

**CEC Questions for:
“Wheat, Microbiome and Health: The Science Behind Gut Health and Food Intolerances”**

1. Which of the following most accurately defines the gut microbiome?
 - a. a community of bacterial living in the intestine
 - b. a diverse community of bacteria, archaea, viruses and fungi that can be commensal, symbiotic and pathogenic and live inside the intestines
 - c. an ecological community of microorganisms on the human body
 - d. beneficial bacteria living on the intestinal wall that share food with humans
2. Which of the following are ways that gut microbes contribute to human health?
 - a. generate vitamins
 - b. enhance immune function
 - c. provide fuel to intestinal cells to maintain a protective barrier
 - d. all of the above
3. Which of the following statements is NOT true?
 - a. nutrient-poor diets can result in decreased gut microbiome diversity
 - b. short-chain fatty acids are formed as a result of fiber fermentation
 - c. polyphenols increase pathogenic bacteria in the gut
 - d. high-protein diets reduce beneficial gut bacteria and increase inflammation
4. Which of the following behaviors have been linked to the human microbiome?
 - a. diet
 - b. physical activity
 - c. stress
 - d. all of the above
5. Which of the following is a function of the gut microbiome?
 - a. protection against infection
 - b. digesting dietary fiber

- c. providing nutrients and energy to the human body
 - d. all of the above
6. Which of the following foods provides the largest amount of the prebiotic fibers, inulin and oligofructose, in an American diet?
- a. wheat
 - b. onion
 - c. bananas
 - d. garlic
7. Which of the following bacteria is NOT considered a pathogen?
- a. Escherichia (E. coli)
 - b. Lactobacillus
 - c. Salmonella
 - d. Shigella
8. Which of the following are characteristics of the gut microbiome in someone with inflammatory bowel conditions or Celiac disease?
- a. decreased microbial diversity
 - b. more pathogenic bacteria
 - c. greater risk of opportunistic infections
 - d. all of the above
9. Which of the following foods would be the best choice to promote a healthier gut microbiome?
- a. bacon
 - b. yogurt
 - c. coconut oil
 - d. rice cakes
10. Cruciferous vegetables contain both fiber and polyphenols for gut microbes. Which of the following vegetables is NOT cruciferous?
- a. cauliflower
 - b. broccoli
 - c. carrots
 - d. asparagus
11. Which of the following lunch menus would be most rich in polyphenols?

- a. chicken spinach salad with raspberries, strawberries and vanilla yogurt
 - b. chicken noodle soup with garlic bread
 - c. ranch barbeque chicken wrap with spinach and potato chips
 - d. garlic pesto pasta, chicken, broccoli and milk
12. Which of the following is the polyphenol in cruciferous vegetables associated with positive health outcomes, including reduced cancer risk?
- a. amino acids
 - b. lignans
 - c. glucosinolates
 - d. butyrate
13. Which of the following parts of a grain would be richest in dietary prebiotics and polyphenols?
- a. bran
 - b. germ
 - c. endosperm
 - d. a and b
14. Of the following, which is NOT one of the “P”s known promote a healthy gut microbiome?
- a. probiotics
 - b. phosphorus
 - c. prebiotics
 - d. polyphenols
15. High protein, low carbohydrate diets have been associated with which of the following?
- a. increased production of cancer-causing compounds
 - b. decreased production of the short-chain fatty acid butyrate
 - c. both of the above
 - d. none of the above