



## 18

## CONCEPT OF DEVELOPMENT

Nimrat's parents have brought her new born sister Sufi home today. Nimrat marvelled that although Sufi was so small she was capable of doing many things on her own like breathing, digesting food, conveying her needs etc. Very soon Nimrat noticed that her sister was changing rapidly in many aspects. Let us join Nimrat on this journey. We shall learn about Sufi's growth and development in this lesson.



### OBJECTIVES

After completing this lesson, you will be able to:

- differentiate among basic concepts of human development;
- explain the principles of development;
- state the different types of development;
- recognize the role of heredity and environment in human development;
- distinguish between physical and motor development;
- monitor children's growth and development and assess if age specific milestones are achieved and;
- suggest activities to promote optimal development of children.

### 18.1 BASIC CONCEPTS OF DEVELOPMENT

Nimrat was very excited to watch her sister grow every day. Let us learn more about these changes

#### 18.1.1 Growth and development

Sufi was growing **taller and heavier**. This is known as '**Growth**', which refers



to increase in weight, height (length) and changes in body proportions. Growth takes place in the **physical aspect only**. It refers to quantitative changes e.g. it is possible to measure how tall a child has grown over a specific period of time.

Nimrat saw that over the past few weeks, Sufi had become more alert and responsive. While she was growing physically, she was also showing changes in her behaviour. All these are signs of **development**. In other words, we can say that development involves the processes that are genetically programmed as well as those that are influenced by the environment. Development takes place in **all aspects such as physical, cognitive, language, social, emotional and others**. For example child's increased ability to adjust in groups and make friends is a social aspect of his development.

The term '**development**' refers to qualitative changes in an individual such as change in personality or other mental and emotional aspects. However, very often growth and development are used interchangeably. The process of development continues even after the individual has attained physical maturity (growth). The individual is continuously changing as he/she interacts with the environment.

#### Difference between growth and development

- Growth is quantitative and development is qualitative in nature.
- Growth refers to physical aspects only; whereas development refers to all aspects such as physical, cognitive, language, emotional, social etc.
- Growth is limited to height and weight but development refers to all changes leading towards maturity.

Growth stops at certain period of life but development continues till death.

### 18.1.2. Maturation and Learning

Sufi at 8 months of age followed her mother crawling behind her. This was a moment of great happiness in the family. All the family members clapped for her and hugged her. Do you know why she was able to crawl? It was because her body was mature enough for this activity. This is **Maturation**. It means that the potential traits (for different activities like sitting, crawling, creeping, walking etc.) are present at birth in the individual and are controlled by heredity. This unfolds itself at the appropriate time.

**Acquiring new skills due to environmental stimulation and training** is known as **Learning**. Therefore, the development comes from effort, practice, and training. For example, bicycle riding will be learnt only as a result of effort, practice and training. Therefore, **maturation and learning** work together to promote the development of an individual. Both of these are important and are related to each other.

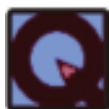


Notes

### 18.1.3 Heredity and Environment

Sufi was born with grey eyes and black hair. She **‘inherited’** the colour of her eyes from her mother and her hair was like her father’s. When we use the term inherited, it means the traits which Sufi has acquired from her parents and grandparents. This is called **Heredity**. It provides the basis for the development of human personality. Heredity is what a person is born with. It is a specific combination of genes we inherit and is shown in characteristics like height and certain habits.

Parents of Nimrat and Sufi were very affectionate to them. They always encouraged them to explore their potential and served as good role models. They provided them with good books to read and toys to play with. **Environment** includes all aspects of the surroundings i.e. human and non-human such as parents, family, friends, school, neighbourhood, work place and socio- economic conditions to which the individual is exposed since birth. These factors influence the development of an individual. The child’s capabilities/potential are determined by heredity. But the extent to which an individual develops these capabilities depends upon the opportunities in the environment. For example, if a child has inherited talent for music, the talent cannot be developed unless the opportunities in the form of training in music are provided. It is therefore important that the children are given a chance to explore their potential and nurture their talent.



#### INTEXT QUESTIONS 18.1

**Rearrange the jumbled words. Find your answers from the clues given below. Justify your answer in one sentence.**

- No one taught me to crawl, but one day I showed my parents that I can do it.  
This is

**RTMUTAAONI** \_\_\_\_\_

\_\_\_\_\_

- I have learnt to make new friends, it refers to the term

**NPDEETEOMVL** \_\_\_\_\_

\_\_\_\_\_

- I have acquired the skill of skipping because my parents gave me an opportunity to do so

**NRAIELGN** \_\_\_\_\_

\_\_\_\_\_



4. I am becoming taller and heavier and can be measured in centimeters and kilograms.

OTRGHW\_\_\_\_\_

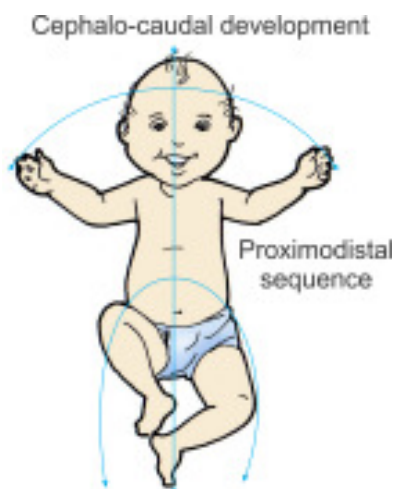


### 18.2 PRINCIPLES OF DEVELOPMENT

Although Nimrat and Sufi are born in the same family but they are not the same. They differ from each other. Yet, all aspects of their development have followed a particular pattern. Development is governed by certain principles which are applicable to all individuals. Let us learn about these principles in this section. The various principles of development are:

1. **Development involves change:** The human being is never static. From the moment of conception to the time of death, the person is undergoing changes. The major changes include changes in size and proportions, acquisition of new mental, motor, and behavioural skills. Each year along with increase in Sufi’s height and weight, her mental abilities also increased. For example Sufi showed language development and better ability to reason and remember.
2. **Development follows a fixed pattern/sequence:** Each child may have a different rate of development. However, the development of all human beings follows a similar pattern, similar sequence or direction. Sequential pattern of development can be seen in two directions:

- (i) **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. Sufi first gained control on her head, then she could catch hold of objects, sit, crawl and later she could stand and walk.
- (ii) **Proximodistal sequence:** means that the development proceeds from central part of the body towards peripheries. In this sequence, the spinal cord of the individual develops first and then outward



development takes place. For example, babies cut their front teeth before they cut their side ones. Functionally, Sufi could use her arms before her hands and use her hands before she could control the movement of her fingers.

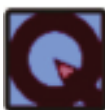
3. **Development proceeds from general to specific:** In all the phases of pre-natal (before birth) development and post-natal (after birth) life, the child's responses are from general to specific. General activity proceeds to specific activity. For example when Sufi was less than 3 months of age and was shown a rattle, she would get excited and move her arms and kick her legs. This is a general response. At 5 months of age she would reach out to hold it in her hand. This is a specific response.
4. **Development is correlated:** All types of developments, i.e. physical, mental, social and emotional, are related to each other e.g. a child, who is physically healthy is likely to have superior sociability and emotional stability. The child develops as a unified whole. Each area of development is **dependent on the other and thus influences** the other developments. Sufi has appropriate weight and height for her age. She also has well developed language ability that enables her to communicate with everyone. She is loved by all and has positive self esteem.
5. **Development is predictable:** Because the rate of development is constant for a child, so it is possible to predict certain development outcomes at an early age. The X-ray of the wrist will predict the approximate height of the child.
6. **Development occurs at different rates for different parts of the body:** The development of different physical and mental traits is continuous but, all parts of the body do not grow at the same rate. In some areas of the body, growth may be rapid while in others, growth will be slow. For example brain attains its full maturity around the age of 6 to 8 years; feet, hands and nose reach their maximum size in early adolescence, whereas heart, liver and digestive system grow during adolescence also.
7. **Development proceeds stage by stage:** The development of the child occurs in different stages. Each stage has certain unique characteristics. There are individual differences in the rate of growth and development. Therefore, the age limit for different stages should be regarded as just approximate. **All children pass through these stages of development at or around the age levels suggested for them.** Speech gradually develops from cooing, babbling, monosyllabic sounds to complete sentence formation.
8. **Early development is more important than later development:** Early childhood experiences have more impact on the development of a child. Examples include nutritional, emotional, social and cultural experiences.



Notes



9. **Development is 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.
10. **There are individual differences in development:** Interaction between heredity and environmental influences leads to individual differences in the developmental pattern. These differences are caused by the genes one inherits and the environmental conditions like food, medical facilities, psychological conditions and learning opportunities.
11. **Development is the product of maturation and learning:** You have already learnt that maturation is unfolding of characteristics potentially present in the individual. For example, creeping, crawling, walking comes with maturation. These characteristics come from individual's genetic inheritance. Learning is the development that comes from efforts and practice. We know that interaction of maturation and learning is important for development. Maturation sets limits to development. It means because of limitation in heredity endowment, development cannot go beyond a certain point even when learning is encouraged. On the other hand, deprivation of learning opportunities also limits development. When environment limits opportunities, children will be unable to reach their potential.

**INTEXT QUESTIONS 18.2**

Tick  the correct answer

1. Children who are taller for their age during early childhood years are taller during adulthood also. By this observation which of the following principle of development is proved.
  - (i) Development is the product of maturation and learning
  - (ii) Development is predictable
  - (iii) Rate of development remains constant
  - (iv) Early development is more important than later development
2. On the whole the sequence in which a child develops, follows two trends. Tick  the correct answer.
  - (i) Learning and Maturation
  - (ii) Constant and correlated

- (iii) Growth and development
  - (iv) Cephalo-caudal and Proximodistal
3. You did not start speaking on the day you were born, instead you developed speech gradually. This is a principle of \_\_\_\_\_.
- (i) development is predictable
  - (ii) development proceeds stage by stage
  - (iii) rate of development remains constant
  - (iv) development is correlated



### 18.3 INDIVIDUAL DIFFERENCES: WHAT IS MORE IMPORTANT, HEREDITY OR ENVIRONMENT?

One day Nimrat observed two children who looked identical. When she asked her mother, she told her that those children were ‘identical twins’ (developed from one zygote that splits and forms two embryos). On interacting with them, Nimrat found that although they have same facial features, they differed in their abilities and behaviour. The mother also explained that some twins may not look exactly alike. This is because they are ‘fraternal twins’ (developed from separate zygote that forms two embryos). The fraternal twins are as similar or different from each other as the siblings born at different points of time like Nimrat and Sufi.

Can you think of reasons for individual differences in pattern of growth, emotional sensitivity and other characteristics? Here comes the interplay of heredity and environment which we have learnt in section 21.1.3.

In studying various developments, it is difficult to separate the relative contribution of heredity and environment. Certain aspects of development may be influenced more strongly by heredity and others by environment in which one is brought up.



#### ACTIVITY 18.1

Observe and write at least two physical features that you share with your mother and father each?

Mother:

1. \_\_\_\_\_
2. \_\_\_\_\_



Father:

1. \_\_\_\_\_
2. \_\_\_\_\_

### 18.4 FACTORS INFLUENCING DEVELOPMENT

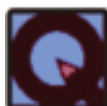
**Both heredity and environment are powerful factors** that influence an individual. While we can do very little about the genetic make-up (heredity) of an individual, the environment can be controlled to make it more favourable for an individual’s growth. A few of the environmental factors affecting development are nutrition, early stimulation and child rearing practices.

**Nutrition:** ‘We are what we eat’ – eating too much or too little – healthy or unhealthy affects our growth and development. Proper nutrition is essential for the healthy development of children in terms of physical and mental attributes (traits). A child must be provided with balanced diet on a regular basis to promote optimal growth and development. Non fulfillment of nutritional needs may lead to several kinds of disorders that affect not only their physical development but mental, social and emotional development as well.

**Early Stimulation:** A stimulating environment encourages the development of the child’s heredity potentials. For example talking to a baby or showing a preschooler pictures in story books, encourages his/her interest in learning words and a desire to learn to read. A stimulating environment encourages good physical and mental development, while an unstimulating environment causes the child’s development to fall below its potential. This factor can be an important reason for a child not to achieve his/her potential.

**Child rearing practices:** Children brought up by permissive parents tend to lack a sense of responsibility, to have poor emotional control and to become under achievers in whatever they undertake. Those brought up by democratic or even firm parents are likely to make better personal and social adjustments.

To sum up, inherited factors interact with environmental influences to determine children’s personality and individual differences in them.



#### INTEXT QUESTIONS 18.3

1. **Mention whether the following statements are true or false. If false correct the statement.**

1. The colour of an individual’s hair is a product of environment.

**True/False**





Notes

2. Good physical and mental development can take place if the child takes good nutrition and his environment is stimulating.

True/False

3. Each child is unique in terms of genetic makeup even if brought up in similar environments.

True/False

4. The best type of child rearing practice followed by parents is permissiveness.

True/False

## 18.5 TYPES OF DEVELOPMENT

We have been talking about development since the beginning of this chapter. All the examples cited above mention some or the other aspects of development. This section highlights the different types of development.

### 18.5.1 Physical development

Sufi has turned two. She enjoys climbing up and down the stairs and uses crayons to scribble on the wall. She is also able to do several other tasks. Now you already know that there is an immense increase in Sufi's abilities. She is not only gaining height and weight but is also able to walk, jump and make use of a spoon as well as crayons. Physical development is the most recognized and observable change in the life of a child. It includes the **gross motor skills**, such as walking, jumping, running, catching and the **fine motor skills** for painting, drawing, doing up buttons, using a spoon and writing. This development is largely dependent upon the child's health and nutritional status.

### 18.5 2. Cognitive development

Sufi like her peers is a very curious child. She keeps exploring her environment to gain more knowledge about it. She loves to play with toys and puzzles and other objects in her environment which increase her cognitive abilities like thinking,



reasoning, problem solving ability and memory development. **Cognitive development** focuses on how children learn and process information. As the children grow in age they can understand their environment by using their senses (seeing, listening, touching, smelling and tasting), registering information in their minds and efficiently retrieving it from their memory.

### 18.5.3. Social and Emotional development

Nimrat and Sufi’s parents and other care givers loved the children and spent adequate time with them. Hence the children feel very secure and show a sense of concern for people around them. These are the indicators of sound social development among children. The seeds of this social behaviour are sown in infancy itself. Young children also enjoy company of their friends. They develop social skills like sharing, cooperation, patience etc. in their interaction with peers and others.

Can you think of the times when you felt happy or sad, excited or angry? These are all different types of emotions. **Emotions** are the stimulated or moved state of mind. **Emotional development** is the ability to control and manage one’s emotions. It is important that children in their early childhood are surrounded by people who are emotionally mature and stable and are able to manage their emotions.



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

- **get some space.** Take a break from the person you are angry with until your frustrations subside a bit.
- **think carefully before you say anything.** Otherwise, you’re likely to say something you’ll regret.



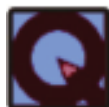
Notes

- **take a ‘timeout.’** Although it may seem cliché, counting to 10 before reacting really can defuse your temper.
- **use humour to release tensions.** Lightening up can help diffuse tension.
- **identify solutions to the situation.** Instead of focusing on what made you mad, work with the person who angered you to resolve the issue at hand.
- **practice relaxation skills.** Learning skills to relax and de-stress can also help control your temper when it may flare up.
- **get some exercise.** Physical activity can provide an outlet for your emotions, especially if you are about to erupt.

### 18.5.4. Language development

Interacting with others is very important for our day to day living. We all interact with each other through various methods of communication i.e writing, speaking, sign language, facial expressions, gestures, and several art forms. **Language** is an important medium of communication. It is a form of communication that uses words and symbols to express thoughts, desires and feelings.

All the developments that you have studied in section 18.5 i.e. physical, cognitive, social, emotional and language, in totality, can be termed as **overall development**



### INTEXT QUESTIONS 18.4

1. Find the suitable words from the jigsaw puzzle below and fill in the blanks in the following sentences.

E	O	V	E	R	A	L	L
M	M	E	K	A	P	T	Z
O	A	P	H	Y	S	I	C
T	B	H	A	E	T	J	O
I	F	Y	S	T	T	A	G
O	H	S	R	T	H	Z	N
N	U	I	T	H	X	Y	I
S	D	C	G	M	C	X	T
M	O	A	H	U	S	W	I
Q	W	L	B	K	Q	S	V
L	A	N	G	U	A	G	E



Notes

1. Listening to a story will enhance a child's \_\_\_\_\_ development.
2. Putting the pieces of puzzle together is a part of \_\_\_\_\_ and \_\_\_\_\_ development.
3. Showing \_\_\_\_\_ is an indication of sound social development.
4. Severe malnutrition will affect \_\_\_\_\_ development.
5. Climbing a tree is a part of \_\_\_\_\_ development.
6. Children can communicate to their elders about their needs through their \_\_\_\_\_.



**ACTIVITY 18.2**

- a) Suppose you are Nimrat, write a letter to your cousin Ranjan to tell her any two aspects of Sufi's development that you enjoyed the most and one aspect of her development that you disliked.

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**18.6 PHYSICAL DEVELOPMENT**

**18.6.1 During Infancy**

We shall discuss the various aspects of physical development in this section.

- **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.



Notes

- Height:** Children of the same age vary greatly in height, but the pattern of growth is similar for all. 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 (Shown in the figure 18.6.1 below). Hence it is said that in first year we measure the length and not the height of the child.
- Weight:** An average Indian newborn weighs 2.5 to 3.25 kg (5-8 pounds). You know what happened after 3-4 days, when Sufi was born? She started losing some weight and her parents immediately took her to the doctor. The doctor told them that this was normal and by 7-10 days she would not only regain her lost weight, but, would also show an increase in her weight. At 4 months, she doubled her birth weight and at the end of the first year, tripled it. During the second and third year, she gained from 1.25 to 2 kg annually.



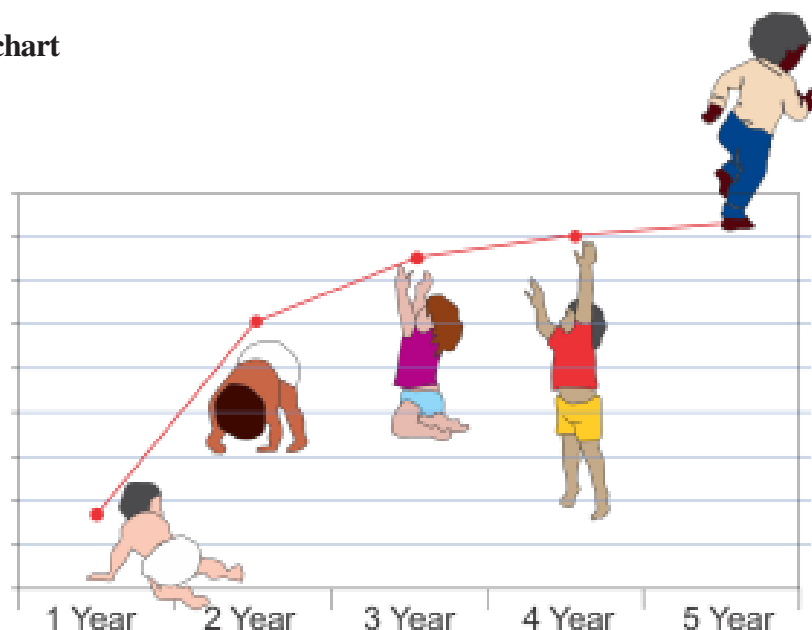
Infantometer



A baby weighing Machine

Fig. 18.6.1 Instruments for measuring a child's length and weight.

Growth chart





Notes

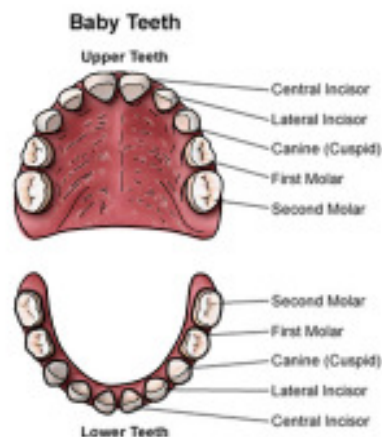
Chart for Girls			Chart for Boys		
Age	Weight(Kg)	Height(cm)	Age	Weight(Kg)	Height(cm)
Birth	3.2	49.9	Birth	3.3	50.5
3 months	5.4	60.2	3 months	6.0	61.1
6 months	7.2	66.6	6 months	7.8	67.8
9 months	8.6	71.1	9 months	9.2	72.3
1 year	9.5	75.0	1 year	10.2	76.1
2 years	11.8	84.5	2 years	12.3	85.6
3 years	14.1	93.9	3 years	14.6	94.9
4 years	16.0	101.6	4 years	16.7	102.9
5 years	17.7	108.4	5 years	18.7	109.9
6 years	19.5	114.6	6 years	20.7	116.1

(Source: [www.amrood.com/baby\\_height\\_weight\\_chart.htm](http://www.amrood.com/baby_height_weight_chart.htm))

- 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. The shape of the head, for example, can be flattened if babies spend most of their sleep time on their back or the chest can be flattened if they sleep too long on their stomachs. Hence it is advisable to change the position of the baby every two – three hours.
- 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.

The order of primary teeth eruption (teething age) is as follows:

- Central incisors (6-12 months)
- Lateral incisors (9-16 months)
- Canines (16-23 months)
- First molars (13-19 months)
- Second molars (22-33 months)





Notes

**Do YOU KNOW?**

- 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.

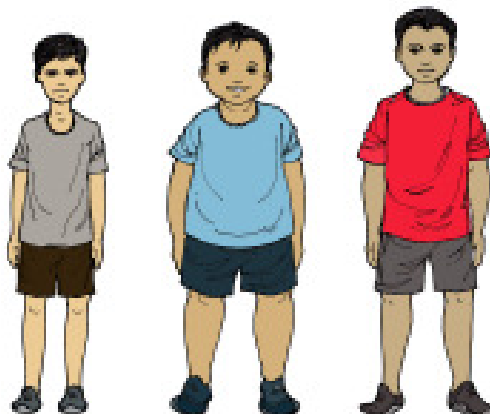
**18.6.2 During Early Childhood Years**

Growth during the early childhood (2-6years) is not as rapid as it was during infancy. During this period children improve on skills such as walking, running, balancing and self-dressing.

- **Height and weight:** Now overall increase in Sufi’s height and weight is slower than it was during infancy. She is expected to gain 2 to 2.5 Kg each year and about 2 ½ to 3 inches each year.
- **Body Proportions:** Sufi’s appearance is now changing to that of a young child. She is now four years of age and her chubby appearance is disappearing. 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. Facial features remain small, but the chin becomes more pronounced and the neck elongates. By the time she will turn six years old, she would start acquiring body proportions of an adult.
- **Body Build:** Differences in the body structure becomes apparent for the first time in early childhood. As body proportions change, children’s bodies begin to take on the characteristics of endomorphic, ectomorphic and mesomorphic body builds.

**Do YOU KNOW?**

There are three types of body structure — Children who have **endomorph**ic build have a flabby, fat body build. Others have a **mesomorph**ic or sturdy muscular body build who have a tendency to be heavy, hard and rectangular; and some have the **ectomorph**ic build which tends to be long and slender.





- **Development of Bones during early childhood:** The bones ossify at different rates in different parts of the body following the laws of development. The muscles become larger, stronger and heavier with a result that children look thinner as early childhood progresses, even though they weigh more.



**ACTIVITY 18.3**

Select at least 10 children from your neighbourhood (5 boys and 5 girls) in 2-4 years age group. Measure their height and weight (with a weighing machine) and compare them with the growth chart provided. Plot a graph to understand the growth pattern of children.



A common way of measuring height



A common way of measuring Weight



**INTEXT QUESTIONS 18.5**

Tick  the correct answer.

1. If Sufi's birth height was 21 inches, by her second birthday she will be \_\_\_\_\_ tall
  - a. 32 inches
  - b. 34 inches
  - c. 42 inches
2. Preeti is seven months old; \_\_\_\_\_ incisors must have erupted in her mouth.
  - a. Central
  - b. Lateral
  - c. First molars





Notes

3. Skills such as running and writing are improved during \_\_\_\_\_.
  - a. babyhood
  - b. infancy
  - c. early childhood
4. Amit was born with a birth weight of 7 pounds, he will be \_\_\_\_\_ by the end of his first birthday.
  - a. 18 pounds
  - b. 14 pounds
  - c. 21 pounds
5. Tanvir and Manvir are 5 years old. The differences in their body builds have become apparent in \_\_\_\_\_.
  - a. infancy
  - b. early childhood
  - c. toddler

## 18.7 MOTOR DEVELOPMENT

### 18.7.1 Infancy

The word *motor* refers to muscular movements. By now we know that Sufi has developed immense control over different muscles of her body. This refers to **Motor development**. It is a voluntary movement of the body or parts of the body. This includes control over gross movements and finer coordination. **Gross motor development** refers to control over large muscles. These muscles help performing

Gross Motor Development during Infancy	Fine Motor Development during Infancy
3 months - Neck holding	4 months - Grasping a rattle/ring when placed in hand
5 months - Sitting with support	5 months - Reaching out to an object and holding it with both hands
8 months - Sitting without support	7 months - Holding objects with crude grasp from palm
9 months - Standing with support	9 months - Holding small objects between index finger and thumb
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	



Notes

functions such as crawling, standing, walking, climbing and running. **Fine motor development** involves the use of small muscles. Holding things like a cup or a crayon, grasping, turning the pages of a book, buttoning and zipping, drawing and writing are all examples of use of small muscles. As children grow, they not only refine the already acquired motor skills but also develop new ones. The most obvious change during the course of infancy is the acquiring of new motor skills, like sitting with support to sitting without support.



**ACTIVITY 18.4**

The following children are able to perform certain activities. Write Yes/No, if you think that these children have reached their milestones at the right age.

S.No.	Activity	Yes/No
1.	Asha is 5 months old, she sits with a support.	
2.	Sufi is eight months, she crawls.	
3.	Anchal does not walk at the age of 2 years	
4.	Rohan can climb stairs at 2 years	
5.	Surinder grasps a rattle at 4 months of age	

**18.7.2 Early Childhood**

**Development of Gross Motor Skills:** During the first four or five years, the child gains control over gross movements. Most of the fundamental motor skills like running, catching, can be performed with greater accuracy than these were performed during infancy. After five years of age, major development takes place in muscular coordination. The following gross motor activities and skills can be observed among the pre-school children:

- **Running:** At first, running is little more difficult than walking. 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. He/she can jump from a height of about 12 inches. The five-year-old has no difficulty in jumping over obstacles.
- **Skipping and hopping:** Skipping and hopping are modifications of jumping. Most of the children can skip well at the age of 6 years if provided opportunity.
- **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.



Notes

The adult manner of step climbing, where the child uses his legs alternately is attained by four years of age, provided that a child has had ample opportunity to learn.

- **Tri-cycling:** By the age of two years, very few children can ride tricycles. Between 3 and 4 years, all who have had opportunity to learn 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. For example at first, the child uses his/her whole body to grasp the ball. Then, he/she uses his arms only. Later he/she can catch the ball between the palms in a perfectly coordinated manner.

**Development of Fine Motor Skills:** As children move into early childhood years, their ability to manipulate the objects or work with hands is still not good. But as they play with small objects and perform activities, their small muscles develop and fine motor skills improve. Improved eye-hand co-ordination also helps in fine motor skills. During early childhood, the activities like tearing, cutting, pasting, playing with dough or clay, drawing, threading the beads, helps to improve the eye hand coordination and motor skills of the child. Following are some of the skills which a child can perform by the age of five years:

- **Self-feeding, dressing and grooming:** By five years, children can feed themselves like an adult, dress completely and comb their hair successfully.
- **Handwriting:** At five years, a child can write his/her name in capital letters. At six years, he/she can write the entire English alphabet if given the opportunity to learn them.
- **Copying:** Between the ages of 2½ and 5 years, most children show improvement in their ability to copy simple geometric figures.



**ACTIVITY 18.5**

Given below are some activities which can enhance two to three year old child's gross and fine motor development. Categorize these into Gross and Fine motor skills. Write them in the space provided.

Running Eating with spoon Climbing the stairs Jumping  
 Building blocks Drawing & colourin Skipping Hopping  
 Scribbling Throwing Tearing and pasting Kicking the ball

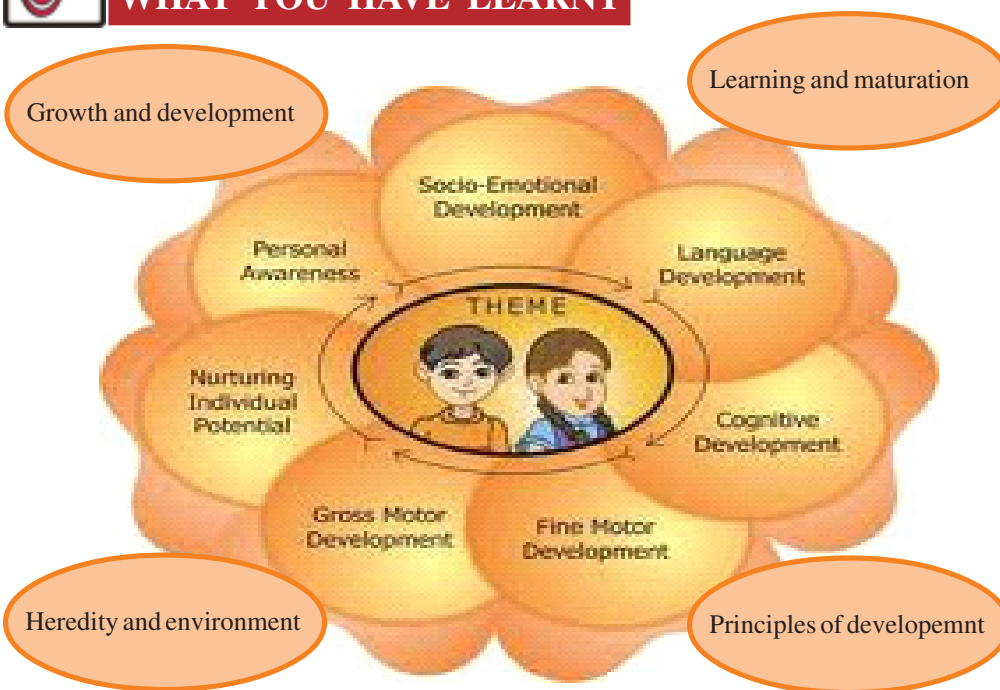


Notes

Gross Motor development	Fine Motor development



**WHAT YOU HAVE LEARNT**



**TERMINAL EXERCISES**

1. Define the following terms and give atleast two differences between them.
  - i. Growth and development,
  - ii. Heredity and environment.



Notes

2. Give four reasons for individual differences amongst children?
3. Good emotional development helps in establishing cordial relationships. Justify the statement in 60 words.
4. Distinguish between physical and motor development.
5. Your friend has bad hand writing. Name the aspect of development in which he is lagging behind? Suggest two activities to help him to improve his hand writing
6. Suppose a child in your locality is not provided with a stimulating environment in his home. Suggest activities which can help in promoting his cognitive development?



## ANSWERS TO INTEXT QUESTIONS

### 18.1

1. Maturation
2. Development
3. Learning
4. Growth

### 18.2

1. (ii); 2. (iv); 3. (ii)

### 18.3

1. False, product of *heredity*.
2. True
3. True
4. False, *democratic* child rearing practice.

### 18.4

1. Language
2. Cognitive and physical
3. Empathy
4. Overall
5. Physical
6. Emotions

### 18.5

1. (c); 2. (a); 3. (c); 4. (c); 5. (b)