort than any breath your baby will ever take again. That's because the tiny air sacs in the lungs need to be inflated for the first time so that they expand to fully do their job of breathing for a lifetime.

Fingernails and Toenails

Your baby's nails will definitely need a manicure and pedicure after birth. By now, they've grown well past his fingertips.

Weeks 42

When this latecomer finally makes her debut, chances are her skin will be dry, cracked, peeling or wrinkled — all completely temporary. That's because the protective vernix was shed weeks ago in anticipation of a delivery date that came and went. A tardy baby will also have longer nails, possibly longer hair and little or none of that baby fuzz (lanugo). She'll also be more alert.

Source: <http://www.babycenter.com.au/v1027487/inside-pregnancy-weeks-28-37#ixzz3RwgcrEns>



Stop...Pause...Play



When we can relate to our children with mindful awareness we activate a part of the brain (the medial pre-frontal cortex) which allows our defensive systems to switch off, putting us in a more relaxed state and allowing us to think and act more rationally and to step outside our own experience so that we can **BE MORE PRESENT TO OUR CHILDREN'S NEEDS.**

This is an exercise that we will practice every week or use any time you need to take time out to calm down before you respond to whatever is going on.



Stop

- Stop what you are doing.
- Make sure your feet are placed firmly on the ground.



Pause

- Focus on your breath.
- Breathe in slowly, right down into your belly, then exhale completely.
- Take 5 more slow breaths, being aware of each breath in and each breath out.
- Smile and enjoy standing like this for a moment. Feel your body relax.
- Reflect. Ask yourself "What do I need?" and "What does my child need?"



Play

Respond to your child with new understanding.

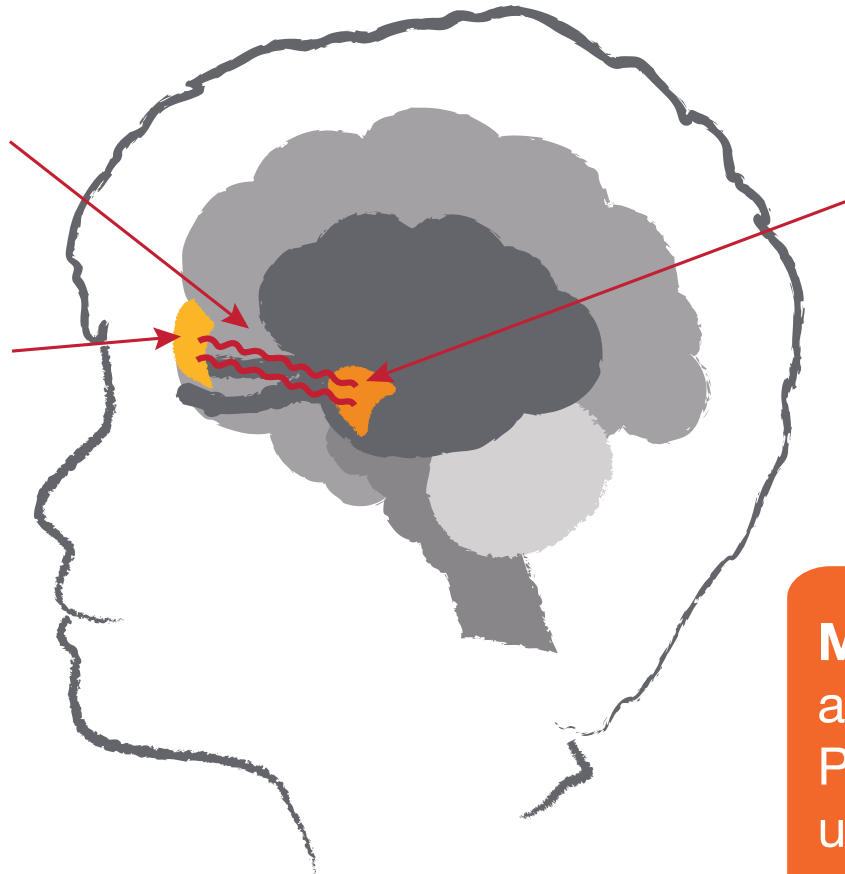


Mindfulness



Deactivation

Medial Pre-Frontal Cortex
The centre of mindfulness/
self-awareness



Mindfulness deactivates the Amygdala (the 'smoke-detector' of the brain) helping us to calm.

Mindfulness also develops the Medial Pre-Frontal Cortex, helping us to develop reflection and empathy for others.

