Abstract: Write a one-paragraph description of your activity and its outcomes. This paragraph should be concise enough to allow someone to read it and decide whether they want to read the entire paper.

At the conclusion of the second quarter, students began to examine the image of a scientist. Each student answered three pre exploration questions. These questions were:

1. List the three most important characteristics a scientist should have.
2. What do scientists do?
3. What type of people are scientists?

After students discussed their ideas of a scientist, they were each assigned a specific scientist of various time periods, genders, and ethnicities to research. Students presented their research and once again addressed the three questions. Most of their perspectives remained the same, but I asked them what type of scientist they would like to meet personally. For seven weeks, we had a different scientist visit the classroom. We called the program, “Scientist of the Week”. One scientist would come each week to discuss their background information, educational background, interests, research, job opportunities, and would do a demonstration relating to something the students had learned earlier in the year.

Part I: Description of Participants and Setting
In this section, please describe the participants and the setting.

School: Lux Middle School
Teacher: Angela Zabawa
Resident Scientist: Dorina Mihut

Contact information for Lead Teacher:
Email: azabawa1@lps.org
Dorina set up all of the scientists visiting our classrooms.

Contact information for Resident Scientist

Part II: Describe the activity

Name of Activity: Scientist of the Week
Dates over which the activity took place:
The scientists came once a week beginning March 6, there were a few weeks of no scientist, our final scientist visited on May 13th.

Science/Math Standard Addressed:
Investigate and understand that women and men of various social and ethnic backgrounds, working alone or in teams, engage in the activities of science and related fields.
Investigate and understand that science requires different abilities and relies upon basic human qualities and scientific habits of mind.
Describe the activity: Include information about the equipment required, the steps of the activity, the time required, etc.
Each week a different scientist would come to visit two classes in the afternoon. They presented information about themselves including their educational background, interests, and hobbies. The scientists further discussed their research with the students and also presented other job opportunities in these areas of science. Finally, the scientists demonstrated something connecting their field of study to what the students had studied or were currently studying.
Scientists used the overhead, video player, and often brought their own materials for demonstrations and explanations. The scientists would speak an entire class period, and often spent 10 to 15 minutes answering student questions. As a class, we worked on developing questions to ask scientists, but students usually came up with original questions for each scientist as well.

Rationale for Activity Design:
Students are required to learn about different scientists in eighth grade, and have discussed the stereotypes concerning scientists prior to eighth grade. Still, their perceptions are greatly influenced by the media and what they have seen in textbooks. I felt it would be interesting to see how actually meeting scientists would effect their perception of scientists. I tried to find people in areas of science they were interested in, and also to expose them to several areas of science. Most all of the students in my classes will go to college and many will pursue areas of math and science, I felt it would be a good idea to expose them to as many areas as I could.
Sample of Expected Student Experience(s)
We had several scientists to Lux during the third and fourth quarters.

Dave Doerr, an engineer, came to speak to the students about lasers and optics. He discussed his educational background. His demonstrations were outstanding. He explained and demonstrated how lasers work, how they are different from white light using a spectrometer, and discussed UV and thermal imagery. The students asked several questions he assisted them in answering using inquiry.

Tim Perrin, a computer scientist, brought his computer and showed students how to hide messages in graphics. He also explained how binary code works and enabled students to apply math expressions and formulas they had learned to computer programming.

Cori, a biologist, discussed how she uses DNA sequences to determine families and relationships between primates. Students were quite excited about what she did, and enjoyed the game she created for them.

Luis Rosa, a physicist, showed students the vacuum he uses for his research. He brought a vacuum tube and demonstrated how all objects accelerate at the same speed when only gravity is acting upon them.

Christine DeVries, a chemist, spoke to the students about her research with molecules. She demonstrated how polar and non-polar substances behave. She did a wonderful job of letting the students shape the discussion with their questions.

Martha, a mathematician, spoke to the students about different career opportunities in mathematics. She provided them with many practical applications for mathematical studies and she had them solve a math problem. They made predictions, explained their reasoning, and tested their hypothesis.

Dave, a physicist, spoke to the students about his research in physics. He spent a great deal of time discussing his personal background and interests. Students were fascinated with his juggling skills.
Lux Middle School—Zabawa & Mihut

Part III: Assessment

Describe your overall evaluation of the activity.
Pre Data:
In order to gather pre data I asked students three basic questions about scientists.
1. List the three most important characteristics a scientists should have.
2. What do scientists do?
3. What type of people are scientists?

After six weeks of scientists, I gave students a post survey asking the same questions. I also asked them if their view of scientists had changed this year and to explain. I also asked who in their class would make a good scientist and why, and asked them which scientist they enjoyed the most and to give three specific reasons why.

Overall, I would say the data I collected from the assessment is somewhat inconclusive. Some of the student’s descriptors changed, and they might have created a more realistic image of a scientist, but I don’t believe I really have a great deal of evidence to support this. More than anything, the perception of what a scientist does for a living and outside of work changed. Students first described a scientist’s role as mixing chemicals or working with chemicals/experiments. After the scientists visited the classes, students began to realize there are several areas of science which don’t involve any chemicals, and scientists research but also have personal lives outside of their work.

Informally, I had several students ask why we were not having a scientist of the week after we stopped at four weeks. They were persistent in asking for more scientists of the week, I even had two groups of students try to organize their own scientist to come speak to the class.

Student Data Collected: Include representative examples of student work that supports your evaluation.
Pre Data:

Characteristics of scientists:
Determined, courageous, persistent, smart, hardworking, dedicated, patient, organized, intelligent, observant, curious. The top three characteristics were smart, patient, and hard working.

After the scientists visited the classroom:
There were not as many characteristics, the top three included, smart, hard working, and determined. Some interesting additions were creative and interesting.

What do scientists do?
Scientists research, use chemicals, study different fields, mix chemicals, study subjects.
After scientists visit the classroom:
None of the students wrote scientists use chemicals or wrote anything about chemicals. Instead, most of the responses included something about research, or studying a specific area of science to learn more.
Has your view of scientists changed this year? Explain

I thought of them always doing experiment with exploding combustion and stuff but now I know there are many different kinds of scientists that work with all kinds of things.

No, I still think of them the same.

Yes, I knew scientists were not all short men, but I had somewhat thought all scientists only did experiments and worked in labs.

Yes, They don’t all blow things up, they have hair, they have a lot of personality.

Somewhat, I knew they could be about anyone, but I didn’t consider working on computers to be science.

Yes, I thought they just did boring busy work, but some have fun and interesting jobs.

No, I always knew anyone could be a scientist if they wanted to and were willing to work hard enough to become one.

No, I always thought scientists were cool.

Yes, I thought of them always doing experiment with exploding combustions and stuff, but now I know that there are many different kinds of scientist that work with all kinds of things.

Yes, they are young and old and not all scientists have even a set job. They are still looking.

Yes, we met many scientists who are not the stereotypical type. We met a woman scientists and younger scientists who actually have lives.

Yes, I had thought of scientists as a day to day changing experiences, however they spend years on sigular projects.

Yes, scientists have lives and don’t just work all the time.

Yes, it changed from some old guy, to young people that enjoy their job.

Yes, I know now that most scientists have lives outside of their job even though they must be very dedicated.
Yes, a scientist can be anybody. They have real lives and are normal people. For the most part they are not workaholics and they have hobbies as any one of us.

Yes, scientists have time for other things besides work.

No, since my parents and a lot of my friends’ parents are scientists, I knew they were not short balding men.

Yes, I thought they would have no time to do hobbies.

Yes, I would always think they would not do much besides work, and that it would be boring, but I learned it is not.

What would you do differently if you were to repeat this activity? How could the activity be extended to increase the amount of inquiry?

I would make sure to assess the students after each scientist rather than the end. Another adjustment I would make is to possibly involve the students more with planning what the scientists are going to present or talk about during the class period. It might be nice to have each student work in groups of four or five with one scientist during the year. They would be responsible for communicating with the scientist and organizing something for the class. This would provide more individual contact with the scientists. Perhaps the students could introduce the scientist to the classroom by sharing some of their background information. Small groups might come up with a question and work with the scientists to answer their particular question.

I would also create a bulletin board with each scientist’s picture, a brief bio, and description of what they discussed in class. This way we could reference their information on a regular basis.

Other comments: