



ECD DEVELOPMENTAL DOMAINS AND MILESTONES

PAKISTAN ALLIANCE FOR EARLY CHILDHOOD

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Structure of the Session

Brain
Development in
Early Years

ECD
Developmental
Domains

Developmental
Milestones in
Pregnancy
(Prenatal)

Developmental
Milestones in
Infants

Developmental
Milestones in
Toddlers and Pre-
School Kids

BRAIN DEVELOPMENT IN EARLY YEARS



Brain Development In Early Years

Did you know that human brain is the most complex and profound object in the universe?

Yes.. It is.

The Galaxy has 100 billion stars..

A human brain has 100 billion neurons...

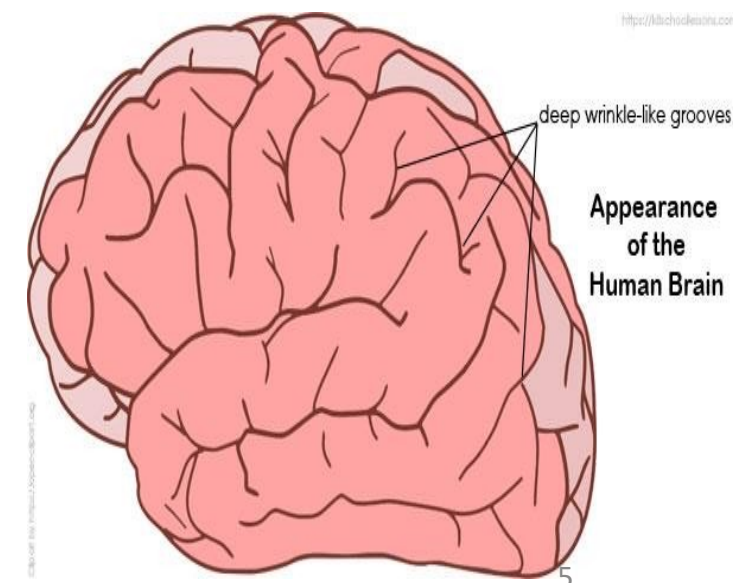
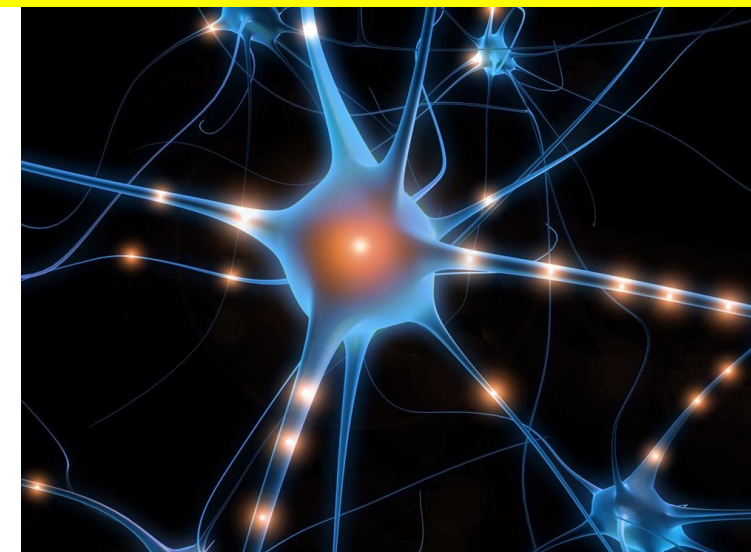
Did you know that in the first few years of life, more than 1 million new neural connections are formed every single second in child's brain?

Yes, that's also true.

Human brain's window of opportunity depends on the first 1,000 days of human life.

The Human Brain

- Babies are born with 100 billion brain cells.
- All the neurons have the same genetic potential.
- Our brain is sensitive and reactive and further development of connections is dependent on stimuli from the sensory pathways.
- Signals can be sent to other cells at speeds of more than 200 mph.
- 75% of brain development occurs by age 1 and 80 - 90% by age 2



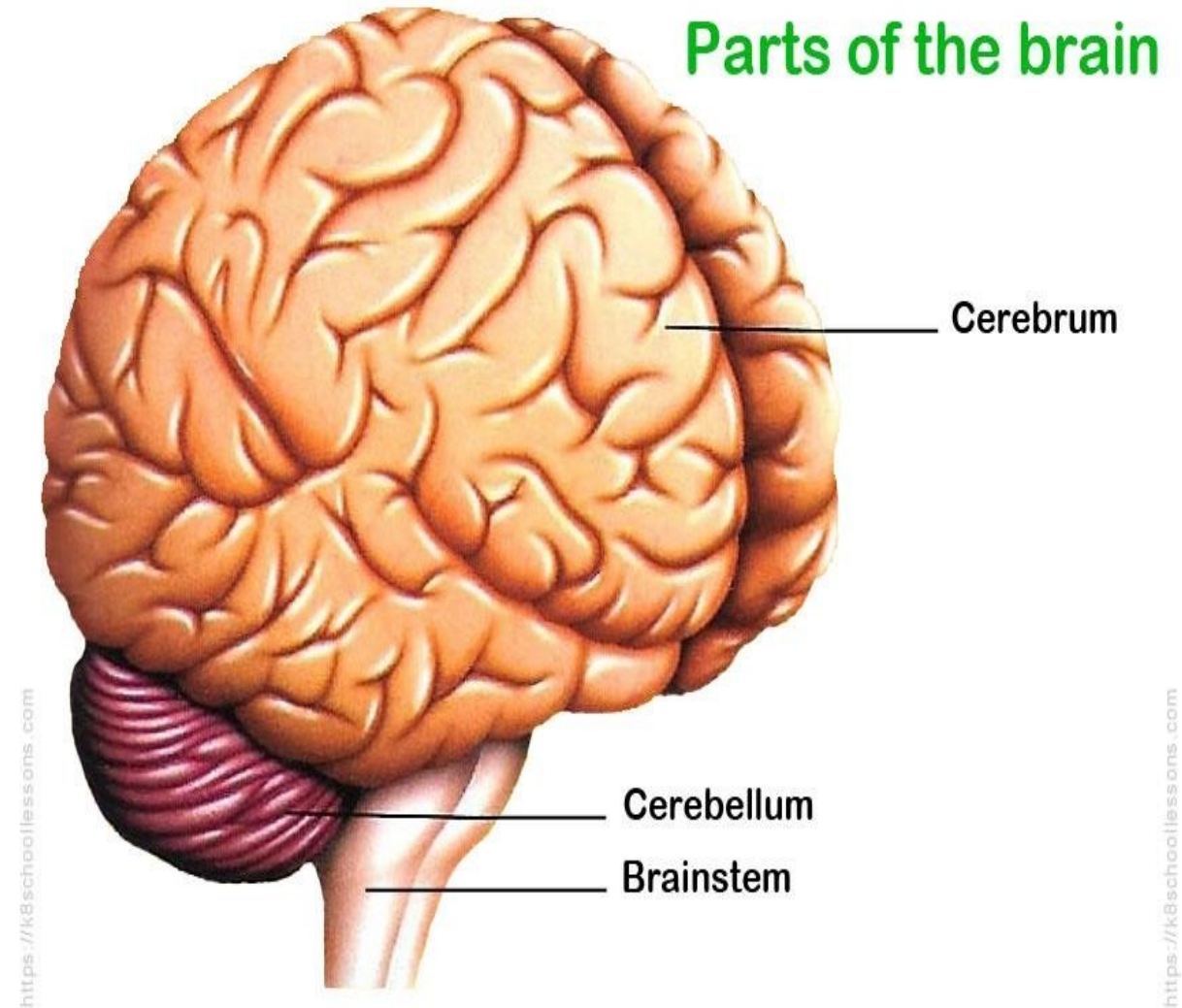
Structure and Parts of Human Brain

Parts of Human Brain

Cerebrum

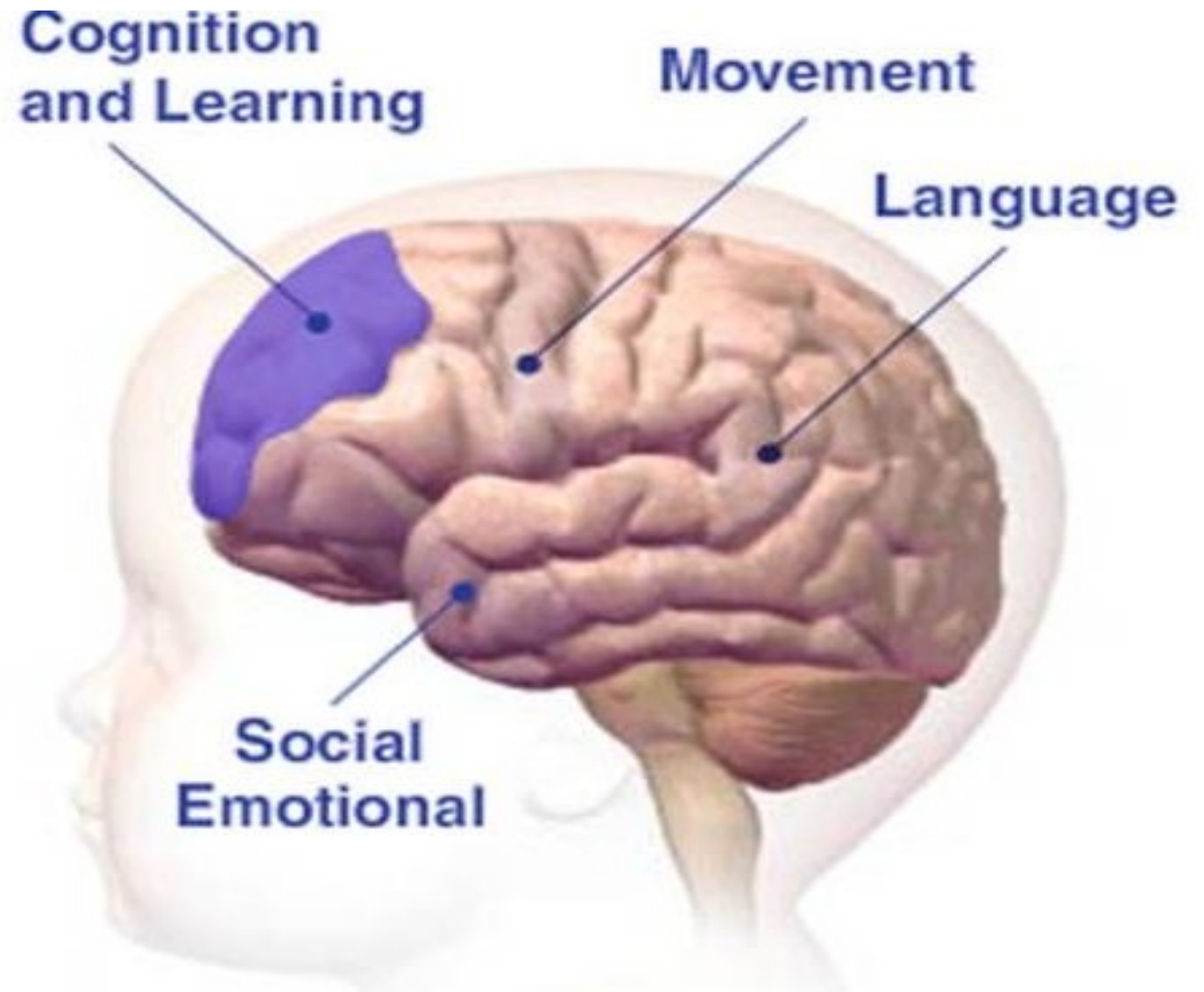
Cerebellum

Brainstem



Brain Development

A Child's brain undergoes an amazing period of development from birth to three—producing more than a million neural connections each second.



Functions of Two Halves of the Brain

Left cerebral hemisphere Controls

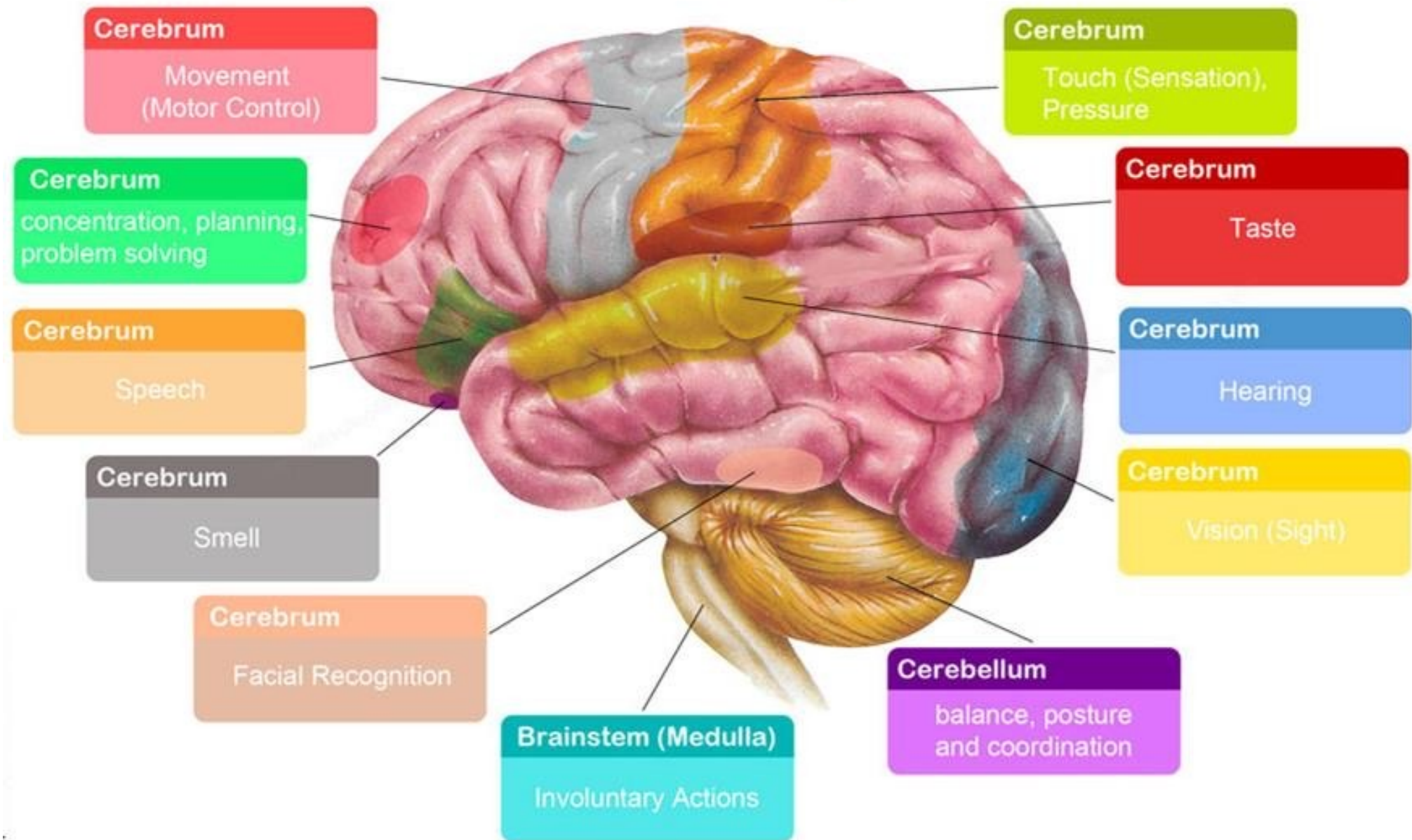
- ✓ Right side of the body
- ✓ Maths Skills
- ✓ Scientific thinking
- ✓ Spoken & Written Language
- ✓ Writing Skills
- ✓ Logical Thinking

Right cerebral hemisphere Controls

- ✓ Left side of the body
- ✓ Creativity
- ✓ Imagination
- ✓ Insight
- ✓ Artistic Skills
- ✓ Musical Skills



Stimulation for the Different Parts of the Brain



Brain Development from Infancy to Adolescence



Factors Influencing Brain Development

- Attachment Relationships
- Architecture connections
- Experiences and Early Stimulation
- Environment:
 - Physical
 - Emotional
- “Brain-building” activities
- Serve & return

The Plasticity of Brain Architecture decreases over time

- The neuroplasticity formed at the early age underlies a child's physical and mental health, life long capacity to learn, adapt to change and develop psychological resilience.
- Brain has more plasticity in early years and its capacity for change decreases with age.
- Accommodates a wide range of environments and interaction during early years.
- Early Plasticity makes the brain both more vulnerable to harm and more capable of recovery .



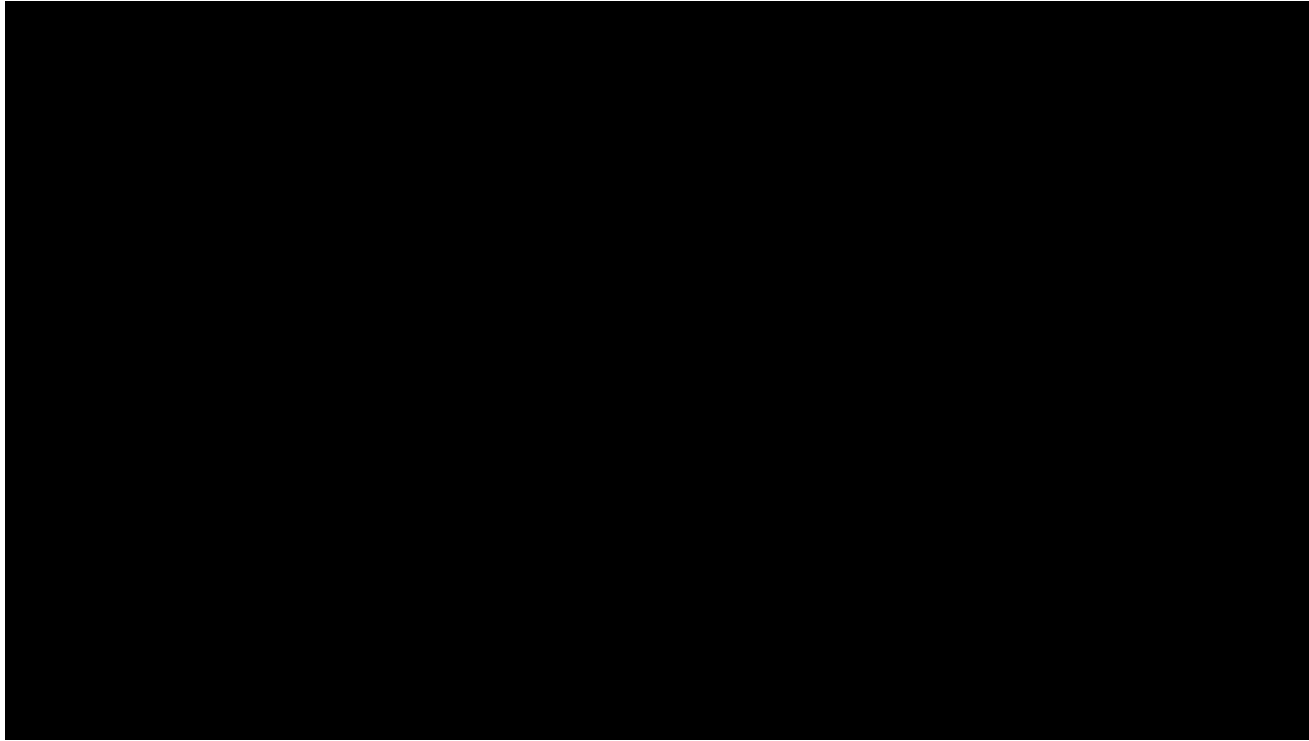
By understanding what to expect during each stage of development, parents can easily capture the teachable moments in everyday life to enhance their child's language development, intellectual growth, social development and motor skills.



It is the minute-by-minute, day-by-day events of nurturing that shape early brain development.



Video: Brain Development in Early Years of Life



Key Messages:

- 1. Brains are built over time.**
- 2. Brain architecture is comprised of billions of connections between individual neurons across different areas of the brain.**
- 3. The interactions of genes and experience shape the developing brain.**

DEVELOPMENTAL DOMAINS IN EARLY YEARS

What are Developmental Domains?

Development of a child can be compartmentalised into several areas in order to track progress in the growth process of a child;

- Physical Development
- Cognitive Development
- Social and Emotional Development
- Moral and Spiritual Development
- Language Development

Physical Development

- Motor Skills- Fine Motor and Gross Motor Skills
- Food and Nutrition
- Hygiene
- Vaccination
- Physical Activities

Social Development

- Social and Moral Development refer to those processes where children develop relationships with their culture, with people around them and the environment in general.
- The social setting and value system form the core of a person's identity – children at a very young age try to figure out what is good, what is appreciated or beneficial, based on what they observe in their surroundings.
- A quality ECD/ECCE environment provides opportunities for children to form positive relationships with other children and with elders, and to engage in conversations about social norms and ethical issues.

Emotional Development

- Emotional Development refers to the development of a child's capacity to experience, manage and express a full range of positive and negative emotions
- The development of self-esteem is critical throughout the early years and having positive experiences in a quality environment is essential at this stage.
- Feeling important, actively taking responsibility, being listened to and cared for, are the essentials for creating a positive self-concept in children

Language Development

- It refers to the process by which children make sense of the words, symbols and information around them.
- Children are born with the ability to learn language but again, a quality learning environment is essential to help them develop optimally.
- Learning to read and write the Alphabet and make small sentences is just one component of language development. Over emphasis on this component especially through rote memorization, without giving children a chance to process the information and relate it to their lives, cripples not only their language development, but also their cognitive capacities.

Cognitive Development


- It refers to the development of mental processes and capabilities;
- It focuses on how children learn and process information.
- It is the development of the thinking and organizing systems of the mind.
- It involves language, imagining, thinking, exploring, reasoning, problem solving, developing and rejecting ideas and concepts, memory, expression through multiple media and experimenting and applying what they learn.

DEVELOPMENTAL MILESTONES IN PREGNANCY (IN THE WOMB- PRENATAL)

Developmental Milestones

- Developmental milestones are a set of functional skills or age-specific tasks that most children can do at a certain age range.
- Although each milestone has an age level, the actual age when a normally developing child reaches that milestone can vary quite a bit. Every child is unique!
- Skills such as taking a first step, smiling for the first time, and waving “bye bye” are called developmental milestones.
Children reach milestones in how they play, learn, speak, act, and move (crawling, walking, etc.).





Egg blossoms into an embryo in your womb.
Umbilical cord forms.

WEEK 05

1ST TRIMESTER

2ND






Big enough to measure -- 0.16 inches
Heart, lungs start to form

WEEK 06

1ST TRIMESTER

2ND T





Takes the shape of a tadpole
Grows to the size of a pomegranate seed
Limb buds grow
Eyes, mouth, stomach form

WEEK 07

1ST TRIMESTER

2ND TRIMESTER



Size of a coffee bean

Can move and swim

Webbed fingers and toes arrive


All major organs almost fully formed

WEEK 08

1ST TRIMESTER

2ND TRIM





About as big as a peanut.
Eyelids grow in, but stay shut.
Nose appears.
Skeleton takes shape, but bones are soft.

WEEK 09

1ST TRIMESTER

2ND TRIMESTER






Might grow to 1 full inch big --
around the size of a green olive.
Fingers and toes become distinct.
Arms bend at the elbows.

WEEK 10

1ST TRIMESTER

2ND TRIMESTER






Size of a strawberry -- 2 inches
Teeth, intestines, genitals form

WEEK 11

1ST TRIMESTER

2ND TRIMESTER



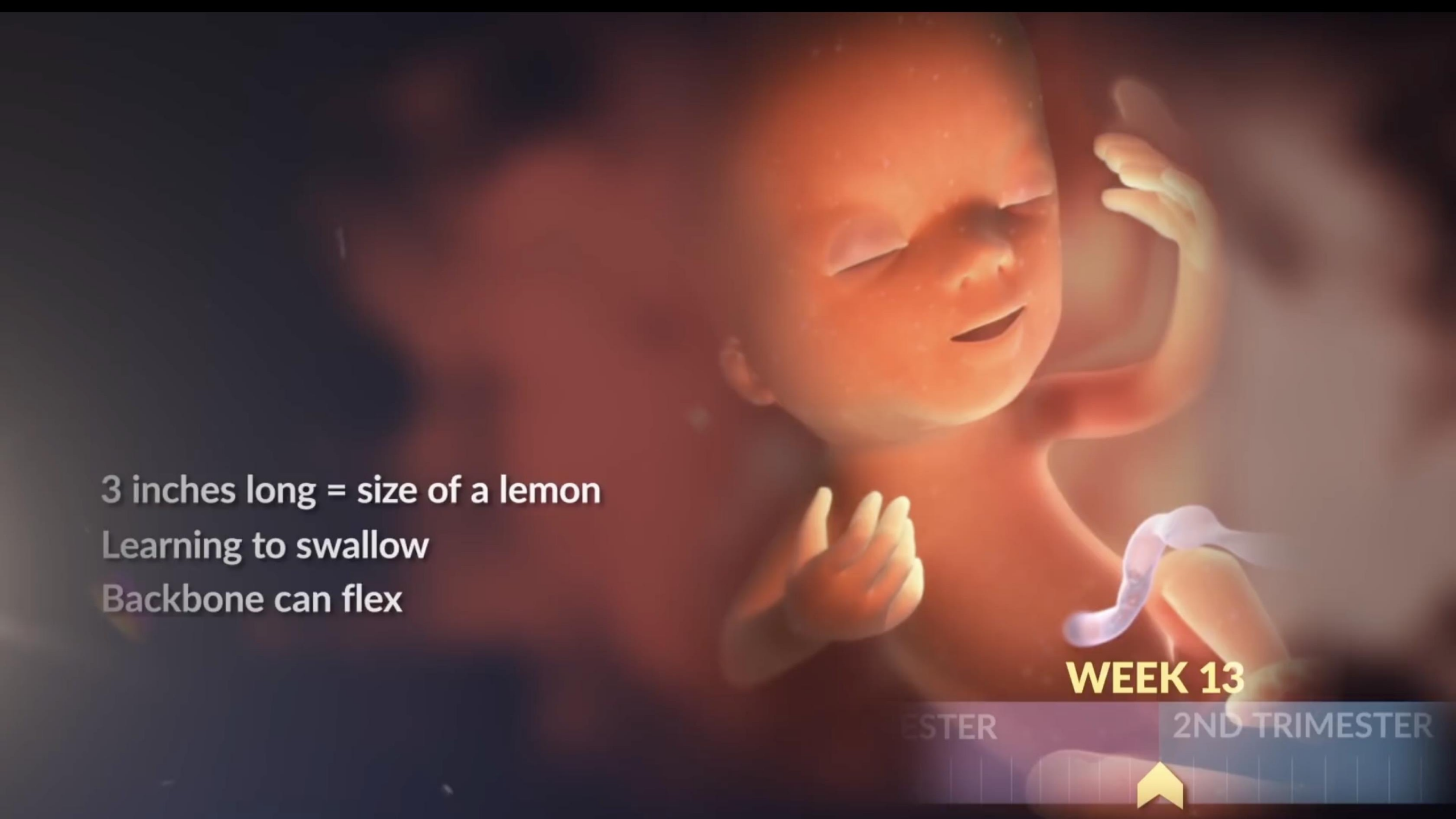
As big as a garlic bulb

WEEK 12

1ST TRIMESTER

2ND TRIMESTER






3 inches long = size of a lemon
Learning to swallow
Backbone can flex

WEEK 13

1ST TRIMESTER

2ND TRIMESTER



6.25 inches = large russet potato
All major organs formed
Ultrasound can show baby's gender

WEEK 15

SECOND TRIMESTER

2ND TRIMESTER



Activate Windows
Go to Settings to activate Windows

WE/MID



7 inches = length of a carrot
Can flex arms and legs
Eyes move behind closed lids

WEEK 16

2ND TRIMESTER



7.75 inches = asparagus spear
Baby does flips and rolls
Brings tiny fists to mouth



WEEK 17

2ND TRIMESTER





WEEK 18

SECOND TRIMESTER


8.5 inches = sweet potato
Baby can hear sounds
Face becomes more defined

WEEK 18

2ND TRIMESTER



Activate Windows
Go to Settings to activate



9.25 inches = eggplant

White, waxy material protects skin

Main lung airways start to form

WEEK 19

2ND TRIMESTER





10 inches = papaya

Puts feet and toes in mouth

Sleeps a lot

Noise and movement can wake her up

WEEK 20

SECOND TRIMESTER

WEEK 20

2ND TRIMESTER

3R



Activate Windows

Go to Settings to activate



11 inches = ear of corn

Genitals fully formed

Soft body hair provides more warmth

WEEK 22

2ND TRIMESTER

3RD TR



12 inches = head of romaine lettuce
Fingers and toes completely formed
Able to hiccup



WEEK 23

2ND TRIMESTER

3RD TRIM




12.5 inches = pineapple length
Weighs around 1.5 pounds
Could survive outside your womb

WEEK 24

TRIMESTER

3RD TRIME





13 inches = celery stalk
Knows the sound of your voice
Recognizes other familiar noises
Sleeps 80% of the time

WEEK 25

2ND TRIMESTER

3RD TRIMESTER



13.75 inches = a leek
May suck thumb

WEEK 26

2ND TRIMESTER

3RD TRIMESTER



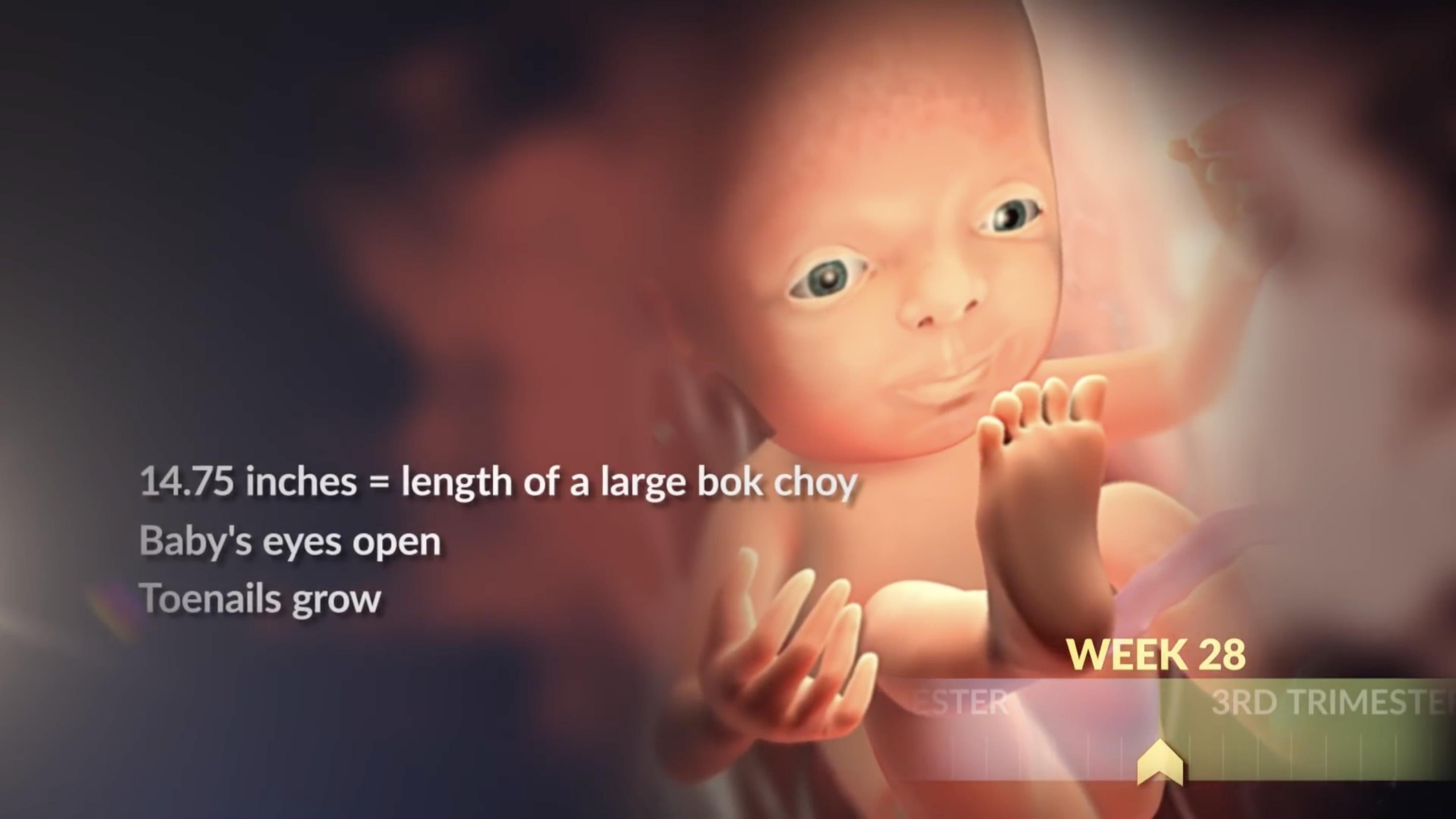
14.25 inches = English cucumber
More muscle tone

WEEK 27

2ND TRIMESTER

3RD TRIMESTER





14.75 inches = length of a large bok choy

Baby's eyes open

Toenails grow

WEEK 28

2ND TRIMESTER

3RD TRIMESTER





Weight = 3-pound bag of apples
Gaining fat, getting rounder
Skin becomes smoother


WEEK 29

THIRD TRIMESTER

WEEK 29

STER

3RD TRIMESTER



16 inches long = a bundle of collard greens
Eyes open and close and respond to light

WEEK 30

3RD TRIMESTER

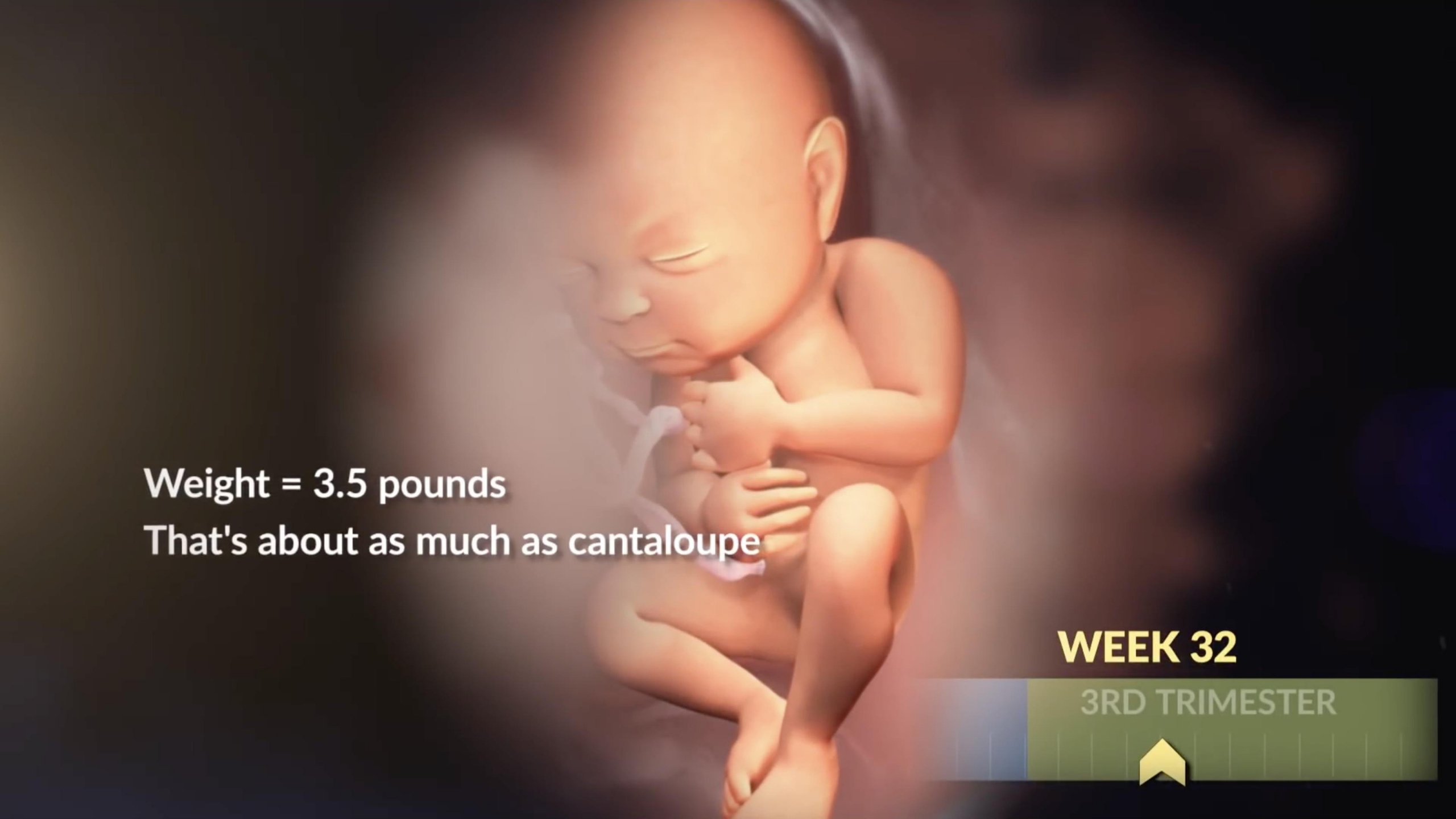


16.5 inches = a stalk of rhubarb
Gaining weight fast

WEEK 31

3RD TRIMESTER





Weight = 3.5 pounds
That's about as much as cantaloupe

WEEK 32

3RD TRIMESTER






4 pounds = weight of a spaghetti squash
Likes to swallow, yawn, practice breathing
Baby's brain controls her body temp

WEEK 33

3RD TRIMESTER





4.5 pounds = sugar pumpkin
Growing more baby fat
Skin is no longer see-through

WEEK 34

3RD TRIMESTER






Weight = a 5-pound bag of potatoes
Baby practices breathing

WEEK 35

THIRD TRIMESTER

WEEK 35

3RD TRIMESTER



18.75 inches long = length of a Swiss chard
Baby develops sleep patterns
Fingernails reach ends of fingers
Skin is pink, legs are chubby

WEEK 36

3RD TRIMESTER





Weight about 6 pounds = a honeydew melon
Bones and muscles ready for outside world

WEEK 37

3RD TRIMESTER





6.25 pounds = weight of a large cabbage

Getting crowded inside you

Baby's brain and adrenal glands may send signal to start labor

WEEK 38

3RD TRIMESTER





6.5 pounds = weight of a Crenshaw melon

Lungs are ready to breathe and cry


Baby moves into birth canal

Head molds into cone shape

WEEK 39

3RD TRIMESTER





7.25 pounds = small watermelon
Ready to meet Mom!


WEEK 40

TRIMESTER

DEVELOPMENTAL MILESTONES IN INFANTS

DEVELOPMENTAL MILESTONES IN INFANTS





How Does My Baby Move:

Milestones for Every Stage



Your Baby at 2 Months

- Holds head up and begins to push up when lying on tummy
- Makes smoother movements with arms and legs

Your Baby at 4 Months

- Holds head steady, unsupported
- Pushes down on legs when feet are on a hard surface
- May be able to roll over from tummy to back
- Can hold a toy and shake it and swing at dangling toys
- Brings hands to mouth
- When lying on stomach, may push up to elbows

Your Baby at 6 Months

- May roll over in both directions (front to back, back to front)
- May sit without support
- When standing, supports weight on legs and might bounce
- Rocks back and forth, sometimes crawling backward before moving forward

Your Baby at 9 Months

- May stand, holding on
- Can get into sitting position
- May sit without support
- Pulls to stand
- Crawls

Your Baby at 12 Months

- Gets to a sitting position without help
- Pulls up to stand, walks holding on to furniture
- May take a few steps without holding on
- May stand alone

DEVELOPMENTAL MILESTONES IN TODDLERS AND PRE-SCHOOLERS

Developmental Milestones In Toddlers



**VIDEO: GROWTH AND DEVELOPMENT IN
TODDLERS
1 TO 2 YEAR OLD**



**VIDEO: GROWTH AND DEVELOPMENT IN
TODDLERS
2 TO 3 YEAR OLD**



12-15 months

- Toddlers might be taking first steps. Emotions and language are maturing. Toddlers are exploring their world and more.
- Talking and listening, reading, moving, playing outside, working on everyday skills and giving positive attention are good for development.



15 to 18 months

- At this age, expect curiosity, strong attachments, new words, independent walking, small hand movements and more.
- Talking and listening, reading, moving, playing outside, working on everyday skills and playing with others are good for development.



18 to 24 months

- At this age, expect new and complex emotions, pretend play, independence, walking, lots of new words, and more.
- Talking and listening, reading, working on everyday skills and playing with others help development. It's important to be there for your child too.



2 to 3 years

- At this age, expect big feelings, tantrums, simple sentences, pretend play, independence, new thinking skills and much more.
- Talking and listening, reading, working on everyday skills and cooking with your child are good for development.



Parenting Tips for Holistic Development of Toddlers

Hugs, cuddles and kisses

Demonstrate everyday skills

Making home safe

Involve toddlers in household chores

Be there for the toddler

Encourage movement



Empathy

Positive attention

Indoor and outdoor play

Use of toys and learning activities

Read with your toddler

Encourage social play

Talk with toddler- listen and take turns in talking

Developmental Milestones In Preschooler



Video: Growing and Learning- Age 4



Video: Growing and Learning- Age 5



COGNITIVE ABILITY

Identify colours

Classify

Count

Understand concepts like under ,
over, big, bigger etc.



PHYSICAL ABILITY

Make drawings

Copy shapes

Write letters

Catch paper and scissors

Build toys

Run, skip, alternative feet

Balance

TIPS FOR PARENTS:

1. PROVIDE OPPORTUNITIES

2. CONSIDER CHALLENGES AS
OPPORTUNITIES FOR GROWTH

SOCIAL EMOTIONAL ABILITY

Play well with other children

Take Turn

Can provide help

Empathize with needs and
feelings of others

At time can be bossy

Likes to be center of attention



LANGUAGE ABILITY

Can reason

Argue using 'because'

Tell stories

Can use future tense

Can tell name and address

Can sort

Video Links used during this session

- <https://raisingchildren.net.au/toddlers/videos/development-1-2-years>
- <https://raisingchildren.net.au/toddlers/videos/development-2-3-years>
- <https://helpmegrowmn.org/HMG/DevelopMilestone/4Years/index.html>
- <https://helpmegrowmn.org/HMG/DevelopMilestone/5Years/index.html>
- https://www.youtube.com/watch?v=gO_UcdjuiJ0&list=PLIN4XYz6OqLVvBHx_K7S7NhBCnpEmMVXF&index=20