

# Night Owl Lesson

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## Guiding Questions

How do earth materials change as they move through the rock cycle and how can be used as natural resources?

(Science 5, BC Curriculum).

How do Applied Design Skills and Technology (ADST) projects that embrace **Design Thinking** foster growth mindset, creativity, innovation and problem-solving?

### Know: (content)

#### Applied Design

*Define:* ID constraints & create Designs

*Ideate:* Choose a design to pursue

*Prototype:* Outline plan & acquire tools

*Test:* & gather peer feedback

#### Applied Skills

Use materials, tools, and technologies in a safe manner, and with an awareness of the safety of others, in both physical and digital environments

#### Applied Technologies

Demonstrate a willingness to learn new technologies as needed

### Understand: (Big Ideas)

Skills are developed through practice, effort, and action.  
The choice of technology and tools depends on the task.

### Do: (Science 5 Curricular Competencies)

#### EVALUATING

- Identify some of the assumptions in secondary sources

#### APPLYING AND INNOVATING

- Contribute to care for self, others and community through personal or collaborative approaches
- Cooperatively design projects
- Transfer and apply learning to new situations

#### COMMUNICATING

- Communicate ideas, explanations, and processes in a variety of ways



## INSTRUCTIONAL MODEL (5E)



### Engage: (interest piqued, prior knowledge assessed)

- Connect to text: Read Owl Moon (Jane Yolen) and/or Watch this [YouTube](#) read-along.
- Classroom Discussion: On the last page, the author writes, "You don't need...anything but hope".
  - What are some things you hope for?
  - When you think of your [hopes for the future](#), what would your ideal world look like? Brainstorm ideas. Sketch & label drawings. (Nudge kids towards environmental stewardship)

► [Watch Moneca's Night Owl Instructional Video, here!](#)

### Tasks:

**FIRST** create your own Night Owls! **THEN** think of ways we can promote recycling!

Grade 5 Curriculum References from <https://curriculum.gov.bc.ca/curriculum/>  
**Please click the hyperlinks to launch to supplementary materials.**

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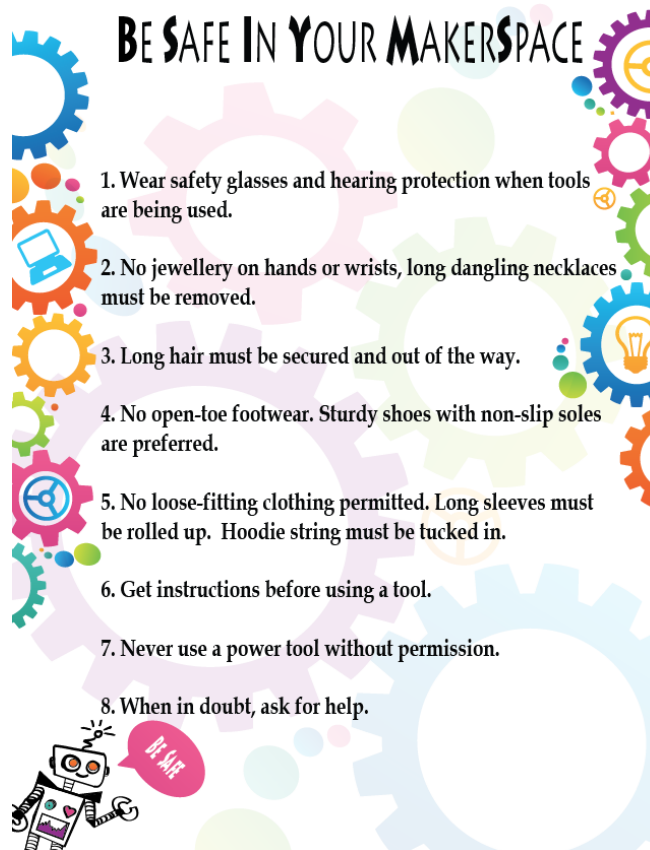


## Explore: (inquiry-based activity)

- How are steel, tin and aluminum cans made?
  - Break students into groups (Rock Cycle, Aluminum, [Steel](#), [Tin](#)) and research the following questions:
  - How does the [rock cycle](#) generate materials like aluminum, steel and tin?
  - What happens to [Steel](#), [Aluminum](#) and [Cans](#) when we recycle them?
  - VOCABULARY: [Hermetic Seal](#), Metamorphic, Igneous, Sedimentary, Aluminum, Steel, Tin.

## SAFETY

- **Introduce** expected behaviours poster for hand tools



- ➡ This is a fun [YouTube](#) about shop safety.

## TOOLS

- Hammer, saw, screwdriver, ratchet-set, nails, bolts, screws

## PROCEDURE

- **IN PAIRS**, Create Night Owl as per [Moneca's video](#).



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**Explain:** *(students communicate what they have learned).*

**Core Competency reflections:** *Assign one or more to individuals or groups. Reflections could take the form of a checklist, a recorded reflection, a written paragraph, etc.*



## **Creative Thinking Competency Discussion/Writing Prompt:**

*Tell me about how you got your idea for your Night Owl.*

**I can get new ideas or build on or combine other people's ideas to create new things within the constraints of a form, a problem, or materials.**

- I can get new ideas to create new things or solve straightforward problems.
- My ideas are fun, entertaining, or useful to me and my peers, and I have a sense of accomplishment.
- I can use my imagination to get new ideas of my own, or build on other's ideas, or combine other people's ideas in new ways.
- I can usually make my ideas work within the constraints of a given form, problem, or materials if I keep playing with them.

Profile 2 (curriculum.gov.bc.ca)



## **Creative Thinking Competency Discussion/Writing Prompt:**

*Tell me about any skills that made you S-T-R-E-T-C-H today. What was new/challenging?*

**I can use evidence to make simple judgments.**

- I can ask questions, make predictions, and use my senses to gather information.
- I can explore with a purpose in mind and use what I learn.
- I can tell or show others something about my thinking.
- I can contribute to and use simple criteria.
- I can find some evidence and make judgments.
- I can reflect on my work and experiences and tell others about something I learned.

Profile 2 (curriculum.gov.bc.ca)

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## Collaboration Competency Discussion/Writing Prompt:

*Tell me about the way you and your partner shared resources, ideas and jobs.*

**I contribute during group activities with peers and share roles and responsibilities to achieve goals.**

- I take on different roles & tasks. I work respectfully & safely in our shared space.
- I express my ideas & help others feel comfortable to share theirs so that all voices are included.
- I work with others to achieve a common goal & can evaluate group processes and results.

Profile 3 (curriculum.gov.bc.ca)



## Communication Competency Discussion/Writing Prompt:

*Tell me about the different ways you communicated with each other. Did you talk? Model? Draw? Listen? Question? Who did what?*

**I communicate purposefully, using forms and strategies I have practiced.**

- I participate in conversations for a variety of purposes (e.g., to connect, help, be friendly, learn and share).
- I listen and respond to others.
- I can consider my purpose when I am choosing a form and content.
- I can communicate clearly about topics I know and understand well, using forms and strategies I have practiced.

Profile 3 (curriculum.gov.bc.ca)

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## Personal Awareness Competency Discussion/Writing Prompt:

*Tell me about what (if anything) was stressful and how you coped with that*

**I recognize my value and advocate for my rights. I take responsibility for my choices, my actions, and my achievements.**

- I have valuable ideas to share.
- I am willing to explore controversial issues, and I can imagine and work toward change in myself and in the world.
- I can set priorities; implement, monitor, and adjust a plan; and assess the results.
- I take responsibility for my learning, seeking help as I need it.
- I use strategies for working toward a healthy and balanced lifestyle, for dealing with emotional challenges, and for finding peace in stressful times.
- I know how to find the social support I need.

Profile 5 ([curriculum.gov.bc.ca](https://curriculum.gov.bc.ca))



## Social Awareness & Responsibility Competency

### Discussion/Writing Prompt:

*Tell me about a time that you helped someone or someone helped you.*

**I can take purposeful action to support others and the environment.**

- I can build relationships and be a thoughtful and supportive friend.
- I can identify ways my actions and the actions of others affect my community and the natural environment.
- I look for ways to make my classroom, school, community, or natural world a better place and identify small things I can do that could make a difference.
- I demonstrate respectful and inclusive behaviour in a variety of settings, and I recognize that everyone has something to offer.

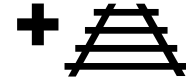
Profile 4 ([curriculum.gov.bc.ca](https://curriculum.gov.bc.ca))

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**Extend:** (*transfer knowledge to other concepts*)



## Cross-Curricular &/or **Connectivist Extension Activities:**

- To better understand the [Rock Cycle](#), get some chocolate and create your own metamorphic, igneous and sedimentary rocks using this lesson plan, % [EarthSciWeek.org](#)
- To better understand how steel is recycled [adapt this film from the National Film Board of Canada](#) to include voice-overs and subtitles that instruct your audience.
  - Remember to obtain permission and share the adapted film back to the National Film Board of Canada!
  - **Build onto these videos by creating a “How it’s Made” type YouTube that promotes your own community’s recycling facilities and programs!**
- To better understand primary and secondary sources (as applied to resources or information) explore [this World War 1 lesson with students \(grade 7-12\)](#).
- Consider an owl themed novel study, [Like Three Pennies \(by Melanie Crowder\)](#).

**Evaluate:** (*assess student understanding*)

[Share this link](#) with students if you wish to assess their ADST development.

Alternatively/additionally, students can self-assess their current state of being by highlighting any applicable statements on the **Core Competencies**, above.

**Questions?** *Connect with Elaine McEachern for support or to collaborate on how we can combine classrooms & harness the power of collaboration.*

Template Downloaded from [curriculum.gov.bc.ca](http://curriculum.gov.bc.ca) (Used with permission from Sarah McQuillan. Excerpted from Masters Thesis: Instructional Tools to Support the Implementation of BC’s Redesigned Curriculum)  
Lesson developed by Elaine McEachern.

Here is a visual that summarizes the lesson:



Question → connect to text → Youtube → make it → reflect on competencies → extend thinking.

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**Please click the hyperlinks to launch to supplementary materials.**

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## LIST OF SUPPLEMENTARY RESOURCES

*IN THE ORDER THAT THEY APPEAR*

### Page 1

1. Building Student Success (Core Competencies, BC Education).  
<https://curriculum.gov.bc.ca/curriculum/>
2. Owl Moon (Jane Yolen YouTube): <https://youtu.be/IXQefRzVkIM>
3. Hope for the Future (Paul McCartney YouTube) [https://youtu.be/163\\_C5UVU-I](https://youtu.be/163_C5UVU-I)
4. Moneca Conway's SD60 Maker Space YouTube Channel  
<https://www.youtube.com/channel/UCZkFPO3SHKqwkupLKq2qc7A>

### Page 2

1. How it's Made: Canned Soup.  
<https://www.youtube.com/watch?v=kXghgXg4Wss>
2. How it's Made; 371 Tins.  
<https://www.youtube.com/watch?v=Xy9H00qnbXU>
3. The Rock Cycle. <https://opentextbc.ca/geology/chapter/3-1-the-rock-cycle/>
4. Steel Appeal: <https://www.youtube.com/watch?v=-r1UisuNtHc>
5. How are Aluminum Cans Recycled?  
<https://www.youtube.com/watch?v=KmMP67eC2tg>
6. How are Cans Recycled?  
<https://www.recyclenow.com/recycling-knowledge/how-is-it-recycled/cans>
7. What is a hermetic seal? [https://en.wikipedia.org/wiki/Hermetic\\_seal](https://en.wikipedia.org/wiki/Hermetic_seal)
8. Wood Shop Safety: Kid Snippets.  
<https://www.youtube.com/watch?v=j7gWxhYgCx4>

### Pages 3-5

1. Building Student Success (Core Competencies, BC Education).  
<https://curriculum.gov.bc.ca/curriculum/>

### Page 6

1. The Rock Cycle. <https://igws.indiana.edu/Bedrock/RockCycle>
2. Chocolate Rock Cycle.  
<https://www.earthsciweek.org/classroom-activities/chocolate-rock-cycle>
3. How do They Recycle Steel?  
<https://www.youtube.com/watch?v=M-O-0XG3HJw>
4. Comparing Primary and Secondary Sources of Information.  
[https://www.warmuseum.ca/firstworldwar/wp-content/mcme-uploads/2014/07/4-a-1-all\\_e.pdf](https://www.warmuseum.ca/firstworldwar/wp-content/mcme-uploads/2014/07/4-a-1-all_e.pdf)
5. Three Pennies (by Melanie Crowder).  
<https://www.goodreads.com/book/show/26146355-three-pennies>

Grade 5 Curriculum References from <https://curriculum.gov.bc.ca/curriculum/>  
**Please click the hyperlinks to launch to supplementary materials.**