

TEACHER QUEST TAMPA BAY PROGRAM

ACTION PLAN

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Lesson Title: Science Careers

Grade Level: 7

Subject Area(s): Comprehensive Science

Date: 7/12/10

Summer Work Experience

My job responsibilities included but were not limited to working along side various research scientists learning about their focus at Moffitt.

Some examples of research:

- One lab is researching how cells can be manipulated so that cancer treatments can be done intracellular; in this lab we learned how to grow cells and then transfect them so the cells would become fluorescent, this could lead to being able to transfect cells with cancer treatment to kill tumor cells
- Another lab is researching the possibility of manipulating tumor cells intravenously; the study is done by using mice that have been infected with human breast tumor cells, the tumor growth is monitored through a window that has been surgically attached the mouse's back, this allows an "open" view of the tumor inside the mouse, the mice are then injected with rat micro-vessels that have fluorescent capabilities, these micro-vessels then attach themselves to the mice blood vessels and cause these vessels to "glow" also; the vessels and tumor are then monitored to see how the vessels affect the tumor and if tumor treatment can be accomplished by cutting off the nutrient supply coming from the vessels.

I also spoke with people in other departments or divisions on their focuses for Moffitt. I discussed how some of these visions can be incorporated into the curriculum taught in the middle school environment. I set up possible guest speakers and presentations to introduce and educate both the students and their parents on these focuses and the various career opportunities associated with the research.

Lesson Plan/Unit of Study

Objectives

To educate my students on the various careers that can be found in the science field and how to align their education courses to prepare for them. Along with this objective I will teach the protocols used in most of these fields or careers.

Sunshine State Standards

SC.H.1.3.1
SC.H.1.3.2
SC.H.1.3.3
SC.H.1.3.4
SC.H.1.3.5
SC.H.1.3.7
SC.H.3.3.2
SC.H.3.3.4
SC.H.3.3.5
SC.H.3.3.6
SC.H.3.3.7

Materials

Poster board (tri-fold project boards) and typical project materials (includes construction paper and other craft supplies), web-cams (for live interactions with the researchers at Moffitt)

Instructional Procedures

This lesson will be implemented in conjunction with the "Intro to Science" unit of the curriculum. In this unit, lab safety procedures and techniques are taught and science careers are also introduced. I will be using as a part of my instruction the live web-cam sessions with the researchers from Moffitt to reinforce the discussions and class work. In these sessions the students and researchers will interact through Q&A and observations of some of the research conducted at Moffitt. Along with the class work and the web-cam sessions, the students will choose a specific science career for their research project. They will be given specific guidelines as to what types of information will be needed for this project and basic instructions on how to set up their project boards and how to conduct their presentation. These presentations will be recorded and copies will be sent to Moffitt.

Integration of Summer Work Experience/Follow-up Activities

Many contacts have been made during this summer's internship and will be used for different activities throughout the year. We have formulated a Live webcam set up so the students will be able to observe what its like to be in a real operating laboratory. Field trips are always a great teaching tool but can only reach a limited number of students. The web-cam sessions will enable the whole class to participate. I will be utilizing two groups of students, undergraduate and

graduate, who have formed mentoring teams. They will come to my school to work with the students doing activities and/or assist with tutoring sessions.

Assessment Instrument

Student projects will involve completing a project board, the self reflection form, and presenting the project boards to their class. We are also going to send the top projects will to Moffitt where they will be displayed in the Atrium of the research facility. The researchers and different student groups from Moffitt will be able to view the students' work.

Comments

During the first week back at school, I will be presenting the TQTB/Moffitt experience to my colleagues. My plans are that with the web-cam and lesson plans other science teachers will be able to do the same in their classes. I also will be working with our PTA in the planning of a Health Fair that will include inviting The Tampa Bay Community Cancer Network (Moffitt's outreach program) to my school. If successful, the plan is to make this a permanent part of the science curriculum at my school and absolutely continue the collaboration with Moffitt.