LESSON PLAN by: Tyler Wolfe

Adapted From: Activities for Teaching Science as Inquiry: sixth edition

Lesson: What is starch and how can we test for it? Length: 30 minutes

Age or Grade intended: 6th

Academic Standard(s):
6.2.5- Organize information in simple tables and graphs and identify relationships they reveal. Use tables and graphs as examples of evidence for explanations when writing essays or writing about lab work, fieldwork, etc.
6.2.6- Read simple tables and graphs produced by others and describe in words what they show.
6.2.8- Analyze and interpret a given set of findings, demonstrating that there may be more than one good way to do so.

Performance Objectives:
1) Students will explain which foods are high/low in starch with 100% accuracy.
2) Students will record their results in detail to get credit for completion.

Advanced Preparation by the Teacher: The teacher needs to have previously done the experiment to know the outcomes before the class does it. By doing this the teacher can have prepared questions for the class since he/she already knows the outcome. The teacher also has to have the materials ready for the class so that the activity can run smoothly. The teacher needs to have knowledge of what starch is and its purpose in the body. The teacher also needs to make a recording sheet for the students to record the change in color of each food.

Materials: paper plates, dropper, thin slices of: banana/apple/potato/white bread/cheese/egg white/butter/cracker, cornstarch, granulated sugar, iodine solution

Procedure

Introduction: Ask the students "who here likes food?" Then tell them that "today we are going to look at one of the nutrients that are in the food you eat." Ask the students if anyone knows what a nutrient is. Explain to them that a nutrient is something that helps your body grow and stay healthy. Then tell them that we will be focusing on the nutrient Starch. Ask them if anyone knows what starch does? Explain that starch is a nutrient that is broken down during digestion and made into glucose which provides energy for the cells that are in your body. Then explain that today we will be doing an experiment that will let us know how much starch is in certain foods we eat. Ask if anyone knows how we can find this out? Explain that you will be handing out pieces of food on a plate and that each group will receive a small amount of iodine and a dropper. Let the students know to be very careful with the iodine because it can be very harmful. Tell the students that they will be recording their results on a worksheet that you will provide.

Step by Step Plan:
1) Pass out the materials for the experiment.
2) Tell the students to put a small amount of iodine on each piece of food and record the results of the color change.
3) Allow the students enough time to do the experiment and record their results. Tell the students they can either write in words their findings or draw what they see.

Closure: Ask the students how some of the foods have changed? What were some of the colors? What does this tell us about the food? Why did some of the foods not turn very blue or black? Ask the students if there is another way we could record our findings?

Self Reflection: I think this lesson is good to get students involved. It will allow me to use various methods of teaching and it allows me to assess the students both formally and informally.

Assessment: Assessment will be done formally and informally. I will observe the students answers during class discussion in the closure. This will allow me to see what was understood through the answers they give. I will also assess their record sheets and see if they understood the concept of why the iodine did or did not turn black/blue.