Utilizing Deeper Learning Lessons to Engage Students

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RCPS VISION & MISSION

Vision: All Roanoke County students will be empowered to learn through technology and 21st century skills: collaboration, communication, creativity, and critical thinking.

Mission: The mission of RCPS is to ensure quality learning experiences designed to equip all students with the skills to adapt and thrive in a changing global environment.
What is deeper learning?

- Deeper learning is learning that is engaging and purposeful.
- Includes content knowledge as well as the development of 21st century skills: collaboration, communication, creativity, and critical thinking.
- Produced through the purposeful use of a variety of instructional strategies. Strategies that engage students in authentic problem solving (examples: inquiry-based learning, pBL, and design challenges)
Why deeper learning?
Role of leadership

- Foster an environment that encourages teachers to take risks & not be afraid to try new things!
- Stay true to the mission! - Don’t panic and knee jerk every time there is a bump in the road!
- Celebrate teachers who try innovative ideas
- Teachers feel rejuvenated & the excite spreads
Ketchup Lab / Change in Pre/Post-Test

3 Brands
Problem or Question

- Examples:
  - What brand is closest to the consistency of blood?
  - Which brand shoots from a squirt gun the furthest distance (thinnest)?
  - Which brand travels down a ramp the fastest?
What can I gain from this? Essential Knowledge:

- **Pre-test**: Hypothesis and Variables
- **Post-test**: Constants / Procedures
- **Lab**: Data tables / Graphs / Conclusion
Martian and the Car

What is Life?

Is a car living? Does it use energy? Does it respond to the environment? Does it require water?
How do I perform a court case?

YouTube & Science Court: The case of Living Things
Split Class Into Prosecutor & Defense Teams

**Defense**
- 2 lawyers
- Witnesses
- Expert witnesses (auto mechanics)
- Marty himself

**Prosecutor**
- 2 lawyers
- Witnesses
- Expert witnesses (auto mechanics)
- Eye Witness

**Judge / Jury**
Teacher takes notes and makes ruling based on the 6 characteristics of life and 4 needs of organisms.
Dear Student:

Glenvar’s nature trail is being developed for use by humans at a rapid rate. Because development in a limited space can lead to the migration out or even the extinction of nonhuman organisms, it is crucial that the living organisms inhabiting Glenvar’s Nature Trail are documented and preserved. Your team of naturalists has been selected to venture to the Glenvar Nature Trail and observe and document the nonhuman, living organisms that currently inhabit the nature trail.

Your team will be provided with a digital camera with which you are to document the numerous organisms you discover while on your exploration. You are also required to keep a photojournalism notebook in which you will keep a detailed log of your pictures (exposure number, subject, date, time of day, and location of picture). You will be required to capture at least one representative of each kingdom on film, and you are encouraged to photograph representatives from as many phyla that you can.

After your trip to the Glenvar Nature Trail, you will use the photos and your photojournalism notebook to identify organisms you have captured digitally and document any unique attributes the organism has to the trail. I would like for you to create and present your photos in a visual presentation of your journey and its many discoveries (Please see rubric on the back of this page).
### Glenvar Nature Trail Project Rubric

<table>
<thead>
<tr>
<th>Points</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10 pictures of organisms with at least 1 from each kingdom</td>
</tr>
<tr>
<td>10</td>
<td>1 common name for each organism</td>
</tr>
<tr>
<td>10</td>
<td>1 scientific name for each organism</td>
</tr>
<tr>
<td>10</td>
<td>10 habitat descriptions for each organism (picture with a written description)</td>
</tr>
<tr>
<td>20</td>
<td>2 adaptation features or “special” features for each organism</td>
</tr>
<tr>
<td>20</td>
<td>Presentation of the product (neatness, creativity, everyone participates orally, etc.)</td>
</tr>
<tr>
<td>10</td>
<td>10 additional pictures and photo log with descriptions of why the photo was taken</td>
</tr>
<tr>
<td>5</td>
<td>Student group / peer evaluations (up to 5 points)</td>
</tr>
<tr>
<td>5</td>
<td>Student self evaluation (up to 5 points)</td>
</tr>
</tbody>
</table>
Sources

Biologycorner.com
http://www.cse.emory.edu/cases/
Creating Direct TV Commercials
Cause/Effect Relationships
SOL 6.6
Step 1: Defining & Experiencing Cause and Effect

- The class defined cause and effect

- The Pupil/Light Eye Test was performed to teach cause and effect and give students back knowledge and experience with cause and effect relationships
Step 2 - Cause & Effect in Direct TV Commercials

• Students were shown a series of Direct TV Commercials
• The teacher used one commercial to help the students identify the cause & effect relationship in each scene of the commercial
• The students and teacher created a story board for one of the commercials as a model of how the commercial was written and developed
Step 3-Creating a New Direct TV Commercial

• Students were placed in cooperative groups.

• Each student was given the task of creating a new commercial for Direct TV.

• Each group composed a script and created a story board for their commercial. The scripts had to show cause and effect relationships.

• The groups presented their commercials to the class.
Create a Direct TV Commercial

• Refer to the lesson plan for directions
Instructional Strategies

• Cooperative Learning
• Technology Integration
• Higher Level Thinking & Doing
• Connecting to Experiences
• Real World Connections
ROLE OF INSTRUCTIONAL COACH

• HELP WITH RESOURCES AND IDEAS BY BRAINSTORMING AND FINE TUNING PROJECTS
• DIRECT TEACHERS TO OTHER EXPERTS IF NEEDED
• HELP WITH TECHNOLOGY NEEDS (TRYING NEW THINGS)
• EXTRA ADULT IN THE ROOM TO ASSIST WITH THE PROJECT OR CLASSROOM MANAGEMENT