

AgScience Poultry Science Curriculum
Section 4 – Physiology and Health
Learning Objectives

Without the use of any resources, at the end of the Physiology and Health section you should be able to complete the following learning objectives:

1. Define the terms homeothermic and homeostasis.
2. Define the terms vasoconstriction and vasodilation, and indicate how heat flow from the core through the physiological shell is impacted by these processes.
3. List the 3 thermal insulators that comprise the physiological shell of poultry, and describe how each of the thermal insulators is able to contribute to controlling heat flow.
4. Explain how total heat production and heat production per unit body weight changes as body weight increases.
5. List the body temperatures of young (< 3 weeks) and older chickens, and explain why supplemental heat must be available for young birds.
6. Define the two major categories of thermoregulatory mechanisms.
7. Describe each of the temperature zones to which poultry may be exposed. For each zone, list the thermoregulatory mechanism(s) that may be used, including specific examples.
8. Describe how the range of temperatures in the thermoneutral zone changes as birds age.
9. Describe how insensible heat loss is affected by relative humidity.
10. Describe how the proportion of heat lost by insensible and sensible mechanisms is impacted by environmental temperature.
11. Describe how panting can lead to dehydration, and this may eventually lead to wet litter in a poultry house.
12. Describe how feed and water intake are affected by environmental temperature.
13. Identify disease methods of disease transmission
14. Describe biosecurity: why it is important, common biosecurity practices and how these practices aid in preventing infectious disease transmission.
14. List and define potential disease causing agents.
15. Compare and contrast infectious and non-infectious disease, including the lifecycle of an infectious disease and explain why infectious disease can be so damaging for poultry farms.
16. Discuss acquired and passive immunity: How each is obtained and how prevents/treats illness from pathogens.
17. List commonly used vaccination methods for poultry.

