# Physical Development
# Principles of growth for all Stages of Development

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|---|---|---|---|---|
| Brain | Cognitive | Embryo | Fat | |
| Fetus | Gross | Movement | Neonate | |
| Nervous | Pimples | Reflexes | | Secular |
| Seven | Six | Small | Ten | |
| | Twelve | Zygote | | |

Human growth and development is based on a combination of genetics and environment. Environmental factors, such as maternal nutrition, stress, diseases, age and use (or nonuse) of cigarettes, alcohol, and drugs, affect development and birth size.

In all stages of development, humans follow four main principles of growth:

**Four Main Principles of Growth**

**From Birth to Age Two**

_____ – from conception to two weeks: This new life has inherited 23 chromosomes from each paent, 46 in all, creating the complex genetic blueprint for every detail of human development the child's sex, hair and eye color, height, and skin tone.

_____ – from two to eight weeks: Foundations of the brain, spinal cord, and nervous system are already established. The heart begins to beat; backbone and muscles are forming; and arms, legs, eyes and ears have begun to show.

_____ – from eight to thirty-eight weeks: Everything is now present that will be found in a fully developed adult. The fetus sleeps, awakens, exercises, turns it's head, opens and closes its mouth.

_____ – from birth to two years: By ten months, the child imitates word sounds and actions. By fourteen months, he understands he can make things happen by his actions. By sixteen months, he enjoys games and songs. By eighteen months, his vocabulary "explodes".

*Prenatal Development (Three Trimesters of 12-Week Periods Each)*

First trimester – This time is most critical in terms of the developing baby's health. The embryo is most susceptible to negative environmental effects. During this time, the development of the central _____ system takes place.

Second trimester – The organism is capable of physal _____. Muscle and bone development begin. Body growth begins, fingers and toes develop, and reflexes, such as sucking and swallowing, are developed.

Third trimester – Growth, especially of the _____, is great in this period, and the fetus can see and hear. Although the lungs are not fully developed until the ninth month, most other systems are well developed.

**Neonatal Dvelopment (Birth to Two Years)**

The newborn (neonate) is a miraculous, unique individual with many impressive features. The baby is born with only a few innate _____, but quickly matures and changes.

At birth, males and females weigh about _____ pounds and average 19 ½ inches long. (This is approximately the weight of a gallon of milk and the length from the elbow to the fingertip.) Males are slightly heavier and larger than females at birth. Physical growth is rapid during the first years of life.

The baby grows ten to _____ inches in the first year. By age two, the child has reached fifty percent of his adult height. The newborn gains an average of an ounce a day. By four months, the weight has doubled; it has tripled by one year and quadrupled by age two. Much of this early weight gain is _____. Fat production slows down after nine months.

In general, infants develop according to the following steps:

- Sit: _____ months
- Creep: eight months
- Crawl: _____months
- Stand: twelve months
- Walk: thirteen months

**Preschool Development (Two to Six Years)**

During this stage, physical growth slows down, but is still very obvious. By age three, the average child weighs thirty two pounds and is thirty-eight inches tall. By the end of this period, at age six, the average child weighs forty-eight pounds and is forty-eight inches tall. Girls are still slightly smaller and shorter than boys.

The child is moving from _____ motor skills (big muscles) to _____motor skills. For example, children can throw a big ball before they can use scissors. Children of this age need much physical activity. Sample activities for children of this age include games such as "Simon says" and songs such as "If You're Happy and You Know It Clap You Hands".

**Middle Childhood Development (Six to Twelve Years)**

During this stage, physical growth is slow but steady. By age twelve, the child is approximately five feet tall and weighs around eighty pounds. Of course, there is much variance in height and weight at this age. Generally, the girls are taller and heavier than the boys by the end of middle childhood. Children refine small muscle and motor skills during this period.

Between ages of six to twelve, the major growth and change is in the_____ domain.

**Adolescent Development (Eleven to Eighteen Years)**

During this period of "raging hormones", there is a two-year difference in growth spurts. Girls experience this growth spurt at approximately age 10 ½ and boys at 12 ½. This growth spurt is asynchronous: the extremities grow before the main parts, such as the feet before the legs and the hands before the arms. This is the cause for the awkward, clumsy stage many adolescents experience. At this time, the oil glands and sweat glands also increase in production, often causing _____.

Big changes are next – the development of sex characteristics. Changes in primary sex characteristics, those directly related to reproduction, occur. Also, it is during this time that secondary sex characteristics (those not necessary for reproduction), such as growth of facial hair and breast development, occur.

An important concept titled "the _____ trend" indicates that physical and sexual changes are occurring at earlier ages than in previous generations.