

Land Conservation Unit

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| Unit Title: Land Conservation Subject: Science Grade: 6th | Teacher: Jamie Browning Duration: 2 weeks to 1 month | |
| Summary of Unit: Students will learn about natural resources and why land conservation is so critical and ways in which they can help through a variety of educational methods. | | |
| State 1 - Desired Results | | |
| Objectives/Standards: Colorado Standards: -Standard 2: Life Science #1: Changes in environmental conditions can affect the survival of individual organisms, populations, and entire species -Standard 3: Earth Systems Science #3: Earth's natural resources provide the foundation for human society's physical needs. Many natural resources are nonrenewable on human timescales, while others can be renewed or recycled | Essential Questions: -Why should we conserve our land? -What types of natural resources are being conserved? -What types of conservation projects are happening locally, nationally and internationally? | |
| Factual Knowledge Students will know: What natural resources and land conservation is and why they are important to preserve. | Procedural Knowledge Students will be able to: Create an open-ended presentation to describe conservation and what they can do to help. | Conceptual Knowledge Students will understand: What natural resources are and how to protect them in their own town. |
| Stage 2 - Assessment Evidence | | |
| Performance Tasks: -Students will create a poster on natural resources and land conservation -Students will create an open-ended project on natural resources and land conservation -Students will create an activity/story book for young children on land preservation - Students will create an advertisement for Garden Park. | | |
| Extensions: -Set up a recycling center in your school if one is not already established. | Differentiation Considerations: Students can be paired with other to ensure success | |
| Stage 3 – Learning Plan | | |
| Learning Activities: | | |
| Lesson Descriptions: | | |
| Lesson 1: Show https://www.youtube.com/watch?v=eRLJscAlk1M as a hook into the unit. Discuss the video. Explain what conservation is and why it is so critical. | | |

Lesson 2: Show a Power-Point or similar presentation on land conservation/natural resources. Students will discuss and take notes. Students will create posters to show what natural resources are and why land conservation is important.

Lesson 3: Students will be shown a powerpoint from Garden Park and discuss its importance to Cañon City.

Lesson 4: Students create an open-ended Project-Based Learning project in teams on conservation and what they can do. Answering the Essential Questions: Why should we conserve our land?

What types of natural resources are being conserved? How should we conserve our land?

Lesson 5: Invite speakers from Leave No Trace organization to speak on the importance of taking care of our land. Students will create an activity or picture book for young children on information learned from the presentation.

Lesson 6: Arrange a field trip with your local BLM office to focus on land conservation. After the field trip, Students will create an advertisement after completing their own research and visit to Garden Park.

Preserving the Environment Crossword Puzzle

There are hundreds of ways you can make a difference in preserving our environment. A few simple ideas are listed below. Fill in the crossword puzzle with the words you use to fill in the blanks. Use the WORD BANK to help you.

CLUES

Across

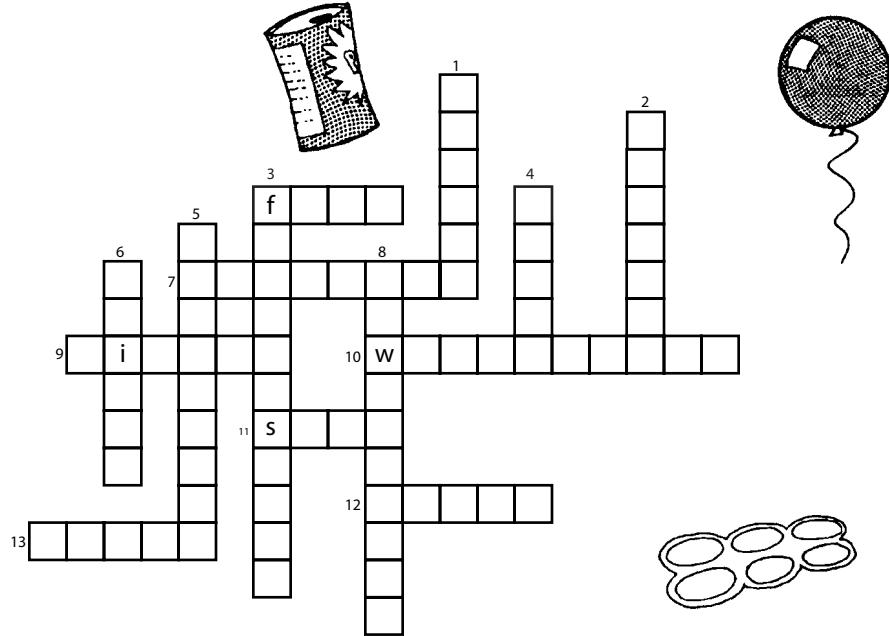
3. Request paper instead of _____ cups.
7. Take glass and _____ to recycling centers.
9. Pick up _____ at home and school and along highways and beaches.
10. Use _____ pens and markers.
11. _____ six-pack rings; they are hazardous to marine life.
12. Use both sides of scrap _____.
13. Plant _____.

Down

1. Hold onto _____ balloons; do not release them into the atmosphere.
2. Save water by taking _____ instead of baths.
3. Instead of incandescent bulbs, use compact _____.
4. Turn off the _____ while you are brushing your teeth.
5. Use rechargeable _____.
6. Put a weighted plastic bottle in your _____ tank.
8. Recycle _____; use them as packing material.

WORD BANK

showers
waterbased
aluminum
toilet
paper
newspapers
trees
water
foam
litter
fluorescent
snip
batteries
helium



Extension: Explain how implementing each idea above can have an impact on our environment.

Making A Poster

| CATEGORY | 5 | 3 | 2 | 1 |
|-------------------------------|---|--|---|---|
| Graphics - Relevance | All graphics are related to the topic and make it easier to understand. All borrowed graphics have a source citation. | All graphics are related to the topic and most make it easier to understand. All borrowed graphics have a source citation. | All graphics relate to the topic. Most borrowed graphics have a source citation. | Graphics do not relate to the topic OR several borrowed graphics do not have a source citation. |
| Graphics - Originality | Several of the graphics used on the poster reflect a exceptional degree of student creativity in their creation and/or display. | One or two of the graphics used on the poster reflect student creativity in their creation and/or display. | The graphics are made by the student, but are based on the designs or ideas of others. | No graphics made by the student are included. |
| Required Elements | The poster includes all required elements as well as additional information. | All required elements are included on the poster. | All but 1 of the required elements are included on the poster. | Several required elements were missing. |
| Attractiveness | The poster is exceptionally attractive in terms of design, layout, and neatness. | The poster is attractive in terms of design, layout and neatness. | The poster is acceptably attractive though it may be a bit messy. | The poster is distractingly messy or very poorly designed. It is not attractive. |
| Grammar | There are no grammatical mistakes on the poster. | There is 1 grammatical mistake on the poster. | There are 2 grammatical mistakes on the poster. | There are more than 2 grammatical mistakes on the poster. |
| Use of Class Time | Used time well during each class period. Focused on getting the project done. Never distracted others. | Used time well during each class period. Usually focused on getting the project done and never distracted others. | Used some of the time well during each class period. There was some focus on getting the project done but occasionally distracted others. | Did not use class time to focus on the project OR often distracted others. |

CRITICAL THINKING RUBRIC for PBL

(for grades 6-12; CCSS ELA aligned)

| Critical Thinking Opportunity at Phases of a Project | Below Standard | Approaching Standard | At Standard | Above Standard ✓ |
|---|---|---|--|------------------|
| Launching the Project: Analyze Driving Question and Begin Inquiry | <ul style="list-style-type: none"> ▶ sees only superficial aspects of, or one point of view on, the Driving Question | <ul style="list-style-type: none"> ▶ identifies some central aspects of the Driving Question, but may not see complexities or consider various points of view ▶ asks some follow-up questions about the topic or the wants and needs of the audience or users of a product, but does not dig deep | <ul style="list-style-type: none"> ▶ shows understanding of central aspects of the Driving Question by identifying in detail what needs to be known to answer it and considering various possible points of view on it ▶ asks follow-up questions that focus or broaden inquiry, as appropriate (CC 6-12.W.7) ▶ asks follow-up questions to gain understanding of the wants and needs of audience or product users | |
| Building Knowledge, Understanding, and Skills: Gather and Evaluate Information | <ul style="list-style-type: none"> ▶ is unable to integrate information to address the Driving Question; gathers too little, too much, or irrelevant information, or from too few sources ▶ accepts information at face value (does not evaluate its quality) | <ul style="list-style-type: none"> ▶ attempts to integrate information to address the Driving Question, but it may be too little, too much, or gathered from too few sources; some of it may not be relevant ▶ understands that the quality of information should be considered, but does not do so thoroughly | <ul style="list-style-type: none"> ▶ integrates relevant and sufficient information to address the Driving Question, gathered from multiple and varied sources (CC 6,11-12.RI.7) ▶ thoroughly assesses the quality of information (considers usefulness, accuracy and credibility; distinguishes fact vs. opinion; recognizes bias) (CC 6-12.W.8) | |
| Developing and Revising Ideas and Products: Use Evidence and Criteria | <ul style="list-style-type: none"> ▶ accepts arguments for possible answers to the Driving Question without questioning whether reasoning is valid ▶ uses evidence without considering how strong it is ▶ relies on "gut feeling" to evaluate and revise ideas, product prototypes or problem solutions (does not use criteria) | <ul style="list-style-type: none"> ▶ recognizes the need for valid reasoning and strong evidence, but does not evaluate it carefully when developing answers to the Driving Question ▶ evaluates and revises ideas, product prototypes or problem solutions based on incomplete or invalid criteria | <ul style="list-style-type: none"> ▶ evaluates arguments for possible answers to the Driving Question by assessing whether reasoning is valid and evidence is relevant and sufficient (CC 6-12.SL.3, RI.8) ▶ justifies choice of criteria used to evaluate ideas, product prototypes or problem solutions ▶ revises inadequate drafts, designs or solutions and explains why they will better meet evaluation criteria (CC 6-12.W.5) | |
| Presenting Products and Answers to Driving Question: Justify Choices, Consider Alternatives & Implications | <ul style="list-style-type: none"> ▶ chooses one presentation medium without considering advantages and disadvantages of using other mediums to present a particular topic or idea ▶ cannot give valid reasons or supporting evidence to defend choices made when answering the Driving Question or creating products ▶ does not consider alternative answers to the Driving Question, designs for products, or points of view ▶ is not able to explain important new understanding gained in the project | <ul style="list-style-type: none"> ▶ considers the advantages and disadvantages of using different mediums to present a particular topic or idea, but not thoroughly ▶ explains choices made when answering the Driving Question or creating products, but some reasons are not valid or lack supporting evidence ▶ understands that there may be alternative answers to the Driving Question or designs for products, but does not consider them carefully ▶ can explain some things learned in the project, but is not entirely clear about new understanding | <ul style="list-style-type: none"> ▶ evaluates the advantages and disadvantages of using different mediums to present a particular topic or idea (CC 8.RL.7) ▶ justifies choices made when answering the Driving Question or creating products, by giving valid reasons with supporting evidence (CC 6-12.SL.4) ▶ recognizes the limitations of an answer to the Driving Question or a product design (how it might not be complete, certain, or perfect) and considers alternative perspectives (CC 11-12.SL.4) ▶ can clearly explain new understanding gained in the project and how it might transfer to other situations or contexts | |

Picture Book Project Rubric

| | 5 Points | 4 Points | 3 Points | 2 Points |
|--|--|--|---|---|
| Cover | Cover includes a title, neatly drawn and colored picture, author's name, your name, and period number. | The cover picture is not very neat or there is one item missing. | The cover picture is messy or there are more than two other items missing. | Cover is blank. |
| Spreads (A spread is two pages side by side.) | There are at least 5 spreads with writing and a hand drawn, colored picture on each page. | There are 4 spreads with writing and a picture on each page. | There are only 3 spreads with writing and a picture on each page, or there are numerous spreads missing writing or a picture. | There are less than 3 complete spreads. |
| Grammar and Spelling | There are 2 or fewer spelling or grammar mistakes. | There are 3-4 spelling or grammar mistakes. | There are 5-6 spelling or grammar mistakes. | There are 7 or more spelling or grammar mistakes. |
| Story | The story includes characterization, plot, setting, conflict, and resolution. The story flows and makes sense. | The story makes sense, however one literary element is missing or not clearly defined. | The story has two literary elements that are missing or not clearly defined. | The story doesn't make sense or there are more than two literary elements that are missing. |
| Writing | Every page has at least one full complete paragraph or activity. | One page does not contain a full complete paragraph or activity. | Two pages do not contain a full complete paragraph or activity. | Three or more pages do not contain a full complete paragraph or activity. |
| On Time | Your picture book is turned in completed on time. | Your picture is turned in one day late. | Your picture book is turned in two days late. | Your picture book is 3 or more days late. |

Rubric for Advertisement Brochure

| Task Description: Create an advertisement brochure for others who would like to visit Garden Park. Be sure to include information from lectures, your own research, and our visit. | | | | | |
|--|--------|--|---|--|---|
| Criteria | weight | Professional | Adequate | Needs Work | Unsatisfactory |
| Content | 50% | <input type="checkbox"/> Demonstrates in depth understanding of topic <input type="checkbox"/> Accurately utilizes researched information in the brochure | <input type="checkbox"/> Demonstrates understanding of the topic <input type="checkbox"/> Employs research information with an adequate degree of accuracy | <input type="checkbox"/> Demonstrates little understanding of topic <input type="checkbox"/> Employs research information with a fair degree of accuracy | <input type="checkbox"/> Lacks understanding of topic <input type="checkbox"/> Reports only the most basic parts of the information |
| Written Presentation | 20% | <input type="checkbox"/> Well organized content <input type="checkbox"/> Attractive and well designed format <input type="checkbox"/> Clear and easily understood message <input type="checkbox"/> Computer generated with strong visual appeal | <input type="checkbox"/> Content is organized <input type="checkbox"/> Format is adequate <input type="checkbox"/> Message is sufficiently understood <input type="checkbox"/> Computer generated with acceptable eye appeal | <input type="checkbox"/> Content lacks organization <input type="checkbox"/> Format is difficult to follow and poorly organized <input type="checkbox"/> Message not clearly understood <input type="checkbox"/> Computer generated but poorly designed | <input type="checkbox"/> Unorganized content <input type="checkbox"/> Hard to follow <input type="checkbox"/> Message difficult to understand; tendency to wander or ramble <input type="checkbox"/> Handwritten or computer generated with little organization or skill |
| Research Quality | 15% | <input type="checkbox"/> Five sources used <input type="checkbox"/> Use of reliable sources <input type="checkbox"/> Accurate analysis of research | <input type="checkbox"/> Three sources used <input type="checkbox"/> Sources have some reliability <input type="checkbox"/> Adequate analysis of research | <input type="checkbox"/> Two sources used <input type="checkbox"/> Questionable reliability of sources <input type="checkbox"/> Basic information with questionable accuracy | <input type="checkbox"/> Less than two sources used <input type="checkbox"/> Little reliability of sources <input type="checkbox"/> Inaccurate information |
| Visual Appeal | 15% | <input type="checkbox"/> Imaginative; original <input type="checkbox"/> Use of graphics make the message "come alive" | <input type="checkbox"/> Creativity is acceptable <input type="checkbox"/> Use of graphics adequate to present message | <input type="checkbox"/> Little creativity used <input type="checkbox"/> Poor selection of graphics | <input type="checkbox"/> No originality <input type="checkbox"/> Graphics do not tie in with the message |

Assignment Score _____ + Beyonder/Bonus _____ = Final Score _____