

Relevance
Refined



THE CELL CATALOG

Subject(s)

Biology

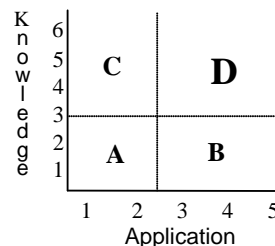
Industry Connection

Rigor/Relevance
Framework

K=5 A= 3

Grade Level –

10th



Instructional
Focus

Subject matter(s) areas of focus (standards addressed).

California Biology Standard 1:

The fundamental life process of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells.

Career planning and management.

Standard 3.2 Understand the scope of career opportunities and know the requirements for education, training and licensure.

Health Science.

1a. Students know cells function similarly in all living organisms.

1e. Students know the role of the endoplasmic reticulum and Golgi apparatus in the secretion of proteins.

1g. Students know the role of the mitochondria in making stored chemical-bond energy available to cells by completing the breakdown of glucose to carbon dioxide.

Communications.

1.5 Synthesize information from multiple sources and identify complexities and discrepancies in the information and the different perspectives found in each medium (e.g. in-depth field studies, journals, and technical documents).

Student
Learning

What students will do

- Students will develop a cell catalog.
 - Students will do research to obtain the information.
 - Students will create analogies for each of the parts of the cell.
 - Students will work individually and in groups.
 - Students will create a chart that includes all the different careers related to the cells.
 - Students projects will be assess by using a rubric scale.
-

Performance Task

Overview:

This lesson will take part of a day for the explanation first and the other part will be for the sharing and presenting of the students projects.

In order for the students to develop a cell catalog they need to have prior knowledge about the cell and its parts. Students also need to know what a catalog looks like and the information that you can find in it. Students will do research of the functions (not mentioned) of the parts of the cells. Students also need to look for the analogies by understanding the functions and structures of the cells parts.

Students will present their catalogs by forming small groups; they will be comparing and sharing their work.

Description:

Students will do research first to obtain the information of the parts of the cell. Students will create a picture for each category (normal picture/analogy picture) under the picture information should be included. Students need to add a price and a slogan to get the structures sold. They need to decide according to the importance of the structure which one will be more or less expensive to buy. Students also need to do research in the careers that are related to the study of the cell. They will create a chart that includes the name of the career, the schools that offers them, how long it takes, and the pre-requisites to get into these careers.

List of categories:

The teacher will explain the rubric to evaluate the cell catalog project. The students will use a template for the chart that will include the careers in Molecular Biology. Students will compare their cell catalogs and will answer a questionnaire using the catalogs.

List of web pages to find Cell parts' information.

www.biologyjunction.com

www.cellsalive.com

Biology4kids.com

<http://ghr.nim.nih.gov/handbook/basics/cell>

College/Career Connections

Each group will share and compare the information of the different careers that they found. In the questionnaire students will have to answer some questions about the careers too.

Assessment

Teacher will use a rubric to assess students learning and creativity.
Teacher will take into consideration the questionnaires answered
by the students.

**Attachments/
Resources**

Assessment rubric.
Questionnaire.
Chart template.

WebPages that students can use to find career related information:

<http://californiacolleges.edu>

<http://ciac.cusb.edu/ciac/catalogurls.html>

<http://ca-hwi.org>

www.campusexplorer.com

uscollegesearch.org/ (name of the career)

biolchem.bs.jhmi.edu/bcmb

collegeprowler.com

education-portal.com

Submitted by: Guadalupe Villegas/ Biology teacher/Calexico High School