





# Prenatal Development

## M I L E S T O N E S

Trimester	Period	Weeks	Length and Weight	Major Events
First	Zygote	1		The one-celled zygote multiplies and forms a blastocyst.
		2		The blastocyst burrows into the uterine lining. Structures that feed and protect the developing organism begin to form—amnion, chorion, yolk sac, placenta, and umbilical cord.
	Embryo	3–4	/ inch	A primitive brain and spinal cord appear. Heart, muscles, backbone, ribs, and digestive tract begin to develop.
		5–8	1 inch; 1/8 ounce	Many external body structures (for example, face, arms, legs, toes, fingers) and internal organs form. The sense of touch begins to develop, and the embryo can move.
Second	Fetus	9–12	3 inches; less than 1 ounce	Rapid increase in size begins. Nervous system, organs, and muscles become organized and connected, and new behavioral capacities (kicking, thumb sucking, mouth opening, and rehearsal of breathing) appear. External genitals are well formed, and the fetus's sex is evident.
				
		13–24	12 inches; 1.8 pounds	The fetus continues to enlarge rapidly. In the middle of this period, fetal movements can be felt by the mother. Vernix and lanugo keep the fetus's skin from chapping in the amniotic fluid. All of the neurons that will ever be produced in the brain are present by 24 weeks. Eyes are sensitive to light, and the fetus reacts to sound.
Third				
		25–38	20 inches; 7.5 pounds	The fetus has a chance of survival if born around this time. Size continues to increase. Lungs gradually mature. Rapid brain development causes sensory and behavioral capacities to expand. In the middle of this period, a layer of fat is added under the skin. Antibodies are transmitted from mother to fetus to protect against disease. Most fetuses rotate into an upside-down position in preparation for birth.

Sources: Moore & Persaud, 1998; Nilsson & Hamberger, 1990.