# **The Endocrine and Reproductive Systems Discussion Guide (for use during or after reading)**

1. What is the endocrine system’s main purpose? (The Endocrine System, p. 4-5)
   1. The endocrine system works to coordinate the many structures and systems in our bodies including cells, tissues, organs, and organ systems. The endocrine system produces chemicals called hormones to adjust and control the body’s activities.
2. What are glands? (Glands, p. 8-9)
   1. Glands are collections of cells that work together to produce and release needed chemicals called hormones throughout the body. Glands are part of the endocrine system and can be found in the digestive system and the reproductive system as well as other places in the body like the brain.
3. Describe the hormone insulin. (Hormones, p. 10-11)
   1. Hormones, including insulin, cause reactions in parts of the body. Insulin produced in the pancreas causes many cells, like muscle and fat cells, to use glucose (sugar) for energy.
4. What physically happens in the body when you experience stress? (Stress, p. 16-17)
   1. When you experience stress, your body is preparing for a burst of action, often to fight or flee. Your heart rate might increase, your hands might feel cold or sweaty, your muscles might tense, and your stomach may feel jittery. All of these things happen because of the hormones released by our endocrine system to deal with the stress.
5. What is the reproductive system’s main purpose? (The Reproductive System, p. 20-21)
   1. The reproductive system allows humans to create more of their own kind. This allows two people with different reproductive systems (one male and one female) to create an offspring.
6. What happens to humans’ bodies when they experience puberty? What specifically happens to females? What specifically happens to males? (Puberty, p. 22-23)
   1. During puberty, hormones flood the blood to encourage certain body parts to grow at a rapid rate. When this happens, though, the hormones can also cause emotions to run wild. Estrogen is released in females. Females also begin producing eggs as part of their monthly menstrual cycle. Males’ sperm develop tails called flagella during puberty.
7. What is fertilization and what happens to an egg cell once it is fertilized? (Reproduction, p. 24-25)
   1. Fertilization occurs when a male sperm cell and a female egg cell join. In humans, this occurs in the fallopian tube. Once fertilized, the egg cell travels to the uterus and attaches to the wall. It grows and divides to develop into an embryo before growing even more. After about 9 months of growing and developing, that single cell is ready to be born as a baby! This process of giving birth is called labor.
8. Where is the growth hormone produced and what does it control? (Growth, p. 26-27)
   1. The growth hormone is produced within the pituitary gland. It controls how and when your bones and muscles grow.
9. What can you do to keep your organ systems healthy? (Change Is Good, p. 28-29)
   1. It is important to eat a balanced diet, exercise, and get enough sleep to keep your organ systems healthy and to support the work of your endocrine system.
10. Which fun fact is the most interesting to you? Why? (Can You Believe It?!, p. 34-35)
    1. Students’ answers will vary.