Micro Biology TEAMS Unit

Summary

The TEAMS (Technology enhancing Achievement in Middle School) model for an interdisciplinary unit with the development of microbiology as the thematic topic.

Time Frame

8 class periods of 45 minutes each

Group Size

Small Groups

Life Skills

Thinking & Reasoning, Communication, Employability

Materials

Materials for this unit are available in the attached document The development of Microbiology Teams Table. The document is downloadable and contains all of the hyperlinks to the various Internet resources. The Science section is a fully developed project that has additional materials. These materials are available in the background for teachers section.

Student Prior Knowledge

Students should be within the grade levels of 9-12. They need to have basic computer skills: How to turn on a computer, log in, and know how to type in a specific URL. In addition, the students need to have basic group processing skills due to the small group nature of this unit.

Intended Learning Outcomes

Students will gain a thorough understanding of the structure and function of cells, DNA, cloning and the development of microbiology through and interdisciplinary unit based on the TEAMS model, incorporating language arts, science, social studies, and technology. In addition students will use group processing skills to complete each activity.

Instructional Procedures

This is a unit plan that has an open format. Due to the individual nature of instruction, this lesson is a framework not a step-by-step project. The Instructor has all of the basic information for each section of the project as well as resource information, and can create a set of steps that fit their students, situation, and teaching style.

Strategies for Diverse Learners

The following suggestions are ways to adapt this lesson to meet the needs of diverse learners:
Gifted student could be challenged in several ways. First, instead of spending 20 minutes at each station the student could be encouraged to move through each station at their own pace. This will allow the student to stay engaged. If the student has additional time they could serve as a peer tutor to students who are struggling,conduct additional research about a topic that they explored in the unit, or complete a reflection journal about the activity.
Struggling Student could be paired with student who is helpful and can give the student the additional support they need to be successful. Another option is to have the student complete two of the four

stations, or allow them to proceed through the stations at their own pace, and only require them to turn in the work for the stations they completed.
Special needs students typically have required modifications and the instructor should refer to their IEP to make the accommodations.

Extensions

This type of cross-curricular project could easily be extended to other core curricular areas. Additional content areas considered for this project included Math and Fine Arts.

Assessment Plan

The students work can be assessed using several methods. Each assignment can be graded and tracked for each phase of the unit. A grading rubric has been provided for the science lab report that will be used for the science labs, and the labs completed in the technology section of this unit. Due to the hands on nature of this unit success or failure of the students is quickly apparent. The instructor should be able to identify the students who are struggling with the process and provide additional support to assist the student to complete each activity. The final assessment could be a reflective essay on what they have learned from this unit.

Rubrics

Science Lab Report Rubric

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Authors

JOHN HINTON

SUSAN A. HUFF
Donald Jones
Melinda Mansouri