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OUTCOMES AND INDICATORS:

SCIENCE 7:

IE7.4 Analyze how ecosystem change in response to natural and human influences, and propose actions to reduce the impact of human behavior on a specific ecosystem.

b. Propose ecological questions to investigate arising from practical problems and issues

d. Identify and refine questions and problem related to the effect of human influences on a particular ecosystems.

e. Select and synthesize information from various sources to develop a response to a specific questions related to human influence on a particular ecosystem

f. Propose a course of action or defend a given position on a local ecological issue or problem related to natural or human influences on a particular ecosystem, taking into account scientific, societal, technological, and environmental factors.

g. Be sensitive and responsible in maintaining a balance between human needs and a sustainable environment by considering both immediate and long-term effects of their course of action or stated position.

FLOW OF LESSON PLANS:

Lesson Plan 1: Community Walk

Lesson Plan 2: From Raw Material to Final Disposal

Lesson Plan 3: Plastics and their Recycling Codes

Lesson Plan 4: Recycling (SARCAN Field Trip)

Lesson Plan 5: Social Action

<p>Lesson Title: Community Walk</p> <p>Grade Level: 7</p> <p>Designer: Carina de Paz</p>	
<p>Learning Outcomes/Intentions</p>	
<p>Formal Unit Outcome(s):</p> <p>Science 7:</p> <p>IE7.4 Analyze how ecosystem change in response to natural and human influences, and propose actions to reduce the impact of human behavior on a specific ecosystem.</p> <p>d. Identify and refine questions and problem related to the effect of human influences on a particular ecosystems</p> <p>e. Select and synthesize information from various source to develop a response to a specific questions related to human influence on a particular ecosystem.</p> <p>Language Arts 7:</p> <p>c. Use own experience to create personal or impromptu communications characterized by some insights and development including opinion and personal and critical responses to text.</p>	
<p>Knowledge & Understandings:</p> <p>Learners will know and understand...</p> <ul style="list-style-type: none"> - How human activity impact the land where they live. 	
<p>Essential Questions:</p> <ul style="list-style-type: none"> • How does human activity impact the land that they live at? 	<p>Skills:</p> <p>Classifying:</p> <p>Investigate: finding evidence of human impact in the environment</p> <p>Recording: finding evidence of negative human impact in the surrounding environment</p> <p>Interpreting: answering guiding questions from the teacher</p> <p>Journal Writing</p>
<p>“I can . . .” statements:</p> <p>I can identify the human activity in my environment.</p> <p>I can discern the positive and negative human activity in my environment.</p> <p>I can write my opinion about the negative human activity in my environment during our community walk.</p>	

Assessment Evidence

Formative Assessments (Assessment for Learning):

PowerPoint Presentation of each group.

Think-Pair-Share

3-2-1

Safety

- Do not touch things on the ground without wearing a gloves.
- Follow safety rules set by the class similar to field trips.

Materials

- Safety gloves
- Gadget that has camera
- Paper/pencil for jot notes
- Laptops

Learning Plan

Learning Experiences & Instruction: Plan the lesson around the 5-E's

Engage:

1. Recalling previous knowledge of the ecosystem
 - What is ecosystem?
 - Students will be asked to give example of the ecosystem?

As the students give their responses the teacher would write it in the board.
2. Present Picture of Regina City
 - Think-pair-share: describe the ecosystem in this picture
 - Have a discussion as a class: Ask the class to describe the ecosystem in this picture.

Explore:

- Journal writing:
- First paragraph: Describe the environment in your neighbourhood? What are the biotic and abiotic that you see?
 - Second paragraph: Give three things that would describe human impact that you see?
3. Present the picture of the seahorse with cotton buds
 - Think-pair-share: describe the ecosystem in this picture
 - Have a discussion as a class: Ask the class to describe the ecosystem in this picture.

4. Activity: Community Walk

- a. Introduction on community walk: The class will have a community walk inside the school and the surrounding to see the human impact in the environment.
- b. The students would be group the students with 4 members by the teacher (by random using the coloured Popsicle sticks with the students' names on it).
- c. Give instruction:
 1. The class would go around the school and its surrounding as a whole.
 2. Each group will go together and observe the things that they see around the school.
 3. Task: Each member of the group would write their own observations and would take each a picture that would describe how human activity affects the ecosystem.
 4. Materials needed to bring outside: pencil, paper and only one electronic gadget that can take pictures.
- d. As the class go around the school and its surrounding the teacher would engage the students with discussion. The teacher would also give time for the students to do their group observation and take pictures.
 - What are the things that you see here? If they find man-made materials: What is this for?
 - Describe what you see at the school yard? What materials is the plays structure made of?
 - What are the living things that thrive in our school yard.
 - What man made materials that we can see in our surroundings.
- e. The class would go back to the classroom after a certain time or once the class is able to go around the school and its surrounding.
- f. Once the class is inside the classroom give instruction on what to do next.
 - Each group would discuss about their observations and choose a picture to present to the class.

Guide Questions:

3-2-1

 - What are the three things that you learn from the activity?
 - What are the two things that you found interesting and that you like to learn more about?
 - What is the one question that your group have about the picture/activity?
 - They would present it using a PowerPoint presentation.
 - Each member of the group will share their observation to the class.

PICTURES TO BE PRESENTED FOR THE STUDENTS



Reference:

<https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKewj6j-eD8fveAhUic98KHZYRBpIQjRx6BAGBEAU&url=http%3A%2F%2Fsyruptrap.ca%2F2016%2F11%2Fwe-review-your-city-regina-saskatchewan%2F&psig=AOvVaw0k5uzodtLDiJEOXaaGFBa5&ust=1543659258526492>

<https://www.google.ca/imgres?imgurl=https%3A%2F%2Fwww.dpreview.com%2Ffiles%2F%2Farticles%2F9218889953%2Fseahorse.jpeg&imgrefurl=https%3A%2F%2Fwww.dpreview.com%2Farticle%2F9218889953%2Fthe-story>

Lesson Title: From Raw Material to Final Disposal

Grade Level: 7

Designer: Carina de Paz

From:

Brockman, A., Doepker, C., Wallace, M., View, T., & Stephenson, E. (2009). From Raw Material to Final Disposal . In *Pearson Saskatchewan Science 7* (pp. 347-349). Toronto: Reid McAlphine .

Learning Outcomes/Intentions

Formal Unit Outcome(s):

IE7.4 Analyze how ecosystems change in response to natural and human influences, and propose actions to reduce the impact of human behaviour on a specific ecosystem

e. Select and synthesize information from various sources to develop a response to a specific questions related to human influence on a particular ecosystem

f. Propose a course of action or defend a given position on a local ecological issue or problem related to natural or human influences on a particular ecosystem, taking into account scientific, societal, technological, and environmental factors.

Language Arts:

c. Use own experience to create personal or impromptu communications characterized by some insight and development including opinion and personal and critical responses to text

d. Create a variety of narrative, descriptive, expository, and persuasive oral presentations, written compositions, and other representations with some original qualities.

CC7.2

Create and present a teacher-guided inquiry project related to a topic, theme, or issue studied in English Language Arts

a. Apply inquiry process and complete an individual or group inquiry project related to the themes or issues being studied in English Language Arts

b. Examine personal knowledge of and experiences related to a topic to determine information needs.

c. Formulate a variety of relevant questions on a topic to establish a purpose for seeking information

d. Contribute ideas, knowledge, and questions to help establish group inquiry or research focuses and purposes

Math

N7.4 Expand and demonstrate an understanding of percent to include fractional percent between 1% and 100%

f. Explain the meaning of a percent given in a particular context.

g. Make and justify decisions, or suggest course of action based upon known percent for the situation.

Knowledge & Understandings:

Learners will know the life cycle of common product that they used from raw materials to final disposal.

Essential Questions:

Do you know how the cycle of the common product that you used from raw materials to final disposal?

Skills:

Investigation
 Researching skills:
 Technology skills
 Constructing and Analysis of Data

“I can . . .” statements:

I can... identify the cycle of the common product that I used from raw materials to Final disposal

I can... construct data collected

I can.. articulate my analysis of data such as percent in a particular context.

I can make and justify decisions, or suggest course of action based upon known percent for the situation.

Assessment Evidence

Formative Assessments (Assessment for Learning):

- Group Project
- Peer/Self-Assessment

Safety

- Follow basic safety rules in the classroom

Materials

- Common everyday product, such as adhesive tape, a pen, soap, or a pop can
- Reference books
- Computer with Internet access
- Presentation materials

- Journal
- Paper and Pencil

Learning Plan

Learning Experiences & Instruction: Plan the lesson around the 5-E's

Engage/Explain:

Present Video: on how pencil is made

<https://www.youtube.com/watch?v=RXkDJtOioEI&feature=youtu.be>

Class discussion:

1. The teacher then would ask the students to form a group. (Groupings of students may vary)
2. The teacher would ask the class to identify the materials that they commonly use at home.
 - What are the common materials that you use at home? (Ask at least 10 items)
 - What are the common materials that you use in school? (Ask at least 10 items)
3. From the list, the teacher would choose one item. *For example, a shoe.
4. The teacher would work with the students to identify the parts. The class will identify the life cycle of each material

Explore/Explain:

1. With your group, decide what common product you want to analyze. (Make sure that it is different from other groups)
2. Once the group decided to choose the product
 - a. Each group would be given a duotang to organize all their writings and worksheet.
 - b. The teacher would ask the group to write their names in front of the duotang and insert 5 pieces of loose leaf for note taking and record keeping.

Group Activity:

1. Start by listing everything that was used to make the common product. (Ingredients, packaging)
 - The group would discuss how they would label or list the materials used in the common product.
 - Possible questions for each material:
 - What is it made of? Is it made of wood, plastics? Does it use a dye?
2. Each member of the group would choose one material to identify on raw material-common product –final disposal by researching in the computer or at the library?
 - Where do you think the material is produced? Is it here in Canada?
 - Could you investigate how it is made?
3. The group would then identify how it is disposed after use?

- How do you think it is dispose after use?
- Can it be reused or recycled?

Record keeping:

- All written work should be inserted in the folder.
- The group would create a google document to jot down all the summary of their findings and resources.

Elaborate:

1. The group would decide on how they will use charts, graphs, photos and drawing or other techniques.
2. The group would have the time to analyze and interpret the information that they gathered.
3. The group would decide on how they would present it to the class.

Evaluate:

- Guiding question:
 - Does your product have an impact on the environment?
 - Would you still use the product after learning the cycle from raw to final disposal?
 - Can you suggest any changes that could be made to your product to reduce its impact on the environment?

Paper 1:

Worksheet for Raw Material to Final Disposal

Name of Group Members:

Common Product: _____

List down the materials or ingredients your product are made of?

Paper 2

Name: _____

Common Product: _____

Material: _____

Grading
Rubric.docFor group presentation:To be used for group/peer assessmentGroup work Rubric

	5 Points	7 Points	10 Points
Ability to stay on task During Work time	<ul style="list-style-type: none"> Frequently off task, frequent talking outside of group. Teacher has to call your name/group more than once because you/the group is off task 	<ul style="list-style-type: none"> Sometimes off task or some talking outside of group Teacher calls your name once. 	<ul style="list-style-type: none"> Active engagement in doing the group activity Teacher does not call your name/group because it is on task all the time
Shows effort to give input in the activity	<ul style="list-style-type: none"> Has fair input to the project 	Adequately share his or her input	<ul style="list-style-type: none"> Actively share his or her work input for the good of the group
Cooperation during group work time	<ul style="list-style-type: none"> Many problems getting along with group The student/ Group members interrupt each other and teacher has to call out the student/the group more than once to calm down. <p>More than 1 group does not finish the assignment by the end of group time</p>	<ul style="list-style-type: none"> Some problems working with group Group members interrupt each other, but are able to calm down with one verbal reminder from the teacher. <p>1 group member does not finish the assignment by the end of group time</p>	<ul style="list-style-type: none"> Few to no problems working with group Group members do not interrupt each other and require no teacher reminders. <p>Every group member completes assignment by end of group time.</p>

<p>Lesson Title: PLASTIC AND RECYCLING CODES (SORTING PLASTIC AND RECYCLING CODES COLLECTED FROM THE SCHOOL) Grade Level: Grade 7 Designer: Carina de Paz Reference: http://www.sarcan.ca/</p>	
Learning Outcomes/Intentions	
<p>Formal Unit Outcome(s): IE7.4 Analyze how ecosystems change in response to natural and human influences, and propose actions to reduce the impact of human behaviour on a specific ecosystem</p>	
<p>Knowledge & Understandings: (b) Propose ecological questions to investigate arising from practical problems and issues</p> <p>d. Identify and refine questions and problem related to the effect of human influences on a particular ecosystems.</p> <p>e. Select and synthesize information from various sources to develop a response to a specific questions related to human influence on a particular ecosystem</p>	
<p>Essential Questions:</p> <ul style="list-style-type: none"> • What are the recycling codes of the different plastics 	<p>Skills:</p> <p>Observation Communication Inference Prediction</p>
<p>“I can . . .” statements: I can...identify and refine questions to investigate arising from practical problems and issues. I can... select and synthesize information I can.. propose ecological questions to investigate arising from practical problems and issues on plastic</p>	
Assessment Evidence	
<p>Formative Assessments (Assessment for Learning): Presentation of Data Gathered 3-2-1</p>	

Safety

- WHMIS
- Follow safety rules in touching garbage materials

Materials

- Disposable gloves (the students may be asked to bring a reusable rubber gloves if they have one at home)
- Garbage bag
- Laptop with internet connections

Learning Plan

Learning Experiences & Instruction: Plan the lesson around the 5-E's

Engage:

- The teacher would have a large paper (has a table of different plastic recycling codes written) and place it on the board.
- Ask the students
 - What do you see on the board?
 - Do you have an idea of what are the recycling codes of the plastic that you use?
 - Do you have any idea what does it mean?
 - Do you have an inkling on what we are about to do today?

Explore/Explain:

- The student would be paired and be assigned to a classroom
- Each pair will get a plastic recycling code guide and collect plastic garbage from an assigned classroom and bring it back to the classroom.
- Each pair will identify classify and tally the plastics according to its recycling codes.
- The students would input the data on their class tally sheet posted on the board.
- After they are done tallying, each pair will be given a time to discuss to the class of their findings
- After they have shared their idea, they will encode their tally on the class tally sheet posted on the board.
- The teacher would work with the class on the percentage and labelling of the graph
 - What should be the title of the graph?
 - What kind of graph is best to show our data for easy understanding?
 - What are the data that we need to write?
- The class then would discuss the over-all tally sheet.
 - What top most recycling code found in school?
 - What least recycling code found in school?
 - What particular plastic product of the top most recycling code?

- What particular plastic product of the least recycling code?
- What are other findings that our graph would tell us about the plastic product dispose in school?
- How do we dispose this from the school?

More follow up question:

- Where do we send our recyclables both at home and in school
- The students would research on their computer different products according to its recycling codes.















Elaborate:

- The teacher would present SARCAN website to the class.
- Give basic information on how to navigate the website.
- Then each student would get a lap top and go to their pair again and together they would explore the website.
- Jot down notes on their google docs possible questions that they would like to ask to SARCAN personnel

Evaluate;

3-2-1 on SARCAN

Plastic Resin Identification Codes

 PETE	 HDPE	 PVC	 LDPE	 PP	 PS	 OTHER
Polyethylene Terephthalate	High-Density Polyethylene	Polyvinyl Chloride	Low-Density Polyethylene	Polypropylene	Polystyrene	Other
<p>Common products: soda & water bottles; cups, jars, trays, clamshells</p> <p>Recycled products: clothing, carpet, clamshells, soda & water bottles</p> 	<p>Common products: milk jugs, detergent & shampoo bottles, flower pots, grocery bags</p> <p>Recycled products: detergent bottles, flower pots, crates, pipe, decking</p> 	<p>Common products: cleaning supply jugs, pool liners, twine, sheeting, automotive product bottles, sheeting</p> <p>Recycled products: pipe, wall siding, binders, carpet backing, flooring</p> 	<p>Common products: bread bags, paper towels & tissue overwrap, squeeze bottles, trash bags, six-pack rings</p> <p>Recycled products: trash bags, plastic lumber, furniture, shipping envelopes, compost bins</p> 	<p>Common products: yogurt tubs, cups, juice bottles, straws, hangers, sand & shipping bags</p> <p>Recycled products: paint cans, speed bumps, auto parts, food containers, hangers, plant pots, razor handles</p> 	<p>Common products: to-go containers & flatware, hot cups, razors, CD cases, shipping cushion, cartons, trays</p> <p>Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers</p> 	<p>Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; bottles, safety glasses, CDs, headlight lenses</p> <p>Recycled products: electronic housings, auto parts,</p> 

https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwi83-m9yP3eAhVIm-AKHWwBcGkQjRx6BAGBEAU&url=https%3A%2F%2Fwww.quora.com%2FWhat-is-the-purpose-of-the-plastics-recycling-codes&psig=AOvVaw0l1TxWg_N3nFS_fNXg9PIK&ust=1543717098945420

Lesson Title: RECYCLING (FIELD TRIP TO SARCAN)

Grade Level: Grade 7

Designers: Carina de Paz

Reference: <http://www.sarc.ca/>

Learning Outcomes/Intentions

Formal Unit Outcome(s):

IE7.4 Analyze how ecosystems change in response to natural and human influences, and propose actions to reduce the impact of human behaviour on a specific ecosystem

Knowledge & Understandings:

(b) Propose ecological questions to investigate arising from practical problems and issues

d. Identify and refine questions and problem related to the effect of human influences on a particular ecosystems.

e. Select and synthesize information from various sources to develop a response to a specific questions related to human influence on a particular ecosystem

Essential Questions:

- What are the services offered by SARCAN?
- Do they recycle all the garbage that we produce?

Skills:

Observing
Recording
Communicating
Inference
Prediction

“I can . . .” statements:

I can... classify different plastics according to its recycling codes.

I can ... select and synthesize information based on the gathered data

Assessment Evidence

Formative Assessments (Assessment for Learning):

Presentation of Data gathered

Kahoot!

Safety

- Follow SARCAN safety rules and regulations
- The students must stay with the group at all times

Materials

- Duotang with papers
- Pencil/pen for writing

Learning Plan

Learning Experiences & Instruction: Plan the lesson around the 5-E's

Engage/Explain/Explore/Explain:

- The class would bring their lesson from previous meeting.
- Jot down notes as the tour guide explains the facilities.

Exit Slip:

Each student would answer:

- Where does it go? (cite one product)

Lesson Title: WRITING A PERSUASIVE LETTER AS A SOCIAL ACTION ON HUMAN IMPACT

Grade Level: Grade 7

Designers: Carina de Paz

Reference:

<https://www.teacherspayteachers.com/Store/Sarahs-Science-And-More-Store?aref=dmgzctae>

Learning Outcomes/Intentions	
<p>Formal Unit Outcome(s): IE7.4 Analyze how ecosystems change in response to natural and human influences, and propose actions to reduce the impact of human behaviour on a specific ecosystem</p>	
<p>Knowledge & Understandings: (b) Propose ecological questions to investigate arising from practical problems and issues</p> <p>d. Identify and refine questions and problem related to the effect of human influences on a particular ecosystems.</p> <p>e. Select and synthesize information from various sources to develop a response to a specific questions related to human influence on a particular ecosystem</p> <p>English Language Arts CC7.2 :Create and present a teacher-guided inquiry project related to a topic, theme, or issue studied in English Language Arts</p> <p>a. Apply inquiry process and complete an individual or group inquiry project related to the themes or issues being studied in English Language Arts</p> <p>b. Examine personal knowledge of and experiences related to a topic to determine information needs.</p> <p>c. Formulate a variety of relevant questions on a topic to establish a purpose for seeking information</p> <p>d. Contribute ideas, knowledge, and questions to help establish group inquiry or research focuses and purposes</p> <p>e. Prepare and use a plan to access ideas and information from a variety of sources (including digital)</p>	
<p>Essential Questions:</p> <ul style="list-style-type: none"> • What social action that a student could do to promote a more positive human impact on the environment 	<p>Skills: Communication Inference</p>
<p>“I can . . .” statements: I can identify and refine questions and problem related to the effect of human influences on a particular ecosystems. I can synthesize information from various resources to develop a response to a specific questions related to human influence in a particular ecosystem.</p>	
Assessment Evidence	

Formative Assessments (Assessment for Learning):
Rubric

Safety

Follow usual safety protocol in the classroom.

Materials

- Computer
- Paper and pencil for draft

Learning Plan

Learning Experiences & Instruction: Plan the lesson around the 5-E's

Engage/Explain:

Think-pair-share: the students would talk to a classmate on what they have learn about the human impact on the environment.

Explore/Explain:

- Activity was edited from the original text to adapt the flow of my lessons, I kept the rubric according to the original content

1. The students would write a persuasive letter about the impact of human activity in the ecosystem

Direction:

“The Human Footprint on the Environment and Solutions” Essay

Instruction: Write an essay on one of the topics listed below. Be sure to use factual information to support your statements or opinions, based on our previous activities. You may cite the learnings form our community walk, lecture on plastic codes, Research on raw materials to final disposal, and/or our trip to SARCAN.

Differentiated learners:

- Write 2 to 4 paragraphs
- Write 3 to 4 paragraphs
- Write 4 to 5 paragraphs.

Topics:

1. Write a letter convincing PM Justin Trudeau to address an issue on human impact on the environment.
2. How would you approach our school principal in promoting a more sustainable school?
3. Encouraging your family, and friends in reducing plastic use.
4. How do humans impact the environment? Are the effects positive, negative or both?
5. What is one man-made material that you would stop using because of its negative effect on the ecosystem and why?
6. Propose a community activity that promotes a positive action towards improving our ecosystem.

Rubric for ESSAY

Rubric

Category	Exceeds the standard- 4	Meets the standard- 3	Approaching the standard- 2	Does not meet the standard- 1	Weight
Completion	5 paragraphs with 5-7 sentences each present	5 paragraphs with 5 sentences each present	20-24 sentences total present	Fewer than 20 sentences present	___ x 40
Answer the prompt	Every aspect of the selected writing prompt was fully addressed	Every aspect of the selected writing prompt was mentioned	Part of the writing prompt was not addressed	Half or more of the writing prompt was not addressed	___ x 30
Accuracy and appropriateness	All statements are accurate and appropriate for the selected writing prompt	1 statement is not accurate or inappropriate for the selected writing prompt	2-3 statements are not accurate or inappropriate for the selected writing prompt	4 or more statements are not accurate or inappropriate for the selected writing prompt	___ x 20
Spelling and grammar	0 spelling or grammatical errors	1 spelling or grammatical error	2-3 spelling or grammatical errors	4 or more spelling or grammatical errors	___ x 10