**Lesson plan**

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| **Lesson Title**  | Food Safety  |
| **Instructor** | Yesenia Alvarez |
| **Suggested grade level/course** | Foods II, High School  |
| **Time suggested** | 90 min  |
| **National Standards addressed:*** State the entire standard, not just the number

**Objectives:*** State the informational and the instructional objective.
* What will students know and be able to do at the end of the lesson?
 | 8.2 Demonstrate food safety and sanitation procedures. 8.2.7 Demonstrate safe food handling and preparation techniques that prevent cross contamination from potentially hazardous foods, raw and ready-to-eat foods, and between animal and fish sources and other food products. The student will define microorganisms, potentially hazardous foods, danger zone and cross contamination. The student will explain methods of transferring microorganisms.The student will give construct a list of potentially hazardous foods they consume on a daily basis.The student will distinguish between the temperatures at which bacteria are dormant, active and killed. The student will produce methods to avoid cross contamination in the kitchens. The student will recite the hand washing method. The student will to integrate methods keep food safe in a variety of environments.  |
| **Strategy and Rationale for the lesson:*** Why are you choosing this activity/strategies?
* How will this strategy help your students be successful with your objectives?
 | Kids tend to emulate their parents actions. In this case, students emulate the food handling practices of their parents. Some of those practices are unsafe and could cause people to get sick. Not only will those kids start cooking for themselves, but for others as well. That means you have not only yourself to worry about but the welfare of others as well. Also, many of the kids in the high school grade levels will be starting to look for employment opportunities. Many fast food restaurants will employ those students. If they are not taught how to handle food properly, or how to wash their hands, they could endanger many lives and cause an epidemic. My strategy is to keep this as real life as possible for them. This effects them!! By keeping it like this they will be interested and find interest in this because they will know how they will use this in the real world.  |
| **Concepts/ideas covered*** List/outline the major concepts/ideas of the lesson. What are the BIG IDEAS?
* Be sure to include CTE, academic, and 21st century knowledge and skills
 | 1. **Microorganisms**: Are very small living organisms and can only be seen with a microscope.
* Ie: Bacteria, viruses, fungi ( molds yeasts)
* Some are **good** ( Used in making bread, beers, wine, soy sauce)
* Some are **bad** ( E. Coli, Salmonella, Campylobacter, Listeria)
* They come from untreated water (rivers, lakes), skin, fur, feathers, bowel, insects, and blood of animals, soil and manures.
* They can come in to the kitchen on raw meats, unwashed fruits and veggies, people’s bodies and on boxes, on unwashed hands, on other animals or insects.
1. **Potentially Hazardous Foods:** Are best explained as the favorite foods of food poisoning microbes.
* Must be kept below 5 C or at above 60 C to prevent the growth of microbes that cause food poisoning.
* **Examples:** Raw meats and cooked meats, cooked rice and pasta, dairy products, seafood, processed fruits and vegetables, processed foods containing egg, beans, nuts, soy beans and foods containing all of the able. Foods high in sugar are usually immune.
1. **The Danger Zone:** The range in temperatures ( above 5 and below 60) in which Microbes that cause food poisoning multiply most quickly on potentially hazardous foods.
* It is important to note that once a food in contaminated, it will be essentially poisoned with the toxin that was produced by microorganism. Cooking it will not take away that poison, but will prevent the microorganisms to continue to multiplying.
1. **Cross Contamination:** Occurs when microbes and dirt from people, raw meat, and raw fruits and vegeables transfer to ready-to-eat foods, on utensils and equipment or throw poor storage practices.
* **Keep cooked food separated from raw food!!!**
* **Keep hot foods hot, cold foods cold.**
1. **The Food Poisoning Chain:** Food poisoning is the end result of a chain of events.
* Can be reduced by washing hands, using clean utensils and covering food. Can also be prevented by cleaning utensils and covering food. Keeping potentially hazardous food at safe temperatures of at or above 60 C and below 5 C.
1. **Hand Washing Technique:**
* **Wet** hands with warm water.
* **Soap** hands.
* **Rub** thoroughly
* **Rinse** in clean water
* **Dry** on single use towel or air dryer

**CTE 21st century skills:** **Problem solving**: Activity attached- Students must work together to brain storm prevention methods. They will do this by **communicating together** and **working as a group.**  |
| **Assessment:*** How will you know students can do the above?
 | Children’s book activity/ comic/ original scenario- The student will make a book for a 5th grader that explains the above concepts. The information must be in their own words and their own illustrations. This will count as their homework.  |
| Materials needed: | 1. Paper/construction paper 3-5 pieces (Depending on how many illustrations the students want to include in their book) folded hamburger style.
2. Markers, pens, pencils to draw/ write their story out.
3. Internet for Skype and for Weebly presentation. (attached as msyeseniaalvarez.weebly.com )
4. Sink, soap, warm water to demonstrate hand washing technique.
5. Cinnamon and cooking oil to demonstrate why warm water is necessary for hand washing.
6. A 5th grade class that is willing to learn about food safety. ( Jackson Elementary)
7. Plastic microphone- skits
8. Three jars of marbles- two different colors in each, but the same colors for each jar. Each jar will contain a different about of each color. One jar will have more of one color, one will have less of a color and one will have an equal amount.
9. Blind fold.(3)
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| **Procedure/activities*** **Please note that if the question “why haven’t I gotten sick yet?” comes up, that question should be ignored or given an I don’t know. The final activity will cover that question.**
1. **The instructor will hand out attached skits to three volunteers: (Skits are as followed but are already made for them)**

**Instructions:** **Ask for three volunteers, if no one volunteers then randomly select one person and ask them to pick two people. Give them each a skit. The radio announcer will read their entire skit before the awesome student #1 & #2 read theirs. Ask the radio announcer to hold the plastic microphone and read the skit. The radio announcer must read the entire skit in front of the class along with the two students. After he/she has read the skit, awesome student # 1 will read one line from their skit and then stop and give awesome student #2 a chance to read their first line. This pattern will continue until each line is read.** **Radio Announcer: Attention!!! Attention!!! This just in: Hospitals report an alarming amount of people are being hospitalized due to an outbreak of the 0157:H7 E. coli strand. Patients are coming in with symptoms ranging from severe cramps to bloody diarrhea. There are currently 50 people being hospitalized at Mercy Hospital and officials predict more to come. No confirmed deaths yet.**  **Awesome student #1:** **First Line: Hey!!! Did you hear that??****Second Line: 50 people have been hospitalized with this E.coli strand.** **Third Line: I don’t think so, I thought I heard it came from like chicken or something.**  **Awesome student #2:** **First Line: No sorry!! I wasn’t paying attention.** **Second Line: E.coli?? Wait 50 people? Is that contagious???** **Third Line: I have no idea. Maybe we’ll talk about it in our foods class today.** **Instructor: Glad you asked!! That is exactly what we will be talking about today.**1. **The instructor will give students an outline for notes. The instructor will let them know what the big concepts are and they choose what information they should put on the other side to support those main ideas.**
2. **The instructor will then start the weebly presentation talking about microbes and how they get into our kitchen. Then the instructor will ask the students to compile a list before heading into the potentially hazardous foods section. The list will be consist of their 10 favorite foods. The students will receive about 2 minutes. They are allowed to discuss with others their favorite foods. Then the instructor will talk about what the definition of potentially hazardous foods are and show them the section on the weebly with the examples. The teacher will then ask the student to take a look at the list and then circle how many of the foods on the list are considered potentially hazardous foods.**
3. **The instructor will then continue with weebly presentation until the temperature of meat section comes up. Then the instructor will have the students make a case on either side (okay to consume/ not okay to consume) if rare is okay to eat.**
4. **The instructor will move on and explain the hand washing technique to the class. Afterwards the class will be asked to count off in fours and will be split into four groups:**
* **Group 1 : Warm water, no paper towels; 10 seconds**
* **Group 2: Warm water and soap, no paper towels- Sing abc song**
* **Group 3: Cold water, no paper towels – 10 seconds**
* **Group 4. Cold water and soap, no paper towels – sing abc song**

**The instructor will give each person a tablespoon of oil and a teaspoon of cinnamon to rub on their hands. The students will be asked to wash their hands according to the group they are in. If a person is in the warm water group for example, that is all they get to wash their hands. No paper towels will be given to prevent the cinnamon that did not come off from being rubbed off. When they are done, they must select one person from their group to stand in front of the class with their hands facing the class. The rest may take a seat and dry their hands. Four students will show their hands to the class and the class will be asked to evaluate which method works best.** 1. **The instructor will then split up the students into equal groups. They will then be given a group worksheet to unscramble (see attached worksheet). Each group will get only 1 worksheet. (PIGS) Their names must be included at the top to get points. The following questions should be added to the worksheet by the students.**
* **What could have been avoided/ prevented?**
* **How could those things be prevented?**
* **What are some of the terms that we covered in class today that apply to this scenario?**
1. **The instructor will give out the homework assignment (children’s book/ comic/ original scenario). The students will have their choice between the above options. They must include at least 3 of the big idea concepts we covered in class, and include a scene that explores how food safety would occur in places other than a kitchen. It must be in their own words, and if they are illustrating it, it must be drawn by the student. Stick figures are acceptable. The original scenario must be their original work, and not a copy and paste from the internet. They can however get their inspiration from it.**
* **Due date: Next class period. ( The beginning)**
* **The link to the weebly will also be available for them so that they can access the notes from a laptop, ipad, smart phone etc. ( msyeseniaalvarez.weebly.com)**
1. **Finally, the instructor will ask the students who volunteered at the beginning of the class come up to the front of the class room. They will each be standing in front of a jar of marbles. They will be blindfolded and asked to retrieve a marble. One color will represent food poisoning and the other will represent luck/ avoidance. The instructor will inform the class that each jar represents life. This will help them realize that they have been lucky that the food they consumed did not get those sick if it had been contaminated at some point or if it was a potentially hazardous food. All three of them could have consumed the same food and maybe only one of them gets sick. Maybe they all do.**
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|  | <http://www.health.state.mn.us/foodsafety/sos/chicken.pdf>[www.yeseniaalvarez.weebly.com](http://www.yeseniaalvarez.weebly.com)  |

Include attachments of any handouts, assessments, and/or powerpoints, etc.