Shri Jain Vidya Prasarak Mandal College of Education

Course Name :- Childhood & Growing Up

Topic - Heridity & Environment

PPT Presentation & Lecture –

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Principal

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Heredity :

Heredity is the unique sum of the inherent qualities – physical and mental transmitted to an individual by parents at the moment he conceived.

An offspring inherits most of the personality traits of his parents and forefathers which make him or her resemble to them.

Heredity determines

color of skin, hair,

height, facial features, cleft chins,

joined ear lobes, color of eyes;

psychological traits like intelligence, instincts are also inherited.

Heredity lays the foundation for intellect potential and the abilities of an individual.

Definition of Heredity :

Douglas and Holland in 1947

“ One’s heredity consists of all structures, physical characteristics, functions or capacities derived from parents, other ancestry or species.”

Woodworth:

“Heredity covers all factors that were present in the individual when he began life not at birth but at conception, 9 months before birth”.

Nature of Heredity :

Physical

Psychological

“Heredity points out the native capital and endowment of an individual, the sum total of the traits potentially present in the fertilized ovum at the time of conception”.

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(Ovum cell)

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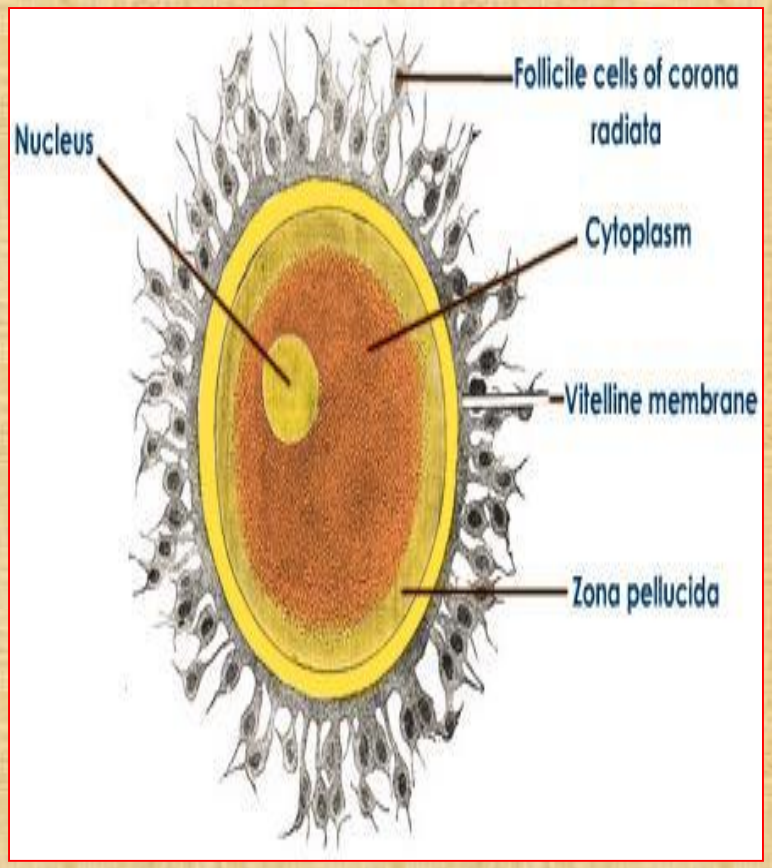
Heg®<e Deb[hesçeer (Sperm



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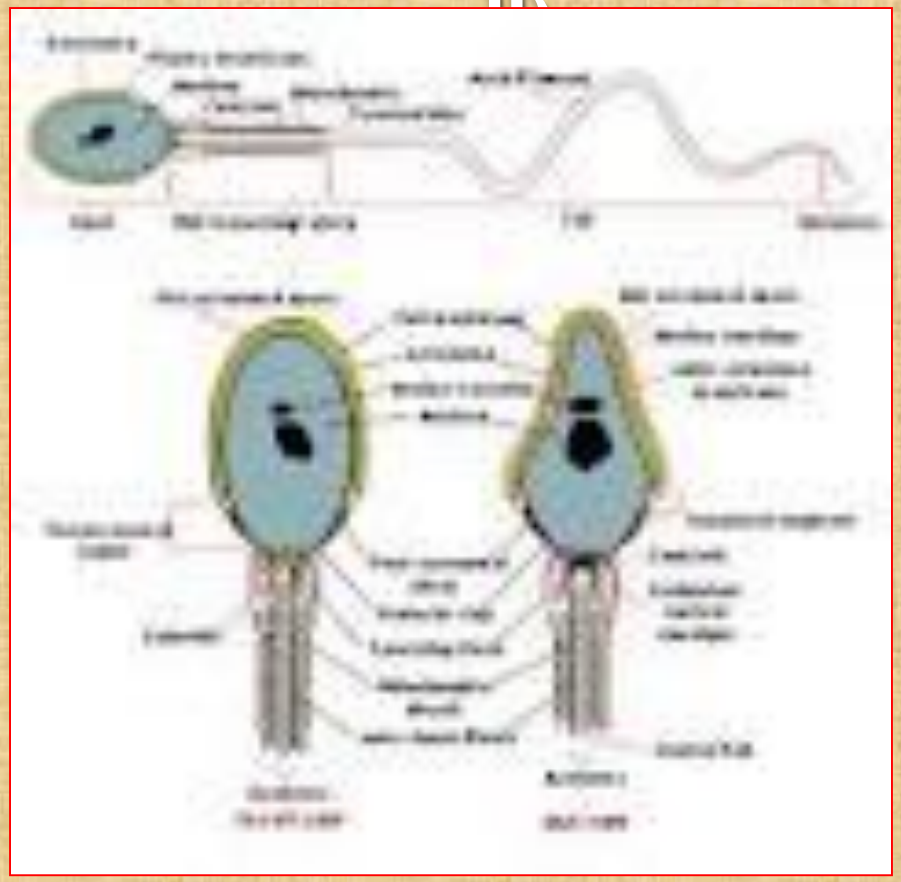
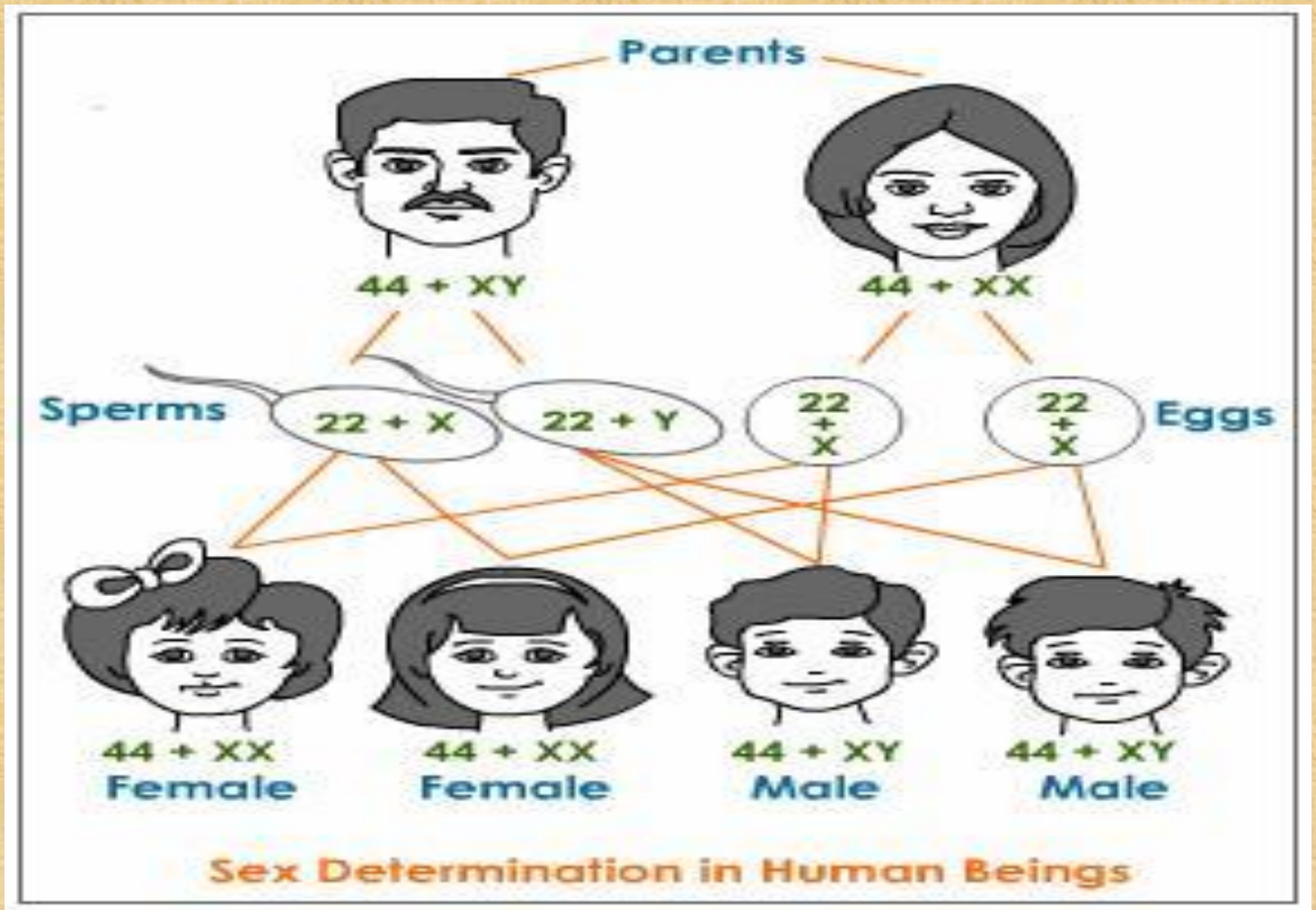
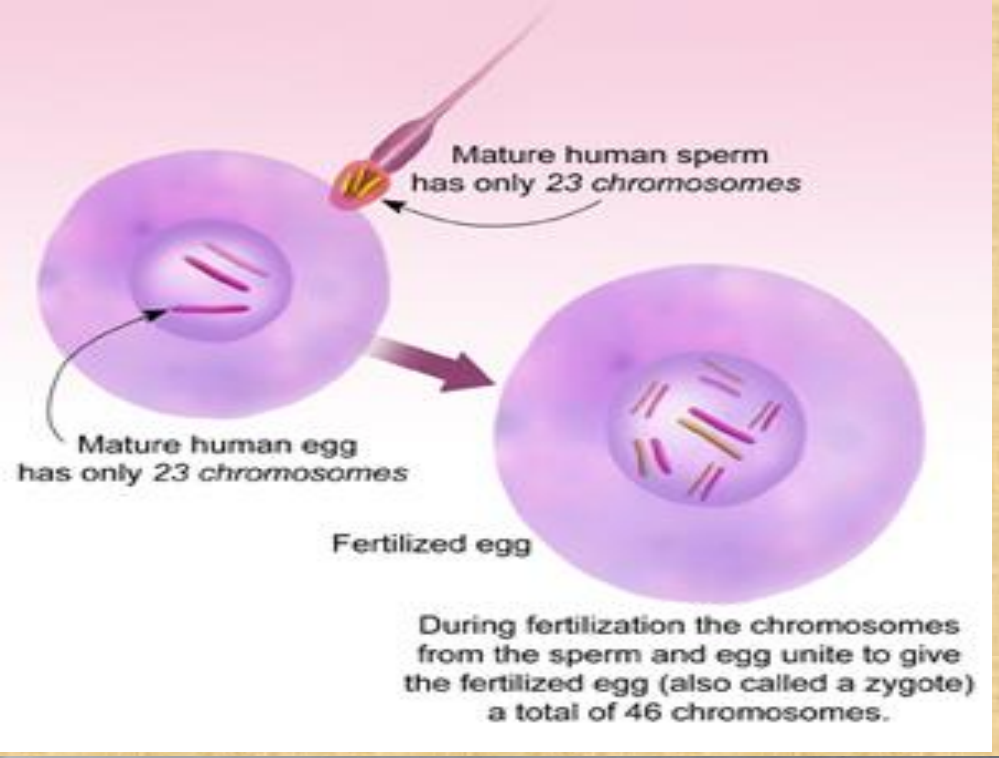



Parents
44 + XY
44 + XX
Sperms
22 + X
22 + Y
22 + X
22 + X
Eggs
44 + XX
Female
44 + XX
Female
44 + XY
Male
44 + XY
Male
Sex Determination in Human Beings

(Zygote)



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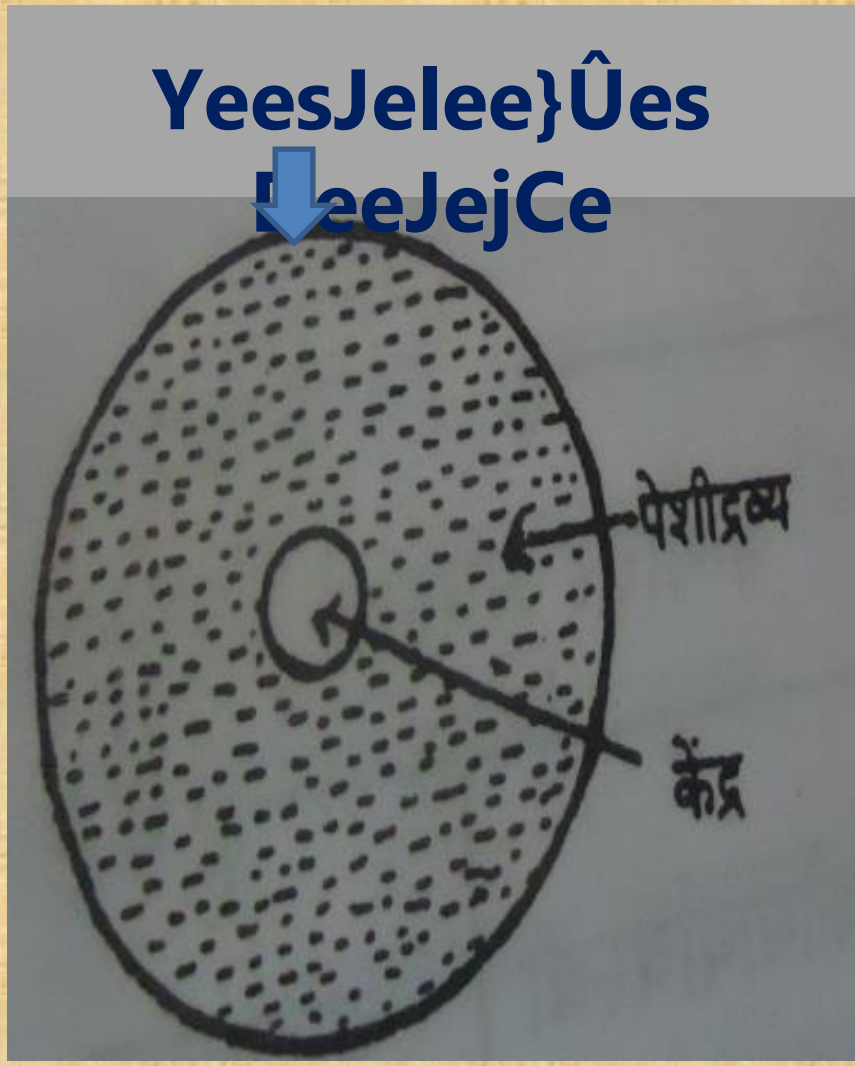

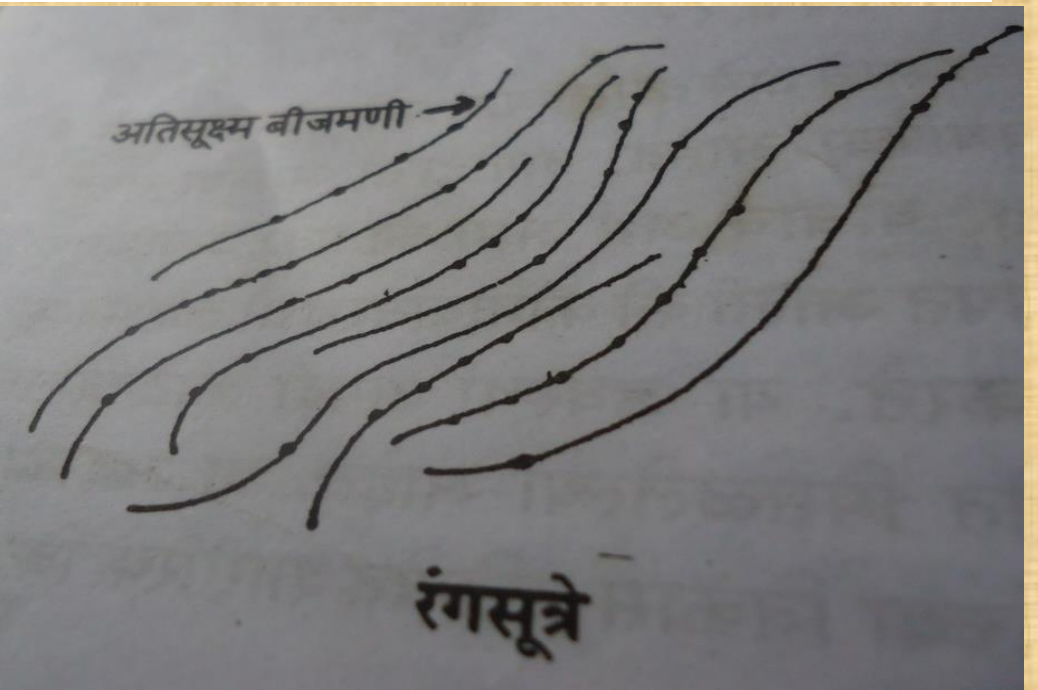

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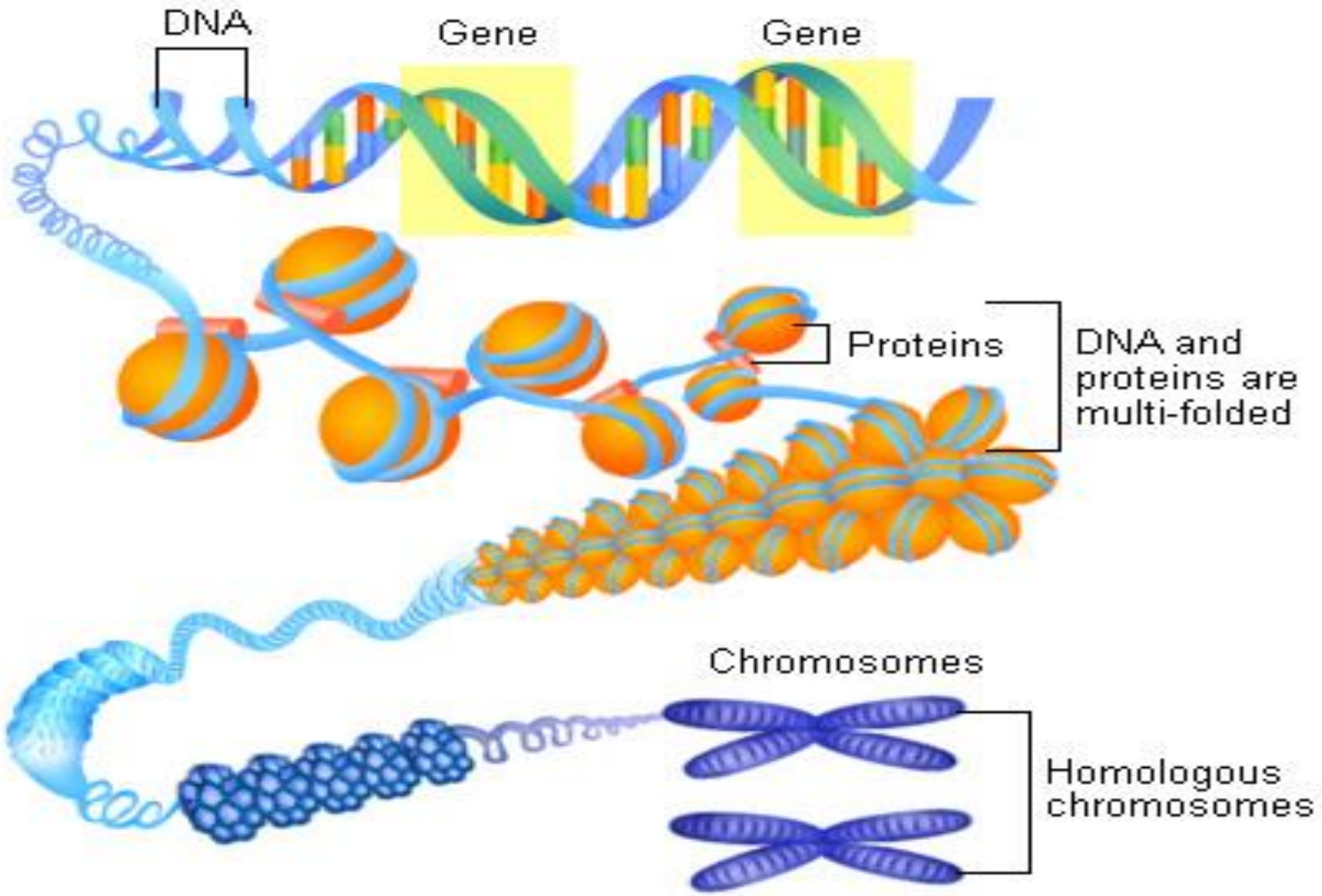
Chromosomes & Genes



Laws of Variation:

The particular combination of genes is unique to each individual. So that no two beings are identical except identical twins. Individual differences prevalent among all.

Laws of regression:

Tendency of species to regress or cluster around the mean. Example: Tall parents may not always have tall children. Sharp variation in traits are an exception, but succeeding generation will tend to the average.

Environment:

Environment is everything, other than heredity, that influences an individual's growth and development. It starts from the period of gestation in the mother's womb and continues till death.

Boring, Langfield and Weld in 1961:

" The Environment is everything that effects the individual except his genes"

Woodworth and Marquis in 1948:

" Environment covers all the outside factors that have acted on the individual since he began life".

Nature of Environment:

1. Internal and
2. External

1. Internal Factors:

The embryo receives nutrition inside the womb of mother.

It includes the various body secretions, hormones etc

External Factors:

A word which describes, in the aggregate, all of the extrinsic(External) forces influences and conditions, which affect the life, nature. Behaviour and the growth , development and maturation of living organisms.

The environment is everything that affects the individual expect his genes.

Importance of Heredity

- As a consequence of heredity a person has different features; which become obvious with the process of development. On the basis of these differences, a teacher can plan his teaching.
- Heredity tells about the in-born abilities of a child which helps a teacher while making a teaching plan.
- Heredity tells about the difference in learning process.
- Heredity provides basic instincts.
- Heredity makes sexual differences between boy and a girl.
- Heredity creates physical differences.

Importance of Environment

•Environment guides in the development process of a child.

•A teacher can understand the environment and then can create such an environment which makes expression possible.

•Teacher can create cultural environment so that students follow the ideals.

•Teacher can create an environment according to the interests, instincts and capabilities of the students.

•A student spends his maximum time in family, neighbourhood and playground. Teacher can give attention to environment and can guide the students.

•Students, emotions also affect the environment of the school. After controlling the environment the school. After controlling the environment controlled emotions can be created among the students. Thus Heredity and Environment has great importance in educating child. Teacher should have knowledge about both of them.

•Importance or Need of Heredity and Environment for a Teacher or in the Child's Education or Role of a Teacher.

Importance of Heredity and Environment

1) Moulding the life and Personality of the Individual –

The foregoing discussion reveals that both heredity and environment have their share in moulding the life and personality of the individual. But as regards the extent of theit influence opinions differ.

2) Responsible for Physical , mental and social traits –

Heredity- responsible for all inborn traits, the instincts, emotions , I.Q. , reflex action and physical traits.

Environment – responsible for the growth and development of the physical , mental and traits .

3) Not opposed to each other –

Both are not opposed to each other , but complementary like seed and soil , ship and current.

Both of these are required for the same purpose.

heredity -raw material out of which is to be prepared

environment in the technique and other material for the manufacture.

4) Interaction of environment and Heredity-

Behavior – determined by interaction of both

Individuality - characterized by some inborn traits inherited by the person.

Environment shapes triats in a proper form, to give opportunities for their unfoldment and fulfilment, and to help making environment.

5) Teacher should- i) acquaint students with their inborn abilities.

ii) create conducive environment for their development

iii) keep individual differences while creating environment

iv) have scientific knowledge of individual differences.

Role of Teacher

Heredity and Environment have great role in education. Thus teacher should have knowledge about these two. Their importance is as under

•Teacher can create conductive environment in the school so that students can learn efficiently. There should be a library, co-curricular activities, direction in studies, laboratories, playgrounds, class rooms etc.

•Their knowledge can be attained in conductive social environment. Thus parents and teachers should help in this direction.

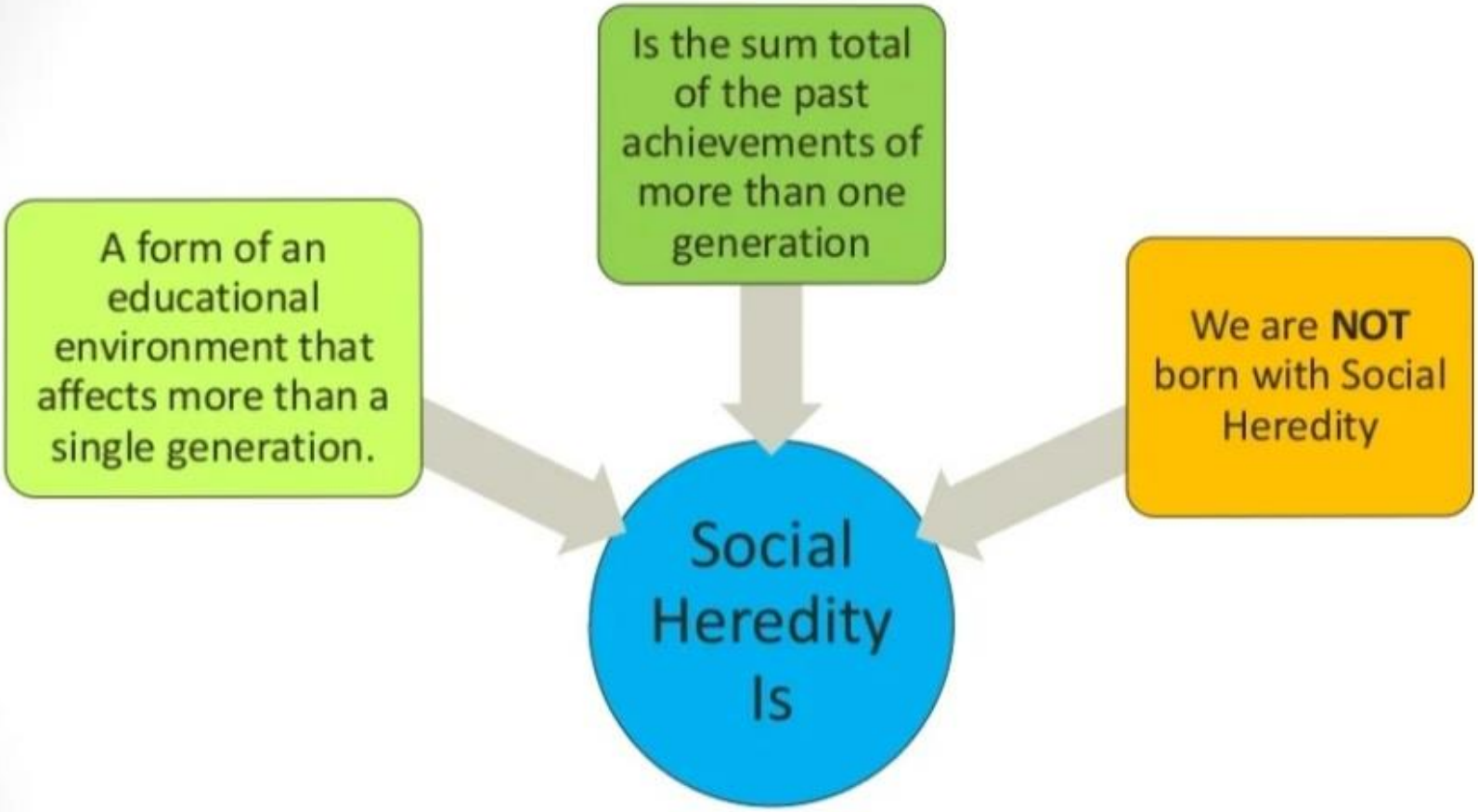
•Modern education is child-centered. Thus children-need educational, professional and individual guidance. This knowledge about heredity and environment is very necessary.

•To understand the individual differences in psychological children, knowledge about heredity and environment is very essential.

•In the class room teacher too can guide students about growth and development but he can do so only when he has knowledge about heredity and environment.

•Parents help is also needed for to make family environment conducive because informal education begins from home.

Social Heredity



It includes Social etiquettes, laws, customs & traditions, mother tongue, system of philosophy, religious books, pictures, work of Art, architectural monuments like The Taj, Qutab Minar, The Ajanta & Ellora caves or social heritage

Social Heredity

Social environment of the school is all the more important. It is also called 'social heredity

Playmates of the child, students of his age- group, class-fellows

- He acquires a number of social traits from them

The society around

- The social heredity is considered to be of high significance for the progress of civilization and culture

Social Environment at home

The social heredity is considered to be of high significance for the progress of civilization and culture

Forbidden Social Enviroment

You Must Score 98%!

Parents Fighting

Ideal Social Environment

HAPPY FAMILY

HAPPY CLASS

Importance of Social Heredity

If a child is surrounded by, good cultural environment, good family background, fine family and social traditions, and has ample opportunity to participate in the social activities, he unfolds his latent capacities, imbibes social culture and develops into a cultured citizen.

The social heredity is considered to be of high significance for the progress of civilization and culture.

Education is sometimes considered to be synonymous with transmission of culture or social heredity.

Importance Of Social heredity

- The importance of Social Heredity is so great that without it man would be quite powerless in spite of all his biologically good traits of intelligence.

- Parents, Teachers & state should be that each child is surrounded with the proper environment so that he might benefit himself by acquiring the social heritage which has been coming down for ages.

Education Implications of Social Heredity

- It is the duty of the teacher to provide a suitable environment in the school for the proper physical, mental and social development of the child

Physical	Mental	Social
• Attractive School, Pleasant comfortable environment	• School must stimulate broad interest	• Social environment of the school is all the more important. It is also called 'social heredity'
• provide enough of space to roam and play	• Provide opportunities for self-analysis	• playmates of the child, and the social environment at home with them he acquires a number of social traits
• Must train the child in aesthetic sensibility	• Provide adequate amount of self-control	• The child comes into contact with the society around, and its civilization and culture. Here he gets knowledge of the laws, customs and traditions of the society descended from generation to generation
• The urban schools without a playground or compound, cramp the individuality of the child	• Affords an opportunity for harmonious growth and development of the mental faculties	

Social Heredity:

Children born from Biological heredity but born into social heredity.

Acquired traits in contra distinction to natural traits obtained through Organic Heredity. As per Professor Conn.

Better environment causes a more complete development of child's potential. This is attributed to social heredity.

Families enjoying education for years give their children a better attitude and aptitude for education.

Ex: Darwin family gave many scientist, Bach family gave many musicians.

"Organic heredity has created the human animal but social heredity has made the modern social man."

"Civilization is passed as heredity from father to child too, and that is social heredity."

Growth is the progressive increase in the size of a child or parts of a child.

Development is progressive acquisition of various skills (abilities) such as head support, speaking, learning, expressing the feelings and relating with other people

Growth and development go together but at different rates.

There are various measurements that are used to measure growth. These are:
weight,
height,
head circumference,
mid upper arm circumference (MUAC)
the eruption of teeth.

each child follows a unique path in growth and development that is laid down from the beginning of life by what he has inherited from both parents.
If a child is genetically determined to be clever, then development will be more rapid.
Unfortunately, many things may change the genetically determined path of growth and development.
These things include, for example, infections, lack of care, psychological trauma, bad education, and malnutrition, to mention just a few.

a) Difference between growth and development :

No.	GROWTH	DEVELOPMENT
1	The term growth is used in purely physical sense. It refers to an increase in size, length, height and weight changes in the qualitative aspects come into the domain of growth.	Development implies overall changes in shape, form or structure resulting in improved working or functioning. It indicates the changes in the quality or character rather than in quantitative aspects.
2	Growth is one of the part of developmental process. On a strict sense development in its quantitative aspect is termed as growth.	Development is a wider and comprehensive term. It refers to overall changes in the individual. Development is one of its parts.
3	Growth describes the changes which takes place in particular aspects of the body and behavior of an organism.	Development describes the changes in the organism as a whole and does list the changes in parts.
4	Growth does not continue throughout life. It stops when maturity has been attained.	Development is a continuous process. It goes from womb to tomb. It does not end with the attainment of maturity.
5	The changes produced by growth are the subject of measurement. They may be quantified.	Development implies improvement in functioning and behavior and hence brings qualitative changes which are difficult to be measured directly. They are assessed through keen observation in behavioral situations.
6	Growth may or may not bring development. A child may grow in terms of weight by becoming fat but this growth may not bring any functional improvement or development.	Development is also possible without growth as we see in the case of some children that they do not gain terms of height, weight or size but they do experience functional improvement or development in physical, social, emotional or intellectual aspects.

Growth	Development
1. Quantitative Concept	1.Quantitative Concept
2. Change in the quantitative aspect come into the domain of growth	2.It indicates the charges in the quality or character rather than in quantitative aspects.
3.The term growth is used in purely physical sense referring to an increase in size, length , height and weight.	3.Development implies overall Change in shake, form or structure resulting in an improved working or function.
4. Growth is one of the parts of developmental process.	4. Development is a wider, and comprehensive term. It refers to overall changes in the individual .
5. Growth described the charge which take places in, particular aspects of the body and behaviours of the organism.	5. Development describes the change in the organism as a whole.
6. Growth does not continue through out life.	6. Development is a continuous process. It goes from womb to tomb. It does not end with the attainment of maturity.
7. The change produced by growth are the Subject of measurement.	
8. They may be quantified and are observable in nature.	

9. Growth may or may not bring development, A child may grow by becoming fat but this growth many not bring any functional improvement or development.	7. Development, as said earlier implies improvement in functioning and behaviour. 8. They may be qualitative charge which are difficult to measured directly. They are assessed through Keen observation in behavioural situations. 9. Development is also possible without growth as in the cases of some children who do not gain in terms of height weight or size but they do experience functional improvement or development in physical, social emotional or intellectual aspects.

Principles of growth and development

Following are the principles of growth and development :

1.Principle of continuity : Human beings are constantly changing. One is not the same today as one way yesterday. A moment later, one will be different from what one is now.

2.Principle of individual difference : Although the human developmental sequence is uniform, the individual rate varies from child to child. The variation in individual development that makes it impossible to predict how an individual will react to a particular stimulus.

3.Principle of uniformity of pattern.

4.Principle of proceeding from general to specific responses: An infant grasps a slender toy by closing all his tiny fingers round it. It is only much later that the more refined finger and thumb manipulations will be employed to perform the same act. Human development thus proceeds from general to specific.

5.Principle of integration – “Development thus involves a movement from the whole to parts and from the parts to the whole” and in this way it is the integration of the whole and its parts as well as the specific and general responses that enables the child to develop satisfactorily in relation to various aspects or dimensions of his personality.

6.Principle of interrelation:- The various aspects or dimensions of one’s growth and development are interrelated.

7.Principle of interaction:- The process of development involves active interaction between the forces within the individuals and the forces belonging to his environment.

8.Principle of cephalocaudal and proximodistal tendencies:- Cephalocaudal and proximodistal tendencies are found to be followed in maintain the orderly sequence and direction of development.

Stages of growth and development

NO.	Period or stages of development	Approximate age
1	Infancy	From birth to 2 years
2	Childhood a) Pre-childhood b) Later childhood	From 3rd year to 12 years From 3rd year to 6 years From 7th year to 12 years or in a strict sense up to the onset of puberty.
3	Adolescence	from 13th year to 19 year or in a strict sense from onset of puberty till the attainment of maturity
4	Adult hood	From 20th year to 60 years or in a strict sense attainment maturity to the age one ceases to produce one's own kind.