This lesson falls near the end of a unit on plants and the scientific method. It's a themed lesson for Halloween. This lesson is for the 4th grade and assumes a 30-minute class period.

**Learning Objectives (stated in terms of measurable student outcomes)**
Students will observe a piece of candy, using tools such as a magnifying glass and ruler, to correctly identify the type of candy.
Students will record their observations on an observation card.
Students will use other students’ observation cards to try to identify a piece of candy.

**Standards addressed:**
S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.
S.IP.04.11 Make purposeful observation of the natural world using the appropriate senses.
S.IP.04.12 Generate questions based on observations.

**Materials for Learning Activities**
Teacher's Materials:
60 pieces of candy (types TBD), poster board, 1 observation card per candy piece, one completed observation card per candy type, a picture of each candy type (Mike & Ike’s Redragouis, Hot Tamales, Junior Mints, Junior Caramels, Bottle Caps, Sweet Tarts, Dots, Sour Dots, Raisins, Cranberries)

Students’ materials:
One bag of candy, magnifying glass, ruler, observation card, student log worksheet, pencil

**Procedures for Learning Activities**

Engage (Introduction):
Activate Prior Knowledge (3min) (what they already know about candy - make a connection with how they are observing things all the time)
Teacher - "What's your favorite type of candy? Think about it. What does it look like? Smell like? Taste like? If you described it to your friends, would they be able to guess the name?"
Encourage student responses.

Instructional strategies:

Explore: (5min)
Use the overhead to display a piece of candy to the class. Ask students to observe the piece of candy as a group. Teacher - record the student contributions on a piece of paper.

Experiment (Explain): (3min)
Explain procedure to the students and then hand out materials and allow students to complete their own observations.
Teacher - I am going to give each of you your own piece of candy and an observation card.
I want you to use your ruler and a magnifying glass to observe your piece of candy.
Write down what you observe on your card. Be as specific as possible. Get to "know" your piece of candy. It's important for scientists to be very specific when they are conducting experiments. Once you've completed your card, you can come and check your records against the candy poster to find out what type of candy you have (if you haven't guessed already).

Students complete candy observation and record results. Check results against the candy poster. (Explore) (10min)

Elaborate: (5min)
Have students exchange cards and try to identify each other's piece of candy using the observation cards they completed.

Elaborate (Summary): (4min)
Wrap up this lesson with a summary of the importance of making detailed observations with all five senses and using accurate recording skills. Students can eat their candy if they want once we've finished.

Describe extensions or connections to other lessons
Connected to our ongoing practice of the scientific method. This lesson highlights that good observation and records can be used in everyday life.
Given more time, I could introduce the concepts of inference and observation as this lesson is a good fit for this.

Assessment (Evaluate):
Formative assessment:
Teacher observation, student worksheets, records in student science journals, observation cards, classmates using each other’s cards successfully

Summative assessment:
NA at this time

Differentiation
Gifted Learner: Have them design their own observation experiment
English Language Learner: Have students work with a friend, provide illustrated instructions.
Children needing extra assistance or time: Have students work with a friend
Children with food allergies: I will have one non-candy and one non-chocolate option for students that may have dietary concerns.

Safety
This lesson required attention to food safety. I need to make sure I have food samples so that all students can participate. Be sure to make a brief discussion about choking hazards.

References
http://www.reachoutmichigan.org/funexperiments/quick/academy/obspeanut.html

Worksheets
Observation card:
Name

<table>
<thead>
<tr>
<th>Shape</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>(measurements)</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
</tr>
<tr>
<td>Texture (What</td>
<td></td>
</tr>
<tr>
<td>does it feel like?)</td>
<td></td>
</tr>
<tr>
<td>Smell</td>
<td></td>
</tr>
<tr>
<td>Taste</td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td></td>
</tr>
<tr>
<td>Additional</td>
<td></td>
</tr>
<tr>
<td>Observations:</td>
<td></td>
</tr>
</tbody>
</table>

Student Log:
Name

After checking the Candy Identification Chart, record the candy name in the table below.

<table>
<thead>
<tr>
<th>Name</th>
<th>What is the candy?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Candy #1</td>
<td></td>
</tr>
<tr>
<td>Your Candy #2</td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td></td>
</tr>
</tbody>
</table>
Reflection

Lesson

I enjoyed planning this lesson. I found the original lesson plan online involving peanuts and the scientific method. I thought this was a lesson that the students might enjoy. From my previous observations, they were always very engaged in examining and recording what was happening with their Wisconsin fast plants. The only drawback with this lesson was that it involved peanuts and West Hills is a peanut free zone. Then I had the thought of using candy instead of peanuts. When Mrs. Brant said I could teach a lesson on Halloween, I knew exactly what I wanted to do.

One objective for this lesson was to use the observation phase of the scientific method to accurately observe and identify an object. To meet this objective, I modified the original lesson by using 10 different types of candy and two non-candy options. I chose specific candies that had similar traits, so that students would not be likely to guess correctly immediately. For example, the Dots and Sour Dots had the same shape and color, but one had a sugar coating and they tasted differently). This emphasized the goal of the lesson – using through observation skills to identify objects. I think I did a good job providing just enough samples to give the students several opportunities to repeat the activity. I did the activity myself on all 12 samples and created a chart that the students could reference to identify their candy.

The second objective of this lesson was to have students use each other’s observation records to see if they could correctly identify the candy based on what the student had recorded. Through anecdotal observation and the student’s worksheets, this also seemed to be a success. I also conducted a few tests of my own using
student observation cards.

The materials I created for this lesson were more successful than those I created for my first lesson. I designed them with the mistakes from my first lessons in mind. The observation cards were clear and easy for the students to use. I also created two candy identification charts so that students wouldn’t have to crowd around one poster. Learning from my previous errors, I made sure to model how to complete the observation card and how to use the identification poster with the students.

The students were very attentive during this lesson, though I think teaching them at 8:30am versus 2:00pm helped with classroom management. Using candy was a good hook, in my opinion. I had prepared two bags of candy per student, but it turned out that many of them got a chance to do three or four observations. The only rule was they had to finish the observation card BEFORE eating the candy and most of the students followed this rule. Anticipating that they might decide to taste it first, I included two pieces of candy in each bag.

Unsolicited feedback from the students was positive. Several of them expressed their enjoyment of the lesson. Moreover, they weren’t just eating the candy (although, that was a big draw). They were taking good records, making predictions on the type of candy (“Oh, this is a Dot.” But it was a Sour Dot), sharing their findings with their friends and asking to complete more than two observations. Review the student observation cards confirms this. A few days later, one of the students told me they liked the lesson.

Teaching

I enjoyed teaching this lesson. I think the time of day I delivered this lesson really made a difference. Even though it was Halloween and the students had a half-day and a party to look forward to, they gave me their attention, participated in discussion and followed instructions. After my last lesson, I briefly discussed some classroom management tips with Mrs. Brant. Having those tips at my disposal made classroom management easier this time around.

With my first lesson in the back of my mind, I was much more successful with my time management. I outlined my procedures and stuck to them. The lesson was finished in the 30 minute timeframe I was allotted. I did leave one of the candy posters behind so that students could continue sharing their observation records with each other. Feedback from Mrs. Brant was positive.
# Science Lesson Plan

**Teacher:** Danielle Lewerenz  
**Observer:** Sheri Brent  
**School:** West Hills  
**Date:** October 31, 2011

**Graduate School of Education**  
**Science K-6**  
**Summer 2011**

## Science Teaching Feedback Form

Please score the teacher on the following aspects based on your observation of their teaching two lessons from their science unit completed as a portion of their course requirements for EDUC 514. Please note that the content of your feedback does not influence the teacher’s course grade in EDUC 514. Instead, the teacher is requested to reflect on your feedback as a valuable opportunity to grow as a professional educator, and the quality of their reflection is scored as part of their final grade on their unit assignment.

### Criteria

<table>
<thead>
<tr>
<th>Lesson Content - Science Inquiry Process</th>
<th>4 (exceeds expectations)</th>
<th>3 (meets expectations)</th>
<th>2 (does not meet)</th>
<th>1 (does not meet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson content, objectives, and standards require students to repeatedly demonstrate critical thinking and problem solving skills</td>
<td>Lesson content, objectives, and standards require students to demonstrate critical thinking and problem solving skills only in some cases</td>
<td>Lesson content, objectives, and standards require students to demonstrate critical thinking and problem solving skills only in some cases</td>
<td>Lesson content, objectives, and standards require students to demonstrate critical thinking and problem solving skills only in some cases</td>
<td></td>
</tr>
<tr>
<td>Lesson Content - Developmental Appropriateness</td>
<td>Lesson content, objectives, and standards are developmentally appropriate</td>
<td>Lesson content, objectives, and standards are developmentally appropriate only in some cases</td>
<td>Lesson content, objectives, and standards are developmentally appropriate only in some cases</td>
<td>Lesson content, objectives, and standards are developmentally appropriate only in some cases</td>
</tr>
<tr>
<td>Lesson Content - Critical Thinking and Problem Solving</td>
<td>Includes multiple opportunities for students to engage in critical thinking and problem solving</td>
<td>Includes few opportunities for students to engage in critical thinking and problem solving</td>
<td>No authentic opportunities are provided for students to engage in critical thinking and problem solving</td>
<td></td>
</tr>
<tr>
<td>Lesson Content - Active Engagement</td>
<td>Includes 2 or more high quality, engaging hands-on/minds-on activities/experiments</td>
<td>Includes one hands-on/minds-on activity/experiment(s)</td>
<td>Includes a low-quality, unengaging hands-on/minds-on activity/experiment(s)</td>
<td></td>
</tr>
<tr>
<td>Lesson Content - Health and Safety</td>
<td>Highlights potentially dangerous health and safety issues in all unit activities to help students clarify misconceptions to bring extensive real world applications to the unit</td>
<td>Some health and safety issues are addressed in the unit but without addressing misconceptions or real world applications</td>
<td>No health or safety issues are addressed</td>
<td></td>
</tr>
</tbody>
</table>

**ACEI 2.2**

**ACEI 1.0**

**ACEI 3.3**

**ACEI 5.4**

**ACEI 2.6**
Additionally, please use the space below to provide feedback to the teacher in following areas:

PREPARATION and PLANNING:

Excellent job pre-planning and having materials organized. It's good that you provided so much variety for the students.

INSTRUCTIONAL METHODS and MANAGEMENT:

Considering it's Halloween and this lesson involves candy, you're doing a great job with management.

ASSESSMENT:

Having duplicate charts for the students to check their observations was smart. The forms are well organized and easy for the kids to understand.

PROFESSIONALISM:

Although you're dressed like a duck...hahah! you're always extremely professional and carry yourself well.

RECOMMENDATIONS:

Solid lesson, keep up the good work!

Observer's Signature: [Signature] Date: 10-31-11
Teacher's Signature: [Signature] Date: 10/31/11