**Lesson Title: Cell Differentiation**

**Unit: Growth and Development (5)**

TEKS: (11)(b) The student will describe and explain cell differentiation in the development of organisms.
OBJECTIVES
The student shall be able to:

1. Define cell differentiation.
2. Explore terms related to cell differentiation.
3. Recognize structures formed within cell differentiation.

TEACHING MATERIALS, TOOLS, AND EQUIPMENT

PPT: Cell Differentiation
WS: KWL Chart (1 ea.)
LM: Soda cans, straws, construction paper, Styrofoam cups, peppermints, jolly ranchers, markers, glue, sissors, etc.
Vid: Life’s greatest miracle

TEACHING PROCEDURE

|  |  |
| --- | --- |
| Interest Approach/Anticipatory Set | Teacher Notes |
| Introduce students to topic by linking what they already know about cells to cell differentiation. Ask students to get with a partner and discuss what they already know about cells and fill out the first and second column of KWL chart. Ask them to answer the following question: “How do you think cells develop to create life?” Give students a few minutes and discuss with class what students came up with. TRANSITION – Today, we will be diving deeper into cells’ growth and development and discuss cell differentiation. Present power point and engage students in active lecture by asking questions. Monitor students and be sure they are filling out the KWL chart.  | Interest approach – think pair share – KWL chartActive lecture |

|  |  |
| --- | --- |
| Teaching Plan and Strategy / Presentation of New Material | Teacher Notes |
|  When discussing protein synthesis, show website of process of protein synthesis. Have students come up one by one to click to the next process and read what it says that it is doing. After lecture, group students into 3-4 per group. Give lab activity and pass out materials along with instructions on what to do. Each group will be assigned an organ that they will have to develop with cells using different materials the teacher provides. If time allows, students will present their organs to the class.  | Protein syn. videoBegin lab activity by grouping students and passing out materials |

ENGAGEMENT

Students will be actively engaged through lecture by teacher asking questions throughout lecture. They will be engaged with the KWL chart as well. Lastly, they will have to complete a lab activity using their own creativity and hands-on skills.

EVALUATION

The KWL chart along with the interest approach will be a form of evaluation. After the lab activity, we will review the topic by asking questions. Students may be asked to come up and write answers on the board to involve them even more.

ADDITIONAL MATERIALS

Videos used to create lesson and may show 1 during lesson:

<http://www.teachersdomain.org/asset/tdc02_vid_different/>

<http://www.teachersdomain.org/asset/lsps07_int_devdance/>

<http://www.pbs.org/wgbh/nova/miracle/media/2816_q_056_05.html> <Preferred video to show

Websites:

<http://www.teachersdomain.org/browse/?fq_hierarchy=k12.sci.life.stru.differentiation>

<http://www.biology-online.org/dictionary/Cell_differentiation>

©Texas Education Agency, 2011