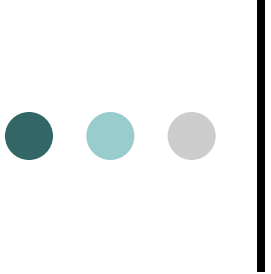
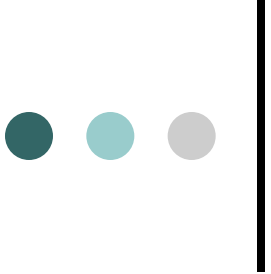


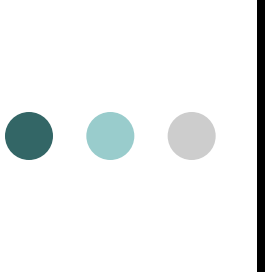


Adolescence: Biosocial Development

- Between ages of 10 & 14, the average girl gains about 38 lbs. & grows 9 5/8 inches.
- Typical boy gains about 42 lbs. and grows 10 inches between ages 12 & 16.
- Growth spurt proceeds from extremities to trunk, making adolescents temporarily big-footed, long-legged, & short-waisted.
- As they mature, they become increasingly dissatisfied with their bodies, especially the girls, some develop [anorexia](#) or bulimia.

- 
- Nutritional requirements during adolescence include a need for additional calories and about 50% more calcium, iron, and zinc than prior to the growth spurt.
 - Because of menstruation, adolescent females also need additional iron in their diets and are more likely to suffer from iron-deficiency anemia.

- 
- Internal organs grow, including the lungs, which triple in weight, and the heart, which doubles in size and slows in rate. These changes give the adolescent increased physical endurance.
 - The lymphoid system, including the tonsils and adenoids, decrease in size, making teenagers < susceptible than children to respiratory ailments.

- 
- During puberty, oil, sweat, and odor glands become more active, producing acne in approximately 90% of boys and 80% of girls and a need for deodorant in most.



Sequence of Puberty

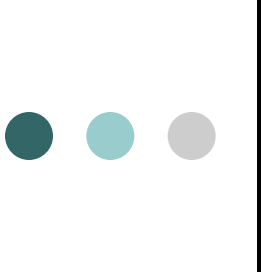
TABLE 14.1 The Sequence of Puberty

Girls	Approximate Average Age*	Boys
Ovaries increase production of estrogen and progesterone [†]	9	
Uterus and vagina begin to grow larger	9½	Testes increase production of testosterone [†]
Breast “bud” stage	10	Testes and scrotum grow larger
Pubic hair begins to appear; weight spurt begins	11	
Peak height spurt	11½	Pubic hair begins to appear
Peak muscle and organ growth (also, hips become noticeably wider)	12	Penis growth begins
Menarche (first menstrual period)	12½	Spermarche (first ejaculation); weight spurt begins
First ovulation	13	Peak height spurt
Voice lowers	14	Peak muscle and organ growth (also, shoulders become noticeably broader)
Final pubic-hair pattern	15	Voice lowers; visible facial hair
Full breast growth	16	
	18	Final pubic-hair pattern



Early vs. Late Maturing

- A daughter's age of menarche correlates with her mother's age of menarche.
- Menarche is also related to body weight with most girls having their first menarche about the time they reach 100 lbs.
- Stocky children tend to experience puberty earlier than those with taller, thinner builds.
- Average age of puberty onset varies among nations & ethnic groups.

- 
- Discuss issues related to early or late maturing.
 - Most experts agree that it is less traumatic if one goes through puberty at about the time as one's closest friends.



Adolescence: Cognitive Development

- Adolescent egocentrism – regard themselves as more socially significant than they actually are (i.e., no one has ever loved so deeply or hurt so badly)
- Invincibility fable – immune to common dangers
- Imaginary audience -- fantasy about how others will react to their appearance & behavior
- Personal fable – a unique or heroic life
- The teen brain: It's not grown-up yet
- Understanding the mysterious teenage brain



Keys for Creating Top High Schools

- Make it tough
- Expect more
- Put parents to work
- Tear down the walls
- Adopt new ways of testing
- Shrink the school
- Close the factory
- Make it real
- Get wired
- Hand over the keys