

A WORLD WITHOUT PLANTS: UNIT PLAN

Class Description

My class is group of 24 enthusiastic learners in a combined grade 3/4 class at a public elementary school in BC. There are 15 male and 9 female students with a range of interests. The students come from various backgrounds, ethnicities and socio-economic statuses. Together, the class is energetic, focused, and hard working. There is a lot of individualization and choice presented in this class. The students have the freedom to sit where they would like while the teacher is teaching; either at the carpet, on the couches or at their desks. As a split class, the students do different work depending on their grade level for certain subjects. Thus, you will occasionally see the students performing different tasks. Additionally, because the class is diverse, there is a range of adaptations and modifications made.

While there are 11 of ELL students and three students on Individualized Education Plans (IEPs), it is unrecognizable. The ELL students are determined to learn English as evident through their daily practice. One of these students is a grade 4 who writes and reads at a grade 1-2 level, while another is a grade 3 who just moved to Canada from Asia and speaks and understands minimal English. There is one student who is in a wheelchair with a seizure disorder, visual impairment and is tube fed. This student is often not in classroom with the rest of the students.

Given that there is a lot of energy and individualization in the room, the preceding lessons are designed to incorporate different interactive activities that allows for choice. The students are outgoing and comfortable with one another, therefore drama will be incorporated into some of the lessons. They are eager to share and welcoming to others, thus there will be group discussions, and gallery walks to showcase their knowledge.

LESSON 1: A WORLD WITHOUT PLANTS

Subject: **Science**

Topic: **Plant uses**

Time: **45 min**

Grade: **2/3**

Prescribed Learning Outcome(s):

Science

- Processes of Science – ask questions that foster investigations and explorations relevant to the content
- Life Science – describe ways in which plants are important to other living things and the environment

Art

- A5 – Create 2D and 3D images to illustrate and decorate

Objectives:

Students will be able to...

- Make the cover of the Detective Notebook
- Find at least 5 items in the classroom that come from plants and specify what plants they come from

Materials/Resources:

- Cardstock for the Detective Notebook
- Badge Templates
- Plant Uses Worksheet
- Magnifying Glasses

Lesson Plan

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| Hook | 5 min | <ul style="list-style-type: none"> • Gather students • Tell students that for the next four classes, they are going to be science detectives and will need to make their own badges and have their own detective notebooks • Explain to the students that there is an evil villain who is trying to have a world without plants • The students need to convince the townspeople and the evil villain that we need plants! |
| Procedure | 20 min 10 min | <ul style="list-style-type: none"> • To get started as detectives, students will have to decorate their badges and make the cover of their detective booklets by drawing a world without plants • Explain to students that they need background knowledge to convince the townspeople & villain • Students will investigate the room and find different things that humans use as plants. (if necessary, teacher can brainstorm some examples first.) • They will document their findings on the Plant Uses worksheet. They can either draw or write down the item. • The activity will be mainly individual but they can work together if they are stuck. |
| Closing | | <ul style="list-style-type: none"> • As a class, we will go over their findings and see if they found similar ones. We will create a master list of their findings. • Students will be encouraged to write down findings they |

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| | | <p>have missed or new ones they have learned.</p> <ul style="list-style-type: none"> • Explain to the class that the townspeople are somewhat convinced that humans use plants! But there are some who still need convincing! Our next plan is to investigate plants themselves. |
| <p>Assessment:</p> <ul style="list-style-type: none"> • Plant uses worksheet • How many items can the student identify comes from plants? Are they able to specify which plant it comes from? (ie. Table – wood – tree) | | |
| <p>Adaptations:</p> <ul style="list-style-type: none"> • Students are allowed to work in groups of 2 if they need help while investigating the room for plant uses/plant products. If students need help writing, they can draw or share a book with their partner which will be photocopied by the teacher • Teacher can provide hints and guiding questions | <p>Extensions:</p> <ul style="list-style-type: none"> • Students are encouraged to find more than 6 items • Challenge – not to duplicate the plant (ie. Not have wood more than once) | |

Plant Investigation Sheet

| Item | Where does it come from? | Notes |
|------------------------|---------------------------------|--------------|
| <i>example: cereal</i> | <i>grain, wheat</i> | |
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LESSON 2: TREE SPY

Subject: **Science**

Topic: **Plant uses**

Time: **25 min**

Grade: **2/3**

Prescribed Learning Outcome(s):

Science

- Processes of Science – ask questions that foster investigations and explorations relevant to the content
- Life Science – describe ways in which plants are important to other living things and the environment

Objectives:

Students will be able to...

- Document 8 observations about the tree

Materials/Resources:

- Tree Spy Worksheet
- Clipboard/ Hard book

Lesson Plan

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| Hook | 5 min | <ul style="list-style-type: none"> • Gather students and recap what had happened • Give students the badges • Tell the students that as part of their detective work, they will be spies! • Explain the process of observation and prediction |
| Procedure | 5 min 10 min | <ul style="list-style-type: none"> • As a class, make some predictions on what we will observe. • Provide some observation examples • Each student will be given a Tree Spy worksheet. They will go outside and watch a tree. • They will write down all the activities that the tree is involved in (e.g. wind blowing, leaves falling) include as much detail for the tree and location. • Once back in the classroom, ask students to share their results. |
| Closing | 5 min | <ul style="list-style-type: none"> • Have students think-pair-share and come up with 1 reason to save plants based on what they learned today. Some will share with the class. |

Assessment:

- Tree Spy observation sheet and predictions

Adaptations:

- Students are allowed to work in pairs.
- Teacher can provide hints and guiding questions.
- Students can focus on the drawing or writing, depending on their own abilities.

Extensions:

- Students can observe more than one tree.
- Focus more on what might be happening in the tree internally that would involve other elements in its environment
- Students can further develop the

drawing.

LESSON 3: PLANTS AND ANIMAL RELATIONSHIPS

Subject: **Science**

Topic: **Plant uses**

Time: **45 min**

Grade: **2/3**

Prescribed Learning Outcome(s):

Science

- Processes of Science – ask questions that foster investigations and explorations relevant to the content
- Life Science – describe ways in which plants are important to other living things and the environment

Objectives:

Students will be able to...

- Describe the 3 relationships between plants and animals

Materials/Resources:

- Smart Board – game
- Plants and animals cards
- Relationship between Plants and Animals Worksheet

Lesson Plan

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| Hook | 5 min | <ul style="list-style-type: none"> • Recap where we have been so far – how humans use plants and why plants are important • Introduce the last group of living things that use plants • Play the Smart Board game |
| Procedure | 20 min | <ul style="list-style-type: none"> • Introduce to the students the different relationships plants and animals have: mutualism, commensalism, predator-prey • Define each relationship and have the students come up with examples as a class. Students can act out these relationships. |
| | 10 min | <ul style="list-style-type: none"> • Students will be given a piece of paper with either a plant or animal on it. Without revealing the plant or animal, they will have to act out characteristics of the living being to find their partner <ul style="list-style-type: none"> ○ I.e. Bee & flower, tree & bird, cow & grass |
| Closing | | <ul style="list-style-type: none"> • In groups of 4, students will create a tableaux of either mutualism, commensalism or predator-prey. 3 minute prepare. Carousel presentation style. |

Assessment:

- Relationship between Plants and Animals worksheet
- Create and demonstrate the different plant and animal relationships in their tableaux

Adaptations:

- Worksheet: Student can team up with a partner or can sit right next to the teacher. Teacher can have definitions filled out, they need to fill in the examples

Extensions:

- Worksheet: provide more than 1 example
- Game: Think of other plants/ animals that living beings can have relationships with

- Game: student can use sounds or can draw out the characteristics
- Tableaux: Put student in a group with strong students.

- Tableaux: Try to incorporate as much detail and elements into it

Plant and Animal Relationships Worksheet

Name: _____

Relationships between Plants & Animals

| | | |
|-------------------------------|------------------------------|---------------------------|
| Predator-Prey ☺ / ☹ | Commensalism ☺ / ☹ | Mutualism ☺ / ☺ |
| <u>Definition:</u> | <u>Definition:</u> | <u>Definition:</u> |
| <u>Example:</u> | <u>Example:</u> | <u>Example:</u> |

LESSON 4: EVIL VILLAIN WANTED

Subject: **Science**

Topic: **Plant uses**

Time: **45 min**

Grade: **2/3**

Prescribed Learning Outcome(s):

Science

- Life Science – describe ways in which plants are important to other living things and the environment

Objectives:

Students will be able to...

- Explain the relationship between plants & humans, plants & plants, and plants & humans using the proper terms

Materials/Resources:

- Comic book strip template
- Wanted poster
- Lesson Review handouts
- Smart Board/ Chart paper
- Review handouts

Lesson Plan

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| Hook | 5 min | <ul style="list-style-type: none"> • Gather students at the carpet • Tell students that they are on their final mission – to prove the evil villain wrong! |
| Procedure | 5 min | <ul style="list-style-type: none"> • Review the plant relationships and their importance - write this on the board • In pairs or groups of 3, students will have to tell the audience why we need plants incorporating the 3 groups and what they learned |
| | 25 min | <ul style="list-style-type: none"> • Students will select a template (comic book strip, wanted poster) and communicate their ideas in that manner • Comic book strip – will create a story on how they will tell the villain or townspeople why we need plants • Wanted poster – will say why the evil villain is by and why he needs to be stopped |
| Closing | 5 min | <ul style="list-style-type: none"> • Do a gallery walk of all the projects |

Assessment:

- The comic book or wanted poster – did they explain the importance of all 3 relationships? Did they use the proper terms?

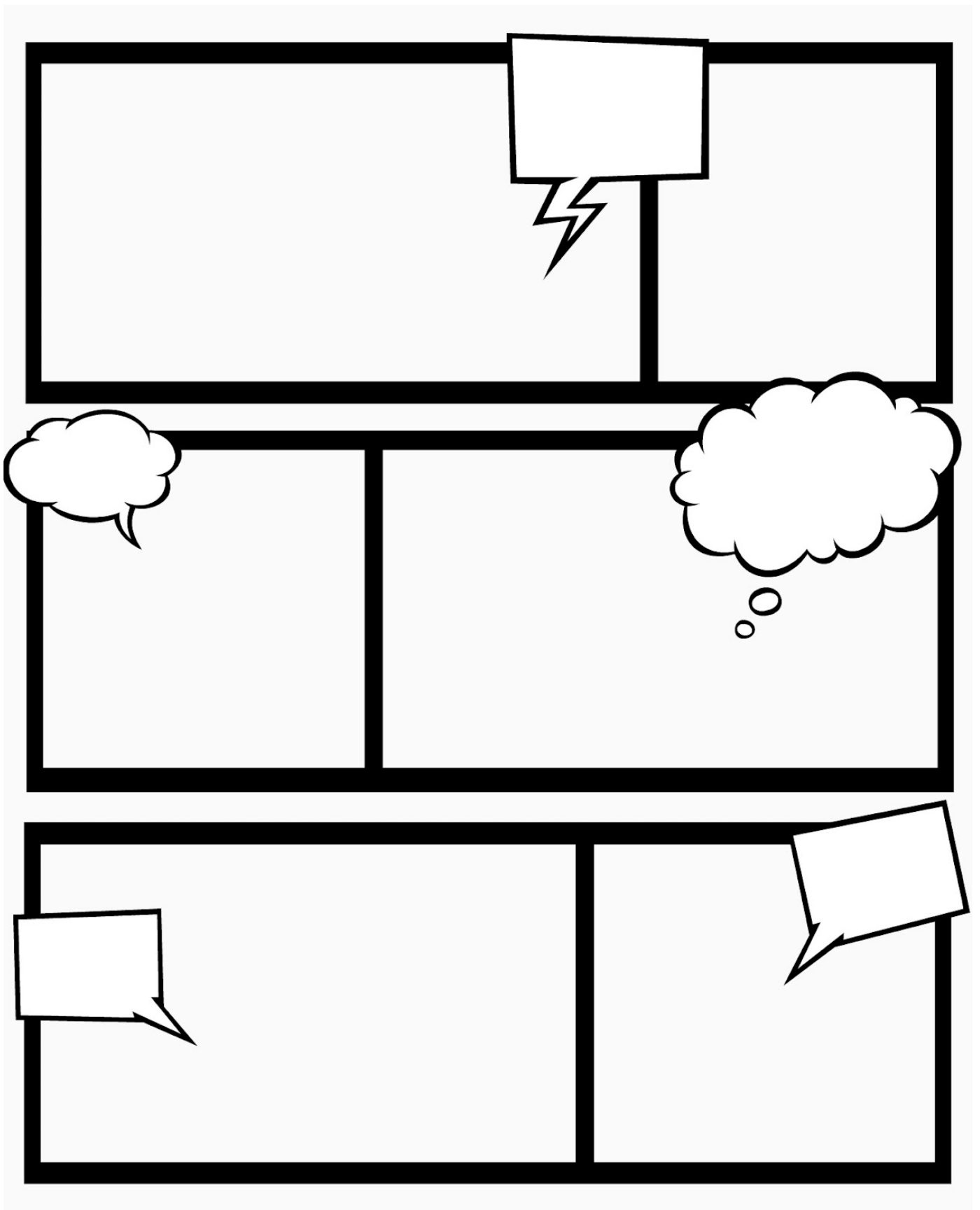
Adaptations:

- Students who need more help can be partnered up with a stronger student. Teacher and guide to determine the jobs. (ie. One student colour while another student writes)
- Teacher will provide sentences and students will fill them in.

Extensions:

- Students can use more than 1 template to express their ideas.

Comic Strip Template



Wanted Poster Template



Resource Critique

| RESOURCE | CRITIQUE |
|---|--|
| <p>ecoMentors Lesson Plan Template: Helping kids explore the planet! http://www.ecomentors.ca/pdfs/growth_and_change_in_plants.pdf</p> | <p>ecoMentors provides a lesson plan template for grade 3 students. The lesson plan provided incorporates a variety of activities that cater to different types of learners. They are very detailed, including materials and time allotments, making them very easy to follow. ecoMentors offers the flexibility to either add or alter the activities of the lesson plan. Additionally, it has external resources to supplement the content of the lesson.</p> |
| <p>Rader's Biology4Kids http://www.biology4kids.com/files/studies_relationships.html</p> | <p>This is a website by Andrew Rader Studios that features different topics for kids to understand. It's article on relationships of organisms is straightforward and easy to understand. For intermediate students, it contains language that is familiar and friendly to them and explains more complicated terms in simple ways. That being said, it does lack scientific language. It provides examples, quizzes and a variety of resources to support its content. It is a great website to use to understand how to explain things to students, as well as for students to use for their own research. It has other websites for other Math and Science topic areas.</p> |
| <p>http://www.edu.gov.mb.ca/k12/cur/science/found/kto4/3c1.pdf</p> | <p>This is the curriculum for grade 3 Science in Manitoba. Their curriculum documents have Prescribed Learning Outcomes (PLOs), suggestions for instruction, suggestions for assessment, and teacher notes to accompany the different suggestions. Furthermore, it provides particular terminology and facts that students are expected to learn to fulfill the PLOs. It may be from 1999, but the activities suggested complement the PLOs and are easily adjustable and edited to fit the classroom needs.</p> |
| <p>http://exchange.smarttech.com/details.html?id=8cd5ebe2-9f01-4ec9-ab83-991be7aed84e</p> | <p>This is an interactive SMART Board activity that allows students to identify how animals use plants. It has three types of games in the program. The games are great hooks or introductory activities, as it can be used with almost any grade level. It does not come with instructions, but is easy to use. If there is not a SMART Board available, the game itself is reproducible. A video of the program is available to preview.</p> |