Lesson Plan

Lesson: Cell Review

Length: 50 minutes

Grade Level: High School Biology

Academic Standards:

- B.1.12 Compare and contrast the form and function of prokaryotic and eukaryotic cells.
- B.1.13 Explain that some structures in the modern eukaryotic cell developed from early prokaryotes, such as mitochondria and, in plants, chloroplasts.

Performance Objectives:

- Given a list of eight organelles found in an animal cell, the Biology students will draw the cell including all eight of the parts with 100% accuracy.
- Given the list of eight organelles found in an animal cell and their own drawings, the students will label all eight parts with 90% accuracy.
- Given a list of eleven organelles found in a plant cell, the students will draw the cell including all eleven of the parts with 100% accuracy.
- Given the list of eleven organelles found in a plant cell and their own drawings, the Biology students will label all eleven parts with 90% accuracy.
- Given directions and materials for the *Incredible Edible Cell*, the students will follow the directions to replicate an edible cell with 100% accuracy.

Assessment: The cell drawings with labels and edible cell worksheet with questions will be used to assess the students’ understanding of the lesson.

Advanced Preparation by Teacher:

- Create a fill-in-the-blank note taking sheet.
- Create diagrams of both plant and animal cells.
- Create directions and review questions for the *Incredible Edible Cell*.
- Collect edible cell materials including: bread, peanut butter, marshmallows, jelly beans, sprinkles, Twizzlers, raisins, napkins, and plastic utensils.
- Create a worksheet for students to draw and label plant and animal cells.

Comment [jcg1]: Will each of the objectives be measured by the worksheets for every student?
• Develop a review game in case too much extra time remains.
• Coloring materials, such as crayons or colored pencils, for drawing cells.
• Draw cells on the board before the class enters and cover with the projector screen.

Procedure:
Introduction/Motivation:
• Write an agenda on the board of the day’s activities.
• Remind them of their upcoming Core 40 testing next week, so the day will be a review for the test.
• **Connect the cell and its organelles to the students and their cottages.**

Step-by-Step Plan:
1. Establish expectations for the first activity. Students are expected to participate, but keep talking about other topics to a minimum. They will be given their note taking sheet and the premade plant and animal cell diagrams.
2. Complete the fill-in-the-blank worksheet as a class while reading certain paragraphs from the book (Gardner: Interpersonal and Verbal/Linguistic). They can keep the notes and diagrams for studying.
3. Hand out the worksheet for them to draw and label the plant and animal cells (Gardner: Visual/Spatial). They can use coloring materials if they do not wish to use a regular pencil. When finished, they can hand in their drawings and put up any coloring materials. This is an individual activity that doesn’t require talking. Students who finish ahead of time can read sections two and three or their personal reading material.
4. When everyone is finished drawing, give them the **Incredible Edible Cell sheet.** Have one row at a time come to the table to get their materials. Students can talk with students around them during their completion of this activity (Gardner: Bodily/Kinesthetic). When they are finished creating their edible cells, students need to answer the three review question and hand it their sheet. Then, they may eat their cells if they would like.
5. If time allows, use the review game.

Closure:
• The students will **write about one item** they learned from the lesson and their favorite part of the lesson.

Adaptations/Enrichment:
• Student with Learning Disability in reading comprehension: I read the following aloud: directions, fill-in-the blank notes, book excerpts, and questions on the worksheet. However, I could create an altered form of notes with just the basic information.

Comment [jcg2]: What does that mean? You should explain this in detail for a substitute.

Comment [jcg3]: Where will they write it? Will they turn it in?
• Student with ADHD: I could provide the student with material, such as Play Dough, for the student to use to create a cell as the class goes through the fill-in-the-blank notes. Therefore, the student would be using some movement while still being active in the class discussion.
• Student with Gifts and Talents in Creativity: I could have the student create a 3D replica of plant and animal cells instead of the drawings on the worksheet. Students could also create a ‘Guess Who?’ game where they describe the duties of different organelles in terms of people, and the class has to guess. The game could be used as the review activity.

Review Questions:
• Was this too much of a review?
• Did I have too many activities or not enough?
• How did the students react to each activity?
• What were the scores on each worksheet? Did the material seem too difficult? Did several students miss the same particular question?
• Does something need improved for next time?

Manchester College

Lesson plans- EDUC 230

Name: Shae Lauer_____________ Teacher: Dr. Korrine Gust
Date: ______________________ Title of Work: Cells_________

<table>
<thead>
<tr>
<th>Criteria</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td><strong>MC Lesson Plan Format with explicitly stated Academic Standards.</strong></td>
<td></td>
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<tr>
<td><strong>C1- Plans informative, developmentally appropriate lessons and/or units</strong></td>
<td>Lesson does not follow MC format or state academic standards.</td>
<td>Lesson does not follow MC format but does state academic standards.</td>
<td>Lesson plan follows most of the MC format and explicitly states academic standards.</td>
<td>Lesson plan follows MC format correctly and explicitly states academic standards.</td>
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<tr>
<td><strong>Lesson Plan Objectives</strong></td>
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<tr>
<td><strong>C1- Plans informative, developmentally appropriate lessons and/or</strong></td>
<td>Objectives are not included.</td>
<td>Objectives are included, but are not correctly written or do</td>
<td>Objectives are included, relate to stated academic</td>
<td>Objectives are well written, and correlate well to stated</td>
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<td>units</td>
<td>INTASC 2, 3, 4, 7</td>
<td>not relate to the stated academic standard(s), but are not written correctly.</td>
<td>academic standard(s).</td>
<td>academic standard(s).</td>
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<td>Assessment</td>
<td>No assessment is planned.</td>
<td>Planned assessment does not match learning objectives.</td>
<td>Planned assessment matches learning objectives, but is not a part of the procedures for the lesson.</td>
<td>Planned assessment matches learning objectives and is embedded in the procedures for the lesson.</td>
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<tr>
<td>Procedures are thoroughly written, including Gardner’s MI and Bloom’s Taxonomy questions.</td>
<td>Procedures are unclear and do not include Gardner or Bloom references.</td>
<td>Procedures are mostly clear and attempts to include Gardner and Bloom references.</td>
<td>Procedures are clear and references to Gardner and Bloom are attempted.</td>
<td>Procedures can be easily replicated by others including Bloom’s questions and the use of Gardner’s MI.</td>
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<td>Adaptations/Modifications and Enrichment Opportunities</td>
<td>Lesson does not include reasonable adaptations, modifications and/or enrichment opportunity.</td>
<td>Lesson includes one reasonable adaptation and/or modification and an enrichment opportunity.</td>
<td>Lesson includes more than one reasonable adaptation and/or modifications and an enrichment opportunity.</td>
<td>Lesson thoroughly details reasonable adaptations, modifications, and enrichment opportunities that are exemplary.</td>
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<td>Grammar and Spelling</td>
<td>5 or more errors in grammar and/or spelling are present.</td>
<td>3-4 errors in grammar and/or spelling are present.</td>
<td>1-2 errors in grammar and/or spelling are present.</td>
<td>No errors in grammar and/or spelling are present.</td>
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<td><strong>Total</strong></td>
<td><strong>23/24</strong></td>
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Teacher Comments: Excellent plan, Shae!!