NIOS lesson adaptation project

by Embrace Volunteers

(A community initiative of Harchan Foundation Trust)

CHAPTER -18

CONCEPT OF DEVELOPMENT

This project is aimed at supporting children with different needs. Information provided is adapted to the best of knowledge by the volunteers. For complete information please refer to the NIOS resources in https://www.nios.ac.in/online-course-material/secondary-courses.aspx.

Concept of Development

Embrace
The power within you!

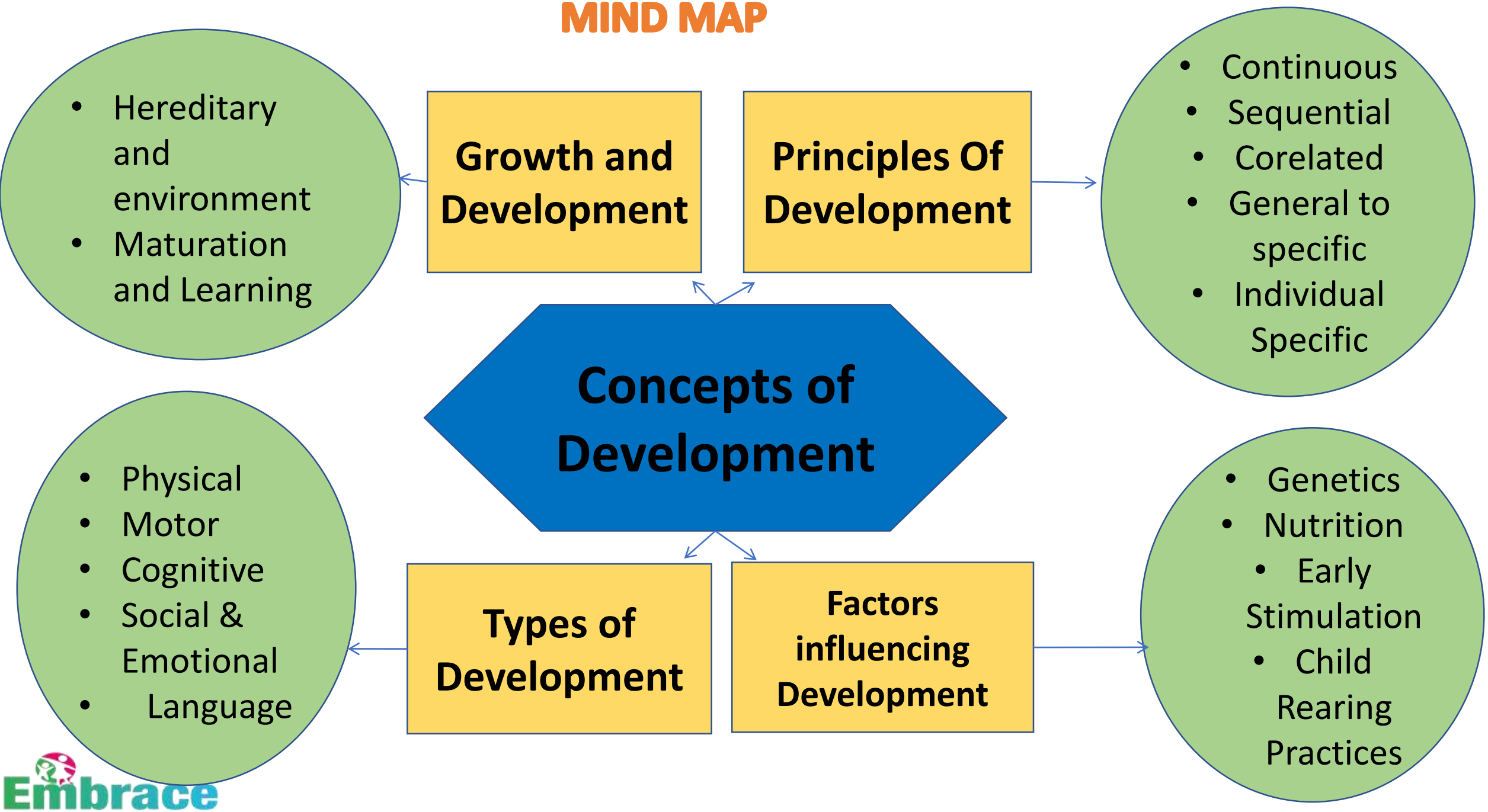
KWL Chart

K - What does the child KNOW	W - What does the child WANT to know	L - What has the child LEARNT
	What is development?	
	Principles of development	
	Types of development, Factors affecting development	

Embrace
The power within you!

Key Words	Meanings
Growth	Growth means increase in weight, height (length) and changes in body proportions
Development	Development is not only the physical changes but also the social, cognitive, mental and emotional changes that occur in ones' body
Heredity	Heredity is the traits with which a person is born
Environment	All parts of our physical surroundings
Maturation	The potential traits (for different activities like sitting, crawling, creeping, walking etc.) are present at birth in the individual and are controlled by heredity.
Learning	Acquiring new skills due to environmental stimulation and training is known as Learning.
Cognitive development	Cognitive development focuses on how children learn and process information
Milestones	An event that occurs in the right time

MIND MAP



Basic concepts of development

The basics concept of development under three main categories.

- **Growth and development**.
- **Maturation and learning.**
- **Heredity and Environment**

Growth

- Changes take place in physical aspect
- Can be measured in height,weight,body proportion
- Refers to quantitative changes
- Growth is influenced by Environment,Age,Gender,Health Condition

Development

- On going process
- The process of development is influenced by the following principles : Heredity,Environment,Learning
- Development takes place in the following aspects:

cognitive → social → language → emotional → physical

Growth v/s development

Growth	Development
Is quantitative in nature	Is qualitative in nature
Refers to physical aspect	Refers to all aspects of physical , cognitive, language , social, emotion etc.
Limited to height and weight	Refers to all changes leading towards maturity
Stops at a certain period of time	Continues throughout life

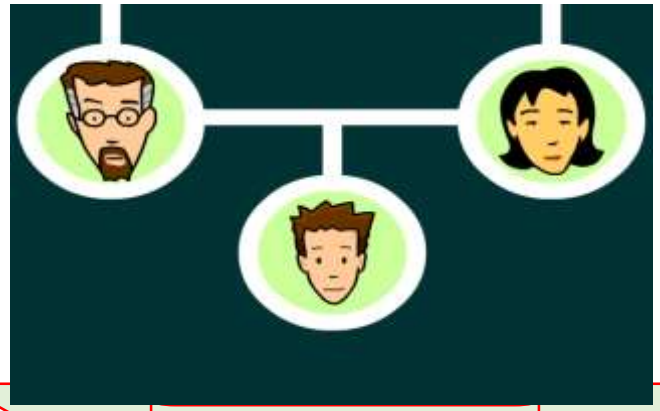
Maturation v/s learning

Maturation and learning work together to promote the development of an individual.

Maturation	Learning
Growing to full potential	Acquiring new skills due to environmental stimulation and training
Occurs at appropriate time(internal organs mature with time and nourishment	Happens at correct time with training and practice
Shift is from inability to ability	Shift is from ability to perfection

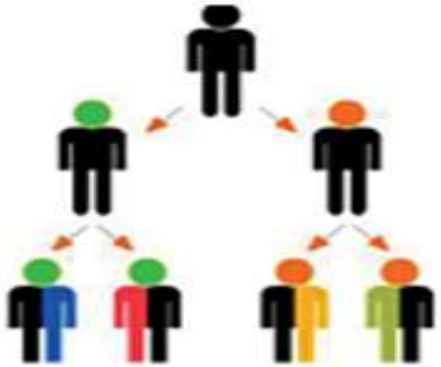
Heredity

Heredity is what a person is born with



Heredity

Basis for development of personality and other innate traits



Due to specific combination of genes

Environment

includes all aspects of surrounding

influences the development of individual

potential determined by genes are governed by environment factors

Individual Differences

- The influence of heredity and environment on the development of an individual has very significant role.
- The individual's personality is the product of both heredity and environment.
- In some cases heredity may overpower development.
- In certain other cases environment may very strongly influence growth and development.

Embrace
The power within you!

Heredity v/s Environment

Heredity	Environment
Traits acquired from parents and grandparents	Includes all aspects of the surroundings which influence development of an individual
Basis for the development of human personality	It could be friends, workplace, neighbourhood etc.
From a specific combination of genes	Chance has to be given to explore their potential.
The individual capabilities/potential are determined by heredity	Depends on opportunities in the environment

Principles of development

The various principles of development are

- Development involves change
- Development follows a fixed pattern
- Development proceeds from general to specific
- Development is correlated
- Development is predictable
- Development occurs at different rates for different parts of body
- Development proceeds stage by stage
- Early development is more important than later development
- Development is continuous
- There are individual differences in development
- Development is the product of maturation and l

Principles of Development

Involves Change

From the moment of conception to the time of death, the person is undergoing changes. Each year along with increase in a baby's height and weight, its language along with social and emotional skills also increases.

Follows pattern

The development of all human beings follow a similar pattern, similar sequence or direction. Sequential pattern of development can be seen in two directions:
Cephalo-caudal sequence & Proximodistal sequence

Principles of Development

Cephalo-caudal sequence

Cephalo-caudal sequence means that development spreads over the body from head to foot i.e. individual begins to grow from head region down wards. For example a baby first gains control on her head, then she could catch hold of objects, sit, crawl and later she could stand and walk.

Proximodistal sequence

Proximodistal sequence means that the development proceeds from central part of the body towards sides. . For example, babies cut their front teeth before they cut their side ones.

Correlated

The child develops as a unified whole. Each area of development is dependent on the other and thus influences the other developments.

Principles of Development

Proceeds stage by stage

All children pass through these stages of development at or around the age levels suggested for them.

Continuous

From the moment of conception till death the individual is continuously changing. There is no break/discontinuity in development, in some stages development is fast and in some it is slow

General to specific

General activity proceeds to specific activity. For example a 3 month old baby would shake legs and hands when shown a rattle (general) and at 5 months of age it would reach out to hold it in its hand (Specific) .

Principles of Development

Predictable

As development is constant in child, it is possible to predict certain development outcomes at an early age.

Different rate

Development occurs at different rates for different parts of body. Ex; Brain grows by age of 6 to 8 while feet and hand grow till adolosences.

Factors influencing Development

Heredity factors

Environment Factors

Nutrition

A child must be provided with nutrition and balanced diet

Child rearing practices

Parenting style like permissive ,democratic parents affect the development

Early stimulation

A stimulating environment encourages the development of child's heredity potential

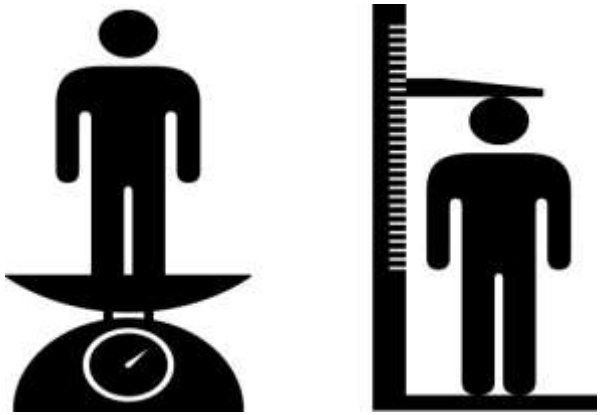
Embrace
The power within you!

Types of Development

Physical

Height & weight

Gross & fine motor skills

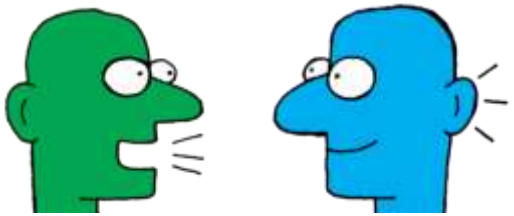


Cognitive

- Thinking
- Problem solving
- Processing skills

Language

- Uses words and symbols to express thoughts, desires and feelings.



Social & Emotional

- Develop social skillslike sharing, cooperation, patience
- Ability to manage emotions

like anger, happiness

Embrace
The power within you!

Physical Development

Infancy

Body Size

- Body size during infancy is measured in terms of height and weight.
- During the first year of life, a baby goes through more changes in his/her body size than at any other time.

Embrace
The power within you!

Physical Development

Infancy

- **Height**:

- An average Indian child at birth measures between 17 to 21 inches.
- At one year 28 to 30 inches.
- At two years the child is 32 to 34 inches tall (almost double his birth length).
- For the first year in the baby's life the length is recorded in lying down position using an instrument known as infantometer .

- **Weight**:

- An average Indian newborn weighs 2.5 to 3.25 kg (5-8 pounds).
- At 4 months baby doubles their birth weight.
- At end of the first year, triple it.
- During the second and third year they gain from 1.25 to 2 kg annually.

Physical Development

Infancy

- **Development of Bones:**

- Bone development consists of growth in bone size and the change in their composition
- Ossification or hardening of the bones mainly takes place during infancy.
- Bones of the babies can be easily deformed because they are soft..

- **Development of Teeth**:

- Teeth start developing in the baby's jaws during the third or fourth month of prenatal life but they don't start appearing until the baby is 5 to 6 months old.
- Then they usually come out at a rate of about one tooth a month until the baby is 2 to 2½ years old.

Physical Development

Early Childhood

Height,Weight,Body proportions

- Growth during the early childhood (2-6years) is not as rapid as it was during infancy.
- Height expected to gain 2 to 2.5 Kg each year and about2 ½ to 3 inches each year
- Body Proportions: Changes in body proportions for different parts of the body vary. The head growth is slow, limb growth is rapid and trunk growth is medium.

Embrace
The power within you!

Physical Development

Early Childhood

Body Build

Differences in the body structure becomes apparent for the first time in early childhood

There are three types of body structure

- ✓ Endomorphic build have a flabby ,fat body build.
- ✓ Mesomorphic or sturdy muscular body build who have a tendency tobe heavy, hard and rectangular
- ✓Ectomorphic build which tends to be long and slender.

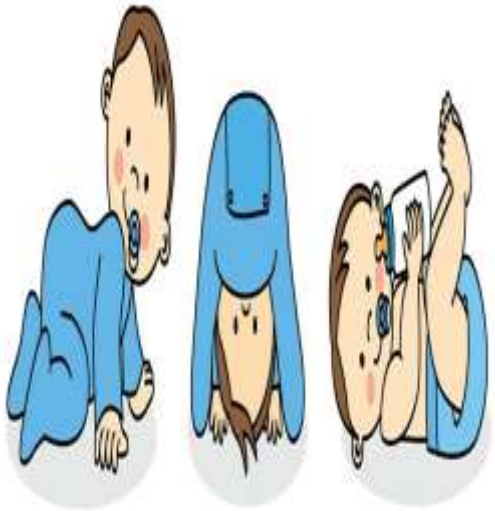
Development of bones during early childhood

The bones ossifies at different rates in different parts of body

Motor development (Muscular)

Gross Motor

Gross motor development refers to control over large muscles



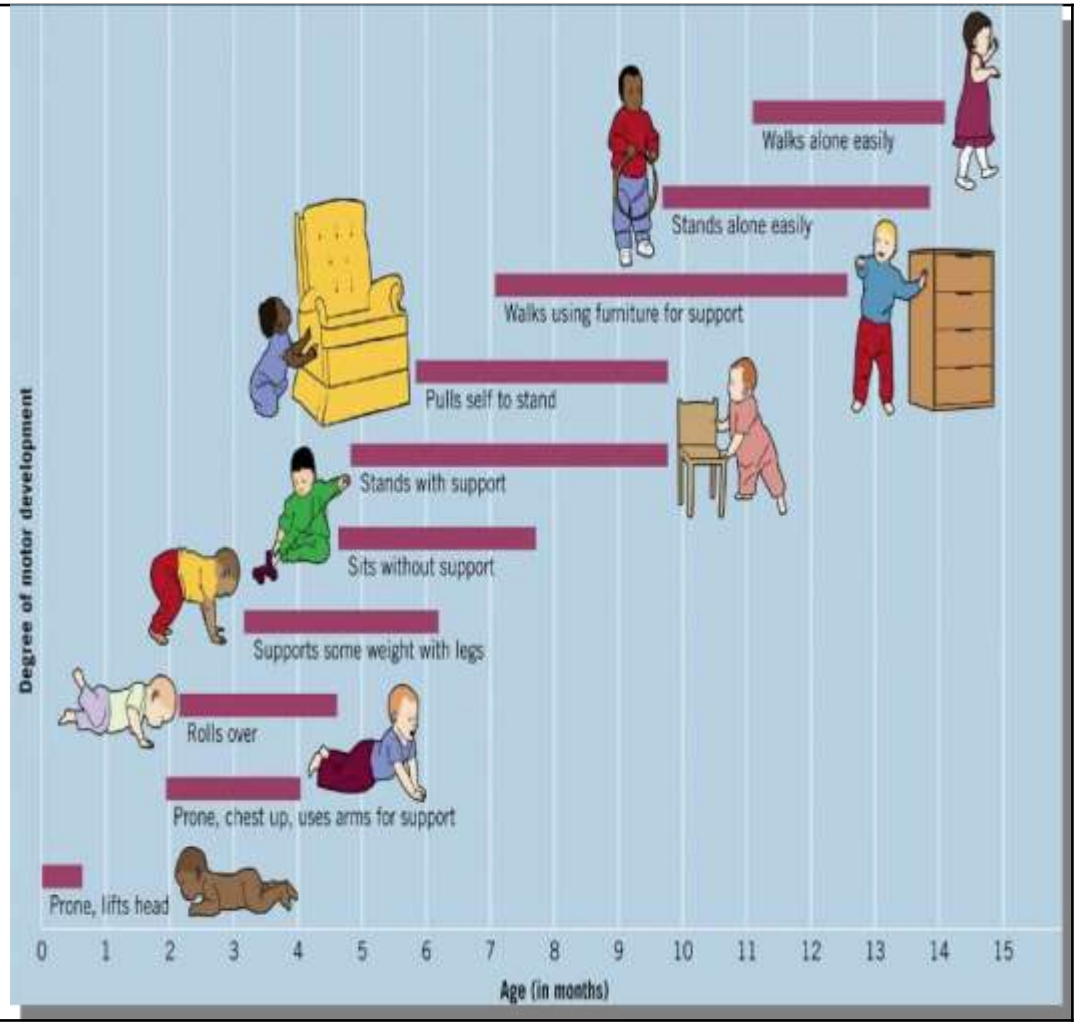
Fine Motor

Fine motor development involves use of small muscles

Embrace
The power within you!

Gross motor development (infancy)

3 Months - Neck holding
5 Months - Sitting with support
8 Months - Sitting without support
9 Months - Standing with support
11 Months - Crawling/creeping
12 Months - Standing without support
12 Months - Walking with support
13 Months - Walking without support
18 Months - Running
24 Months - Climbing staircase
36 Months - Riding tricycle



Embrace
The power within you!

Fine motor development(infancy)

4 Months - Grasping a ring when placed in hand.

5 Months - Reaching out to an object and holding it with both hands

7 Months - Holding objects with crude grasp from palm

9 Months - Holding small objects between index finger and thumb

Gross motor development (Early Childhood)

- ✓ **Running:** By the age of 5 or 6 years, the child is able to run smoothly without any fall.
- ✓ **Jumping:** A child can easily jump by his fourth birthday. The five-year-old has no difficulty in jumping over obstacles.
- ✓ **Skipping and hopping:** Most of the children can skip well at the age of 6 years
- ✓ **Climbing:** Before a child is two years old, he can walk upstairs and downstairs with help, holding the railing of the stairs or the hand of a person
- ✓ **Tri-cycling:** Between 3 and 4 years, can do so.
- ✓ **Ball throwing and catching:** By 6 years, most children become proficient, though there are vast variations in the skill at every age.

Fine motor development (Early Childhood)

Improving eye hand coordination helps to build fine motor skills of the child

Activities like

- Tearing,
- Cutting,
- Pasting,
- Playing with dough or clay,
- Drawing, threading the beads, helps to improve the fine motor

Following are some of the skills which a child can perform by the age of five years:

- Self-feeding, dressing and grooming.
- Handwriting.
- Copying:

Embrace
The power within you!

To Ponder

- Every human being normally has two sets of teeth, the ‘temporary’ or “milk teeth” and the ‘ permanent teeth’.
- There are twenty temporary or milk teeth and thirty two permanent teeth.
- A child gets his/her first complete set of temporary teeth/milk teeth by the age of 3 years.
- At the age of 5-6 years temporary teeth start getting replaced by permanent teeth

Do you Know, that **anger** can be controlled, If you:

- Get some space.
- Think carefully before you say anything take a ‘timeout
- Use humour to release tensions..
- Identify solutions to the situation.
- Practice relaxation skills.
- Get some exercise

Embrace
The power within you!

List of Volunteers
Embrace-NIOS lesson adaptation project
(A community initiative of Harchan Foundation Trust)

Mentors (Volunteers) :Banu Arjun, Hema Bhatia, Indumathi , Kalpana Sankar, Priya Balasubramanian, Renu Goyal, Sowmya Srikumar, Viraja.

Special educator/Parent Volunteers:

Beverly Sujit ,Chantelle Saldana, Gayathri,Haritha Meda,Jaishree Muralidharan, Madhushree Bhat, Meenakshi, Nisha Narayanan, Pavithra, S. Arjun , Savita Sharma Bhardwaj, Sathyabhama Naryanan, Selvarani, Shakkeela Narikkoottungal, Shweta Taneja, Sucharitha Karthik, Suja Varghese, Sunitha R , Rohitesh Sharma , Tinu Anna Sam.

Embrace
The power within you!

Credit Slide

Slide		URL
1	Title slide	https://clipground.com/images/life-stages-clipart-19.jpg
14.	Heredity (traits	https://www.bing.com/images/search?view=detailV2&ccid=mY054y41&id=BF5759A57F36BDFA3428D7847E704369C7DE62F1&thid=OIP.mY054y41RDtlrkjnFnFLmQHaHa&mediaurlhttps://www.sakshieducation.com/TenthClass/StoryImages/BIOLOGY/Heredity2.jpghttps://cdn.brainpop.com/health/geneticsgrowthanddevelopment/heredity/screenshot2.png
13	Factors affecting Development	https://nutrition.org/wp-content/uploads/2017/11/Balanced-Diet-for-Vegetarians.jpg
13	Early stimulation	https://littleonemag.com/wp-content/uploads/2019/07/719I855r4L._SL1500_.jpg
13	Child rearing practices	https://static.vecteezy.com/system/resources/previews/000/299/764/original/set-of-parents-reading-to-children-vector.jpg
17	Process of dev (environment)	http://www.ladybugsdaycare.com.au/wp-content/uploads/2017/02/img_toddler001-1024x681.png
18	emotions	https://www.teachingenglish.org.uk/sites/teacheng/files/images/emoticon_faces_RS7820_ThinkstockPhotos-935941772-low_0.jpg

Embrace
The power within you!

21	**teeth**	**https://www.cbc.ca/kidscbc2/content/the_feed/babyteeth_baby.jpg**
22	Gross motor (Childhood) (infancy)	https://clipground.com/images/motor-skills-clipart-4.png https://drdina.ca/wp-content/uploads/2016/02/baby-milestones-8c.jpg
22	Fine motor (childhood) (infancy)	https://i.pinimg.com/originals/e8/14/64/e814649a11edfe85b0b875ad43059f5a.jpg https://www.hellowonderful.co/wp-content/uploads/2019/03/2019-03-18_0002-735x735.jpg
22	Growth and dev	https://childdevelopmentgrp10.files.wordpress.com/2015/06/imagesk5jal7v0.jpg
23	Gross motor (Main)	https://tlw39.files.wordpress.com/2014/02/h.png

Embrace
The power within you!