

## Quiz 1

The first quiz focuses on information covered in the introductory slides. The 10 multiple choice questions on the quiz will give students a general understanding of why produce safety is important and how food safety can be assured with food. Below is the answer key for the first quiz over introduction to the training module.

Quiz questions for elementary module: QUIZ 1

1) Why is it important for us to eat fruits and vegetables?

- a. Because my parents told me to.
- b. Because they can help keep me healthy and strong.
- c. Because I can't find any other food.
- d. It's not important to eat fruits and vegetables.

Answer: As mentioned early in the training module, fruits and vegetables provide us with nutrients that our body needs to stay healthy.

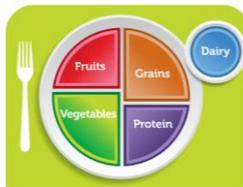
2) What will eating fruits and vegetables help do?

- a. Keep me from getting some diseases when I am older.
- b. Keep me from becoming obese or gaining weight.
- c. Keep important vitamins and minerals in my diet.
- d. All of the above.

Answer: Fruits and vegetables offer many benefits in addition to keeping us healthy and strong. Biochemically, the nutrients, vitamins, and minerals will work in the body and will reduce the chances of various diseases from occurring later in life. Fruits and vegetables are a healthy choice instead of candy. By eating produce items instead, becoming obese is much more unlikely.

3) What is this diagram called?

- a. MyFood.
- b. MyDiagram.
- c. MyPlate.
- d. MyCourse.



Answer: This diagram is called the "MyPlate." This diagram shows each food group, and how much should be consumed per meal.

4) According to the MyPlate diagram, I need to eat \_\_\_\_\_.

- a. More fruits than vegetables
- b. More vegetables than fruits
- c. The same amount of fruits and vegetables
- d. It doesn't matter as long as I eat something

Answer: Even though fruits and vegetables are both important to stay healthy, we should be eating more vegetables than fruits. The MyPlate diagram shows that  $\frac{1}{2}$  of the plate should be focused on fruits and vegetables, but more vegetables should be eaten when looking specifically at fruits and vegetables.

- 5) About what percent of our food should be made up of vegetables according to this diagram?
- a.  $\frac{1}{4}$  of the plate.
  - b.  $\frac{1}{3}$  of the plate.
  - c.  $\frac{1}{2}$  of the plate.
  - d.  $\frac{7}{8}$  of the plate.

Answer: After analyzing the MyPlate diagram, we can see that half of total food eaten should come from fruits and vegetables. The other half should be dedicated to grains and protein (with dairy as a subsection).

- 6) Michael and Laura are eating lunch. They are the same age and are both physically active. Who should eat more produce?
- a. Michael because he's a boy.
  - b. Laura because she's a girl.
  - c. Michael and Laura should eat the same amount of produce.
  - d. Michael because Laura had hash browns (potatoes) for breakfast.

Answer: Nutritional requirements differ depending on the sex of the individual. Men require higher amounts of fruits and vegetables than women at the same age and physical activity level. In this example, Michael would require more fruits and vegetables than Laura.

- 7) What should be done to make sure people don't get sick from eating contaminated fruits and vegetables?
- a. Handle fruits and vegetables properly, by washing hands frequently.
  - b. Wash fruits and vegetables before we eat them.
  - c. Throw away fruits and vegetables that look bad.
  - d. All of these can help make sure people remain healthy and safe.

Answer: All of these steps should be followed to reduce the risks of illness. Many foodborne illnesses occur due to poor personal hygiene. By washing hands frequently, the likelihood of transmitting harmful agents to produce items is much reduced. Rinsing off fruits and vegetables before they are consumed will reduce the chances of having other physical, chemical, or biological hazards on the produce. Throwing away fruits and vegetables that look bad is a good idea. These produce items are more than likely rotten or contaminated. These should not be eaten. Bad fruits and vegetables should be properly thrown away or placed in a designated compost for use at a later time.

8) Sophia grabs an apple out of the fridge and takes a bite. Is this healthy?

- a. Yes, apples make us healthy and strong!
- b. No, apples are too sugary to be healthy.
- c. No, she should have sliced the apple to make sure it was fresh.
- d. No, she should have washed the apple before eating it.

Answer: Even though fruits and vegetables are good for us, we have to make sure to be safe when eating them. In this example, Sophia doesn't know how the apple was handled or where it has been prior to her refrigerator. She should make sure to wash it before eating to reduce any harmful chemicals, debris, or microorganisms that may be on the surface of the apple.

9) Jose's older brother, Miguel, is mad that their mom gave him an extra scoop of vegetables. Should Miguel be mad?

- a. Yes, the boys should have gotten the same amount of vegetables.
- b. Yes, the extra vegetables took the space where he was going to put his dessert.
- c. Yes, Jose should have gotten the extra scoop.
- d. No, Miguel should have more vegetables because he is older.

Answer: As people get older, they require more vegetable intake. In this example, Miguel should not be mad. He is older than Jose, and requires more vegetables at his older age.

10) Why is it important for us to do everything we can to keep the fruits and vegetables safe?

- a. Because we could get in trouble by the teacher if we don't.
- b. Because we don't want to make ourselves or others sick if we don't follow these steps.
- c. Because the fruits and vegetables will look better if we do.
- d. None of the above are very important.

Answer: We have to keep produce safe so we don't make ourselves or others sick. Remember, everybody has different immune systems. Some people will be more sensitive to harmful microorganisms than others (young, elderly, pregnant, immune-compromised). The fruits and vegetables have to be kept safe enough for all immune systems.

## QUIZ 2

### Quiz questions for elementary module: QUIZ 2

1) What are the three things that we can get sick or hurt from in the garden?

- a. From people, fruits, and animals.
- b. From microbial, chemical, and physical hazards.
- c. From water, gloves, and garden tools.
- d. None of these can make people ill or hurt.

Answer: The three main ways to get hurt or sick in the garden are from microbial, chemical, and physical hazards. A few ways microbial illness can occur from are contamination and spoilage of produce. Chemical hazards can result from herbicide and pesticide misuse or improper sanitation. Physical hazards can occur in the garden from improper usage of tools or harmful sharp glass or plastic garbage left or thrown into the garden.

2) Where, besides on the produce itself, can bacteria be found in the garden?

- a. In the soil
- b. In the water
- c. On the tools
- d. All of the above

Answer: Bacteria can be found many places around the garden. It can be found in the soil, in water we use, and on our tools if they are not cleaned properly. When working in and around fresh produce, we have to make sure to clean tools appropriately and make sure the water we in our process is microbially safe for humans.

3) What tool would we have to use to see harmful microorganisms on our food?

- e. Our eyes
- f. A magnifying glass
- g. A microscope
- h. There's no way to see them, but we have to act like they are, just in case.

Answer: Microorganisms are very small, and cannot be seen with just our eyes. We have to use microscopes to see what microorganisms are on our food samples.

4) What are the names of some bacteria that could be harmful to people if eaten?

- a. *Listeria monocytogenes* and *Salmonella*
- b. *Streptococcus thermophiles* and *Brevibacterium linens*

- c. *Acetobacter aceti* and *Vibrio fischeri*
- d. All of the above can cause harm to people.

Answer: From the options above, only *Listeria monocytogenes* and *Salmonella* are harmful to people if they are eaten. *Streptococcus thermophiles* is a bacterium that is used in the production of yogurt, and *Brevibacterium linens* is used to ferment different cheese products. *Acetobacter aceti* is used to produce vinegar, and *Vibrio fischeri* will make aquatic microbes glow when activated. Only option A contains microorganisms that can make people sick if eaten.

- 5) What is the most common and harmful type of virus related to produce?
- a. Influenza virus.
  - b. Norovirus.
  - c. Tobacco Mosaic Virus.
  - d. West Nile Virus.

Answer: The most common type of virus related to produce contamination is Norovirus. It can be transferred from infected people, contaminated water, or from touching contaminated surfaces.

- 6) Which of the following is an example of a parasite that could be harmful if eaten?
- a. *Toxoplasma gondii*.
  - b. *Bacillus cereus*.
  - c. *Listeria monocytogenes*.
  - d. *Escherichia coli*.

Answer: *Toxoplasma gondii* is the only parasite in the options provided. *Bacillus cereus*, *Listeria monocytogenes*, and *Escherichia coli* are all different types of bacteria that can lead to illness if eaten.

- 7) What in the human body helps fight off bad microorganisms?
- a. The nervous system.
  - b. The immune system.
  - c. The pathogen elimination system.
  - d. The body can't fight off bad microorganisms.

Answer: The immune system helps the body fight off harmful microorganisms that may be eaten. Some people have stronger immune systems than others. For this reason, produce has to be made safe enough for even people with the weakest immune systems (young, elderly, pregnant, immune-compromised).

- 8) What can be applied to protect crops from insects or disease-causing organisms, and who should use them?

- a. Pesticides; anyone can use them.
- b. Pesticides; only adults should use them.
- c. Sanitizers; anyone can use them.
- d. Sanitizers; only adults can use them.

Answer: Insecticides should be used to protect produce from insects. Sanitizers should be used on gardening tools and equipment, NOT on the produce itself. These insecticides should only be applied by teachers or approved adults. Students should never apply insecticides.

- 9) What are some physical objects that may be found in the garden and that could hurt you?
- a. Broken glass.
  - b. Sharp sticks and stones.
  - c. Metal fragments.
  - d. All of the above.

Answer: All of the above are possible physical hazards that may be found while gardening. Broken glass, sharp sticks and stones and metal fragments are all physical hazards that can result in cuts or wounds if stepped on or picked up. If students see these hazards in the garden, they should NOT pick them up. Students should tell an adult or instructor so the physical hazard can be removed safely.

- 10) Whose health do we have to worry about when growing produce?
- a. The people eating the produce
  - b. Our own
  - c. Other people who come into contact with the garden or products
  - d. All of the above

Answer: We have to consider the consumer, ourselves, and other individuals that come in contact with fresh produce when growing produce. People have different levels of immune systems, and we have to consider that somebody with a lowered immune system may come in direct contact with the fresh produce. We want to reduce food safety risks when considering everybody that will come in contact with our fresh produce.

### QUIZ 3

The third quiz consists of questions over specific biological, chemical, and physical hazards and how to minimize risks from these hazards. There will also be a few questions covering poor personal hygiene including some related to the two activities about cross-contamination because this is a big concern when handling fresh produce. Please make sure to pause the module at this time until students have completed the quiz. The answers to the third quiz are given below.

- 1) How can drinking from hoses make people sick from fruits and vegetables?
- a. Microorganisms will form more quickly in hoses than in other places.
  - b. Microorganisms from our mouth can transfer to the fruits and vegetables and contaminate them.
  - c. Drinking from hoses can't make people sick.
  - d. None of the above.

Answer: Drinking from hoses can make people sick because harmful microorganisms in our mouth can transfer to the produce. Unintentionally, water can help transfer microorganisms from our mouth to the surrounding soil, or even directly onto the produce. Nobody should ever drink from the hoses that are used on the garden produce.

- 2) Why should fruits and vegetables not be set in soil after taken off the vine?
- a. Contaminated soil can affect fruits and vegetables that were originally safe.
  - b. Dirt and debris with harmful microorganisms can get on the surface of the fruit or vegetable, making us sick.
  - c. Other physical hazards could come in contact with the safe produce.
  - d. All of the above.

Answer: All of the above are reasons why produce should not be placed in soil after being picked. The soil may have already been contaminated. By placing the produce on the soil, it is exposed to potential physical, chemical, and biological hazards.

- 3) Are all microorganisms harmful?
- a. Yes, all microorganisms are harmful.
  - b. No, there are no harmful microorganisms.
  - c. There are some harmful microorganisms, but most will not make us sick.
  - d. There are more microbes than harmful ones.

Answer: Not all microorganisms will cause harm if we eat them. Some microorganisms are used to help make food products, such as cheese and yogurt. There are some harmful microorganisms, but a majority of them will not cause harm or illness if eaten.

- 4) Which of the following is NOT a risk associated with animals in the garden?

- a. Animal's poop.
- b. Spread of microorganisms from paws to fruits and vegetables.
- c. Contamination of soil in the garden.
- d. All of the above are risks associated with animals.

Answer: All of the above are risks with having animals in the garden. Animal poop contains many microorganisms. If the animals poop in the garden, it will contaminate the garden soil, which can result in harmful microorganisms on the produce. The paws on animals are also not regularly washed like our hands are. Paws may have harmful bacteria, viruses, or parasites on them and then transferred to the soil when the animals steps into the garden.

- 5) Where should fruits and vegetables be placed after picked from the vine?
- a. On the ground, outside of the garden.
  - b. On the ground, inside of the garden.
  - c. In a separated bin away from rotten or ruined produce.
  - d. Any of the above are ok locations to place picked fruits and vegetables.

Answer: After picked, produce should never be placed back onto the ground. Placing produce on the ground can result in contamination by physical, chemical, or biological hazards. Storing produce in a clean, separated bin away from rotting or bad produce will reduce the chances of contamination from occurring.

- 6) Why should most produce be rinsed after it has been collected?
- a. Because of potentially harmful microorganisms from the garden.
  - b. Because of potentially harmful microorganisms on your hand.
  - c. Because of potentially harmful microorganisms from gardening tools.
  - d. All of the above.

Answer: Produce should be thoroughly rinsed after collection for all of the above reasons. Harmful microorganisms can be present in the garden (some of them are found naturally). People touch many objects throughout the day. If proper hygienic practices are not followed, students could transfer harmful microorganisms from their hands onto the freshly picked produce.

When gardening tools are not properly sanitized after use, they could have come in contact with chemicals or harmful microorganisms that are in the garden soil.

The chances of physical, chemical, and biological hazards are significantly reduced if produce is rinsed after it has been picked.

- 7) Sam used warm water and soap to wash his hands. He made sure that he rubbed soap on the front and back of his hands and between his fingers for 10-15 seconds; then he rinsed them and dried them with a paper towel. What did Sam do wrong?
- a. He did nothing wrong.
  - b. He should have scrubbed his wrists and arms too.

- c. He should have let them air dry.
- d. He forgot to scrub under his fingernails.

Answer: When washing our hands, we have to make sure to clean hard to reach places, including under our fingernails. When handling fresh produce, we may have harmful microbes under our fingernails without even knowing. By scrubbing under fingernails, we can reduce the risk of cross-contaminating the fresh produce we handle.

- 8) What is the length of time needed for hands to be lathered once soap has been applied?
- a. 3-5 seconds, or about the length of "Hello. My name is \_\_\_\_\_."
  - b. 10-15 seconds, or about the length of the, "Happy Birthday" song.
  - c. 1 minute.
  - d. Place hands under water for as long as you want.

Answer: To properly use soap, it should be lathered for 10-15 seconds. Lathering will allow the antimicrobial properties to get to the hard to reach spots on the hand. Singing, "Happy Birthday" to yourself is an easy way to make sure enough time is spent lathering.

- 9) Fences are a helpful tool for keeping animals out of the garden. What do we have to remember when working around fences?
- a. Wear protective clothing
  - b. Fences are not jungle gyms
  - c. Fences could have sharp objects so we shouldn't touch them.
  - d. All of the above.

Answer: As beneficial as fences can be, they can also be a physical hazard if we are not careful around them. To avoid physical injury, we should wear protective clothing when around them. Additionally, fences are not a toy; to avoid sharp edges, we should not play or touch them while working in the garden.

- 10) How should gardening tools be stored when not in use?
- a. They can be left anywhere.
  - b. Placed in a designated location to avoid physical hazards.
  - c. Leave them the last place they were used to pick fruits or vegetables.
  - d. All of the above.

Answer: Gardening tools must be placed in a designated location when not in use. Fewer physical hazards will occur because students and teachers will be aware of dangerous tools in the area. It is important not to leave tools in the garden, because they will be hard to see and people may step on them. Also, NEVER leave sharp side upward.

## Quiz 4

### Quiz questions for elementary module: QUIZ 4

- 1) What should we do if rotting or damaged fruits and vegetables are found?
- Save them and eat them anyway.
  - Feed them to pets or animals that are around the garden.
  - Separate them from good produce and add them to a compost pile.
  - None of the above.

Answer: If rotten produce is found, it should be set aside and added to a compost for later use. Damaged produce should NOT be saved for eating because it could have harmful microorganisms, in addition to undesired tastes. Rotting fruits and vegetables should not be fed to pets or animals around the garden because the animals could get contaminated and transfer those hazards to the garden soil or produce if exposed to it at a later time.

- 2) What should NOT be done with most fruits and vegetables before storing them?
- Let them sit out for a few hours before storing them.
  - Place by rotting fruits and vegetables so everything is close together.
  - Put them in storage before cleaning.
  - All of the above.

Answer: All of the above are measures that should not be taken when storing produce items. If produce is allowed to sit out for hours before storage, contamination is more likely to occur. Cross-contamination is more likely to occur if rotting produce is placed next to the good fruits and vegetables.

It is important to clean the produce before it is stored to remove any surface microorganisms or chemicals that may have been present from the garden.

- 3) What other surfaces need to be kept clean to keep fruits and vegetables safe?
- Counter tops.
  - Cutting Boards.
  - Refrigerator shelves for refrigerated fruits and vegetables.
  - All of the above.

Answer: All of the above surfaces need to be kept clean to maintain the safety of fruits and vegetables. Counter tops and cutting boards should be washed prior to and after rinsing produce to reduce the chances of cross contamination from fomites or other possible contaminants.

- 4) After washing fruits and vegetables after storage, how should they be dried?
- Rub them with a reusable cloth towel.
  - Air-dry or blot the produce with paper towels.
  - Sun dry the produce items and wipe with a cloth towel.

- d. Any of the above drying methods are preferred.

Answer: Both air-drying and blotting methods are acceptable after washing produce. They should not be rubbed with a reusable cloth towel. After numerous uses, reusable towels can pick up harmful microorganisms and become contaminated. It is important to use one-use paper towels if possible.

- 5) Throughout this video we have talked about several things that help us stay safe while working in the garden. Which of the following is not a way to stay safe?
- a. Wearing gloves
  - b. Washing our hands, the produce, and anything that comes in contact with them
  - c. Not using garden tools as toys.
  - d. Wearing sandals.

Answer: The goal of this training is to make sure we are aware of the different safety hazards associated with fresh produce production and distribution. All of the above examples show ways to minimize food safety risks, except for wearing sandals. Sandals can increase physical and biological risks. We could encounter sharp objects in the garden, which could cause physical pain if we touch them with our bare feet. Also, our feet may contain harmful pathogens, which could cross-contaminate the soil or fresh produce when we come in direct contact with it.

- 6) What will fruits and vegetables look like that are good for eating?
- a. Ripe and free from blemishes.
  - b. Rotting.
  - c. Spotted and cracked.
  - d. None of the above.

Answer: Fruits and vegetables that are good for eating will be fully ripe and have minimal to no blemishes. Bad produce that should not be eaten will be rotting, have spots over the surface, and could have cracks in the skin layer.

- 7) Why do we have to remove bad produce from the garden?
- a. To make sure we are providing a healthy product
  - b. To hide our failures
  - c. To keep the other produce from spoiling
  - d. Both A and C

Answer: We have to make sure to provide healthy products, as well as make sure to prevent additional spoilage from the produce that is currently growing in the garden.

8) What parts of the produce could show damage?

- a. The skin
- b. The inside
- c. The leaves
- d. All of the above

Answer: When evaluating our fresh produce, we are only able to see the surface. We cannot see the inside of the produce item. Similarly, we will be able to see if there is damage to the leaves, but this is not part of our product we are providing for consumption. By evaluating the skin, we can confirm if there is damage to the produce prior to post-harvest practices.

9) Why are fruits and vegetables washed before eating them?

- a. To remove any additional dirt or debris that may be present on the fruit or vegetable after picking.
- b. To remove chemicals that may still be present on the fruits or vegetables.
- c. To remove potentially harmful microorganisms that could still be present on the fruits and vegetables.
- d. All of the above.

Answer: All of the above are reasons that produce is washed before being eaten. By rinsing after storage, any additional dirt or debris will be removed.

Washing produce before storage will also reduce chemical and microbial hazards. If the produce was sprayed with any pesticides or herbicides before being picked, they could still be on the surface of the fruit or vegetable. Rinsing will reduce the likelihood of any potential chemicals that are on the surface of the produce. It will also remove any harmful microorganisms that were still on the surface after storage.

10) How will you know where fruits and vegetables should be stored?

- a. Guess.
- b. Ask your friend.
- c. Ask your teacher.
- d. Don't bother, just leave fruits and vegetables in storage bins next to the garden.

Answer: It is important to ask your teacher where to store produce. Do NOT guess where to put it. Some produce requires refrigeration temperatures for storage, while other fruits and vegetables require room temperature conditions. Your teacher will have information on

where to put the produce to make sure it stays as safe as possible until eaten at a later time.