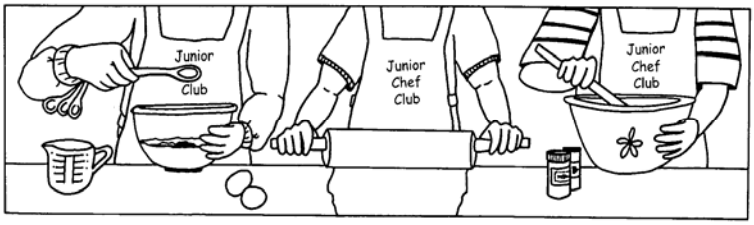

Jr. Chef Club
Delicious Dinners by Jr. Chefs
Lesson 7

MyPyramid.gov
STEPS TO A HEALTHIER YOU

Educator Information
Preparing to Teach the Lesson

Meat and Bean Group
The Meat and Bean Group is represented by the rather narrow, purple triangle on MyPyramid. Foods in this group provide protein. Protein is necessary for the growth and maintenance of all body tissues. In addition, protein is necessary for the production hormones, antibodies and other important compounds.

Foods in this group include meat, fish, chicken, legumes, eggs, nuts, nut butters, and seeds. Proteins from animal sources are complete, high-quality proteins, making it easy to satisfy one's protein needs with small portions. Proteins from plants are different. They can still satisfy one's protein needs, but no one plant food contains all of the amino acids that make a complete protein, as in animal foods. Amino acids are tiny components of protein. Proteins from plant sources are low or lacking in one or more amino acids. Because of this, a person needs to consume a variety of plant-based foods to get all the amino acids needed for a complete protein. For instance, grains lack a particular amino acid but legumes are rich in that particular amino acid. Consuming a dish made with beans and grains will make a complete and high-quality protein. Because of the body's ability to retain amino acids in its "amino acid pool" it is not necessary to eat these two complementary foods together at the same meal or even in the same day. However, it is often tasty to do so. Legumes are "complemented" by grain foods. Think of the natural combinations: beans in a tortilla, bean and rice dishes, tofu (from soybeans) and rice; many cultures around the world naturally combine these two foods to form a "complementary protein."

Legumes include all types of dry beans, such as pinto beans used in refried beans, black beans, garbanzo beans, kidney beans, white beans, and so on, plus split peas and lentils.

The "refried" beans in today's Jr. Chef burritos are not actually refried. They either contain no fat, or a small amount of vegetable oil. Traditional refried beans are made with cooked pinto beans. The beans are then mashed and fried in a skillet with lard to make refried beans; the cornerstone of many Mexican and Hispanic recipes.

How Much Protein?
Children ages 9–13 need about 5–6 ounces of protein each day. A cooked chicken breast weighing 3 ounces is the size of a deck of cards, a typical cooked hamburger patty is 3 ounces. The following each count as ONE ounce of protein according to the 2005 U.S. Dietary Guidelines:

- One ounce of lean meat, poultry or fish
  NOTE: Most servings are 3 ounces or more
- 1/4 cup cooked legumes (dry beans, lentils, split peas) or tofu
- 1 egg
- 1 Tablespoon peanut butter
- 1/2 ounce nuts or seeds

You may notice that the recommendation for grains is also 5–6 ounces, yet the orange Grain Group triangle is considerably larger than the purple Meat and Beans Group triangle on MyPyramid. This difference is related to volume or actual size of a serving; 5–6 ounces of pasta, bread or cereal take up quite a bit more room (volume) than 5–6 ounces of protein foods.

The slogan in this food group is "Go Lean with Protein" to encourage consumers to choose lean sources of protein and prepare them without added fat. Some tips for lean protein choices:

- Choose lean cuts of meat
- Trim all fat from meat, drain fat after cooking
- Remove skin from poultry after cooking
- Bake, grill or broil meats, rather than fry
- Eat fish often. It's naturally low in saturated fat and some types, such as salmon and tuna are good sources of healthy fats
- Use beans (naturally low in fat) as a protein source several times a week.

NOTE: This information may be beyond a 3–4th grade level of interest, so may be minimized when taught.

Food Safety—Cooking Meat, Poultry and Fish to Proper Temperatures
The following section is from the U.S.D.A. Food Safety & Inspection Service
http://www.fsis.usda.gov/Fact_Sheets/Doneness_Versus_Safety/index.asp

Cooking: A Critical Control Point
Food safety experts agree that foods are properly cooked when they are heated for a long enough time, and at a high enough temperature, to kill the harmful bacteria that cause food borne illness. How can you tell if food has been heated thoroughly? The only accurate way is to use a food thermometer, which measures the internal temperature of cooked meat and poultry. There are some foods, such as poultry, that will give visual signs of "doneness," but other foods, such as ground beef, will not.

What Is "Done"?
Webster's dictionary defines "doneness" as *the condition of being cooked to the*

desired degree. While food safety experts stress the internal temperature that ensures destruction of pathogens in food, "doneness" reflects subjective qualities such as the appearance, texture, and optimum flavor of a food. Recent research has shown that these indicators are not reliable for safety. Only a food thermometer can be relied upon to accurately ensure bacterial destruction. Visual signs of doneness should be reserved for situations in which doneness is reached after the food has reached a safe temperature.

What is "Safe"?

Poultry
Poultry will generally reach a safe temperature (160 °F) before it is "done." At 160 °F, pathogenic bacteria have been destroyed, but poultry will still be pink and raw looking near the bone and the juices will be pink and/or cloudy. By 170 °F for white meat and 180 °F for dark meat, the flesh of poultry will no longer be pink and the juices will be clear. With whole chickens and turkeys, the joints will move easily.

Although a whole chicken or turkey and poultry parts will visually indicate that they have been thoroughly cooked, stuffed poultry will not. There is no way that a consumer can tell by the juices, the tenderness or color of the flesh, or even by wiggling a drumstick if the center of the stuffing has reached 165 °F. Only by verifying the internal temperature of both the bird and the stuffing with a food thermometer can a consumer be sure the product has been thoroughly cooked.

Beef
Beef roasts cooked to 160 °F will generally have very little pinkness to the meat, and the juices will not be pink or red. Below the temperature of 160 °F, the center of the roast will be pink or red, depending on the internal temperature. A beef roast cooked to 145 °F in the center can be considered safe since the exterior of the roast would have reached a temperature high enough to destroy bacteria, unless it is a rolled roast or one that has been mechanically tenderized. A consumer would not be able to determine if a roast that was pink in the center had reached the safe temperature of 145 °F without a food thermometer.

Pork
Pork roast is safe when cooked to 160 °F even though the center of the roast may be somewhat pink. Pork chops may have just a trace of pink color at this temperature. Again, a consumer would not be able to determine visually if a pork roast that was pink in the center had reached a safe temperature.

Ground Meat and Poultry
Research indicates that the color of the meat and the color of the juices are not accurate indicators of doneness. Ground beef may turn brown before it has reached a temperature at which bacteria are destroyed. A consumer preparing hamburger patties and depending on visual signs to determine safety by using

the brown color as an indicator is taking a chance that pathogenic microorganisms may survive. A hamburger cooked to 160 °F, measured with a food thermometer throughout the patty, is safe, regardless of color.

Combination Dishes
Casseroles and other combination dishes must be cooked to 165 °F as measured with a food thermometer. These dishes are traditionally composed of cooked foods and then heated to combine flavors. Pathogenic bacteria could survive, however, if the meat or poultry component of a casserole was merely "browned" and the casserole was not subsequently heated thoroughly, especially if the dish was assembled in advance and refrigerated. These dishes display no visible signs of doneness. The visual descriptor "until hot and steamy" is difficult to verify. Only by using a food thermometer could a consumer be sure it had been heated to a safe temperature.

No More Guesswork
Using an accurate food thermometer takes the guesswork out of cooking. No more cutting into your turkey or beef roast to see if it looks done. Simply place the food thermometer into the food and it will indicate the temperature the food has reached. You'll know if it needs to cook a few minutes more or if it is finished. This is especially helpful with combination dishes such as lasagna or egg casseroles that may brown on the top before they heat through.

By using a food thermometer on a regular basis, consumers can be assured that the food they cook is "done" as well as safe. The website cited above has much more food safety information, as well as information on the Thermy™ Campaign. Thermy™ is a characterized thermometer that says "It's safe to bite when the temperature is right." A Thermy™ poster with proper temperatures is included in the Lesson 7 file.

Many families, especially limited-income families do not have a food thermometer in their homes. So even though appearance is not a 100 percent indication that a safe cooking temperature has been reached, it may be helpful to share with the students what to look for, but emphasizing that a food thermometer is the only way to be sure that any potentially harmful bacteria in food has been destroyed. Use these visual guidelines:

- Cook ground beef until it is brown inside, and juices run clear (160° F). No pink hamburgers! Use a meat thermometer to be sure.
- Cook fish until it is opaque and flakes easily with fork (160° F).
- Cook chicken and turkey until juices run clear (170° F for breasts, 180° F for all other body parts).

Planning a Complete Meal
A complete meal contains at least one food from each food group, preferably from the base of each food group. Eating foods from each food group ensure

that the body gets all the vitamins, minerals, special nutrients and fiber needed for optimum health.

Careers in the Food Industry

Explore careers in Culinary Arts and Food Science at the Vocation Information Center: http://www.khake.com/page30.html. The site is easy to use with nearly 80 job descriptions, which include information such as daily activities, skill requirements, salary and training required. You may wish to have students use their "Jobs in the Food Industry" worksheet that appears in the cookbook as a starting point to look up additional information about certain jobs at this website.