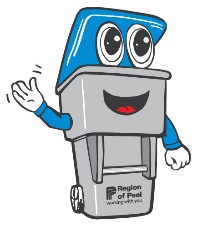
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| Inspiring Change in Waste Management |
| Objective |
| Students are challenged to create ways to inspire change in waste management through activities related to the following teachable subjects:   * Art * Marketing * Technology   This lesson can be teacher led or a self-guided lesson for students. |
| Preparation |
| The lesson focuses on the following teachable subjects:   * Art * Marketing * Technology   See Appendix 1 for detailed curriculum connections.  Resources Required:   * Why Recycle PowerPoint presentation * Peel School Waste Sorting Posters * Peel Recycle Right Fact Sheet * [Waste Sorting Games](https://peelregion.ca/environmental-education/waste.asp#waste) |
| Lesson outline |
| Part 1: Introducing waste reduction concepts  Guide students through the “Why Recycle” PowerPoint presentation, reading the audio aloud. Length: 4 to 5 minutes  Have students discuss the following questions in small groups:   * What did they think about the lifecycle of the aluminum can? Did anything surprise them? * What questions do students have about the environmental impacts of other types of packaging?   Part 2: Introduction to recycling issues   * Show students the following videos: * *Recycling incorrectly can cost taxpayers big time* – CBC The National <http://www.cbc.ca/player/play/1204963395611/> Length: 4 minutes Release date: April 6, 2018 Summary: From not rinsing out containers, to throwing garbage into the recycling, contaminating your blue bin can do more harm than good. *\*See Appendix 2 for detailed summary.*   + Note: Please highlight to the class that black plastic IS currently recyclable in Peel. Black Styrofoam and coffee cup lids are NOT recyclable in Peel.   + *Accompanying article:* <http://www.cbc.ca/news/technology/recycling-contamination-1.4606893> * *Recycle Right in the Region of Peel* <https://www.youtube.com/watch?v=ayBv8GHeh0U> Length: 4 minutes Release date: April 14, 2014 Summary: This video shows how incorrect recycling practices cause issues at Peel’s waste recovery facility, and how to recycle correctly to ensure your recycling efforts aren’t wasted.     Have students discuss the following questions in small groups:   1. Do they make an effort to recycle at school? If yes, why? If no, why not? 2. What information would motivate them or their fellow students to recycle correctly? 3. What questions do they have about recycling? Ask students to make a list of five items that they are not sure how to sort (Are they garbage, recycling, or compostable in Peel?). Have them use the following resources to find out where they go at home and at school:    * To find out where to dispose of them at school, check the Peel School Waste sorting posters    * To find out where to dispose of them at home, use the [Waste Sorting Tool](http://www.peelregion.ca/scripts/waste/how-to-sort-your-waste.pl) at [peelregion.ca/waste](http://www.peelregion.ca/waste).   Note:   * As part of the institutional sector, school boards are responsible for organising their own waste collection services. As a courtesy, the Region of Peel collects recycling from schools. This means Peel’s Waste Sorting Tool is relevant for determining whether an item belongs in the recycling bin at school. * To determine how to correctly sort items at school that the Waste Sorting Tool determines as Organics, Garbage, or Community Recycling Centre, use the Peel School Waste Sorting Posters, or speak to your facility manager. Your school board may have a special program to divert this item from the garbage   Part 3: Student Activity  Choose from 3 activities under the following subjects to engage students:   * Art * Marketing * Technology   Continued on next page.  ART ACTIVITY  *Challenge students to use art as a medium for communicating waste reduction messaging to their peers.*  Resources required  Share with students the following resources:   * Peel Recycle Right Fact Sheet * Peel School Waste Sorting Posters * [Waste Sorting Tool](http://www.peelregion.ca/scripts/waste/how-to-sort-your-waste.pl) at [peelregion.ca/waste](http://www.peelregion.ca/waste)   Step 1: The Creative Process  Students are challenged to produce a visual or media artwork, individually and/or collaboratively, that communicates one or more of the following topics:   * Why recycling matters, and/or * How to recycle correctly in Peel.   For Visual Arts classes, students could create a poster (or another type of artwork).  For Media Arts classes, students could create a video (or another type of media artwork).  Discussion Questions:   * What information could they convey through their artwork to motivate fellow students to recycle correctly? * What information could they convey through their artwork to support students in knowing how to recycle correctly?   Step 2: Sharing Artwork for Change  Students share their artwork with other students in the school, as appropriate for the type of artwork created. For example:   * Posters can be printed and posted throughout the school. * Depending on the length, videos could possibly be shown: * As part of morning announcements in schools with televised or visual announcements, * A virtual lesson * In a screening for other classes in the school   MARKETING ACTIVITY  *Challenge students to create print, audiovisual or electronic marketing promotions that communicate waste reduction messaging to their peers*  Resources required:  Share with students the following resources:   * Peel Recycle Right fact sheet * Peel School Waste Sorting Posters * [Waste Sorting Tool](http://www.peelregion.ca/scripts/waste/how-to-sort-your-waste.pl) at [peelregion.ca/waste](http://www.peelregion.ca/waste)   Step 1: Creating Promotions  Students are challenged to create marketing promotions for a virtual client: The Region of Peel, a governmental organisation. Students are asked to apply marketing concepts to create a promotion that best communicates one or more of the following topics to the student body:   * Why recycling matters * How to recycle correctly in Peel   Their promotion could take the form of a social media challenge, poster, radio ad (for school announcements), TV ad, etc.  Questions to generate ideas:   * What information could they convey through their promotion to motivate students to recycle correctly? What information could they convey through their promotion to support students in knowing how to recycle correctly? * What type of promotion do they think will be most effective in reaching the student body and inspiring change?   Step 2: Inspiring Change  Students will share their promotion with the student body, as appropriate for the type of promotion created. For example:   * Posters can be printed and posted throughout the school. * Radio ads can be broadcasted as part of school announcements. * Depending on the length, videos could possibly be shown: * In the school cafeteria over lunch, * As part of morning announcements in schools with televised or visual announcements, * During a school assembly, * In a screening for other classes in the school. * A social media challenge (E.g. Quiz using Instagram, Twitter, Survey Monkey, Kahoot!, etc.) could offer a prize to encourage students to participate.   TECHNOLOGY ACTIVITY  *Challenge students to create print, audiovisual or electronic marketing promotions that communicate waste reduction messaging to their peers.*  Resources required:  Share with students the following resources:   * Peel Recycle Right fact sheet * Peel School Waste Sorting Posters * [Waste Sorting Tool](http://www.peelregion.ca/scripts/waste/how-to-sort-your-waste.pl) at [peelregion.ca/waste](http://www.peelregion.ca/waste)   Step 1: Creating Media Projects  Students are challenged to produce a media project that communicates one or more of the following topics:   * Why recycling matters * How to recycle correctly in Peel   Based on the course focus, their media project could take the form of:   * Exploring Technologies, Grade 9, Open: A video, TV ad, podcast, radio ad, poster, social media challenge, social media advertising campaign; * Communications Technology, Grade 10, Open: A video, TV ad, podcast, radio ad, cartoon, animation, or interactive webpage (Websites are requested to include a quiz or challenge to engage students in learning new information, using social media to draw attention to the challenge/quiz); * Communications Technology, Grade 11, University/College Preparation: A video, TV ad, podcast, radio ad, poster, social media challenge, social media advertising campaign; * Communications Technology: Broadcast and Print Production, Grade 11, Open: A video, TV ad, podcast, radio ad, newscast, or documentary; * Communications Technology, Grade 12, University/College Preparation: A video, TV ad, newscast, podcast, radio ad, poster, social media challenge, social media advertising campaign; * Communications Technology: Digital Imagery and Web Design, Grade 12, Open: An animation, interactive website (Websites are requested to include a quiz or challenge to engage students in learning new information, using social media to draw attention to the challenge/quiz). * …or another format deemed applicable by the teacher.   Students can work independently or in a team-based approach. If using a team-based approach, students can apply project management techniques to determine roles and coordinate techniques accordingly.  In creating their media project, students are asked to:   * Apply planning techniques and tools to create a plan for their communication project. * Use appropriate organizational and time management tools throughout the project to manage resources and ensure that project deadlines are met. * Use research techniques and idea-generating strategies to identify possible solutions. * Evaluate possible solutions to identify those that most effectively meet the objectives and criteria within the existing constraints. * Create productions that demonstrate competence in the application of creative and technical skills and incorporate current standards, processes, formats, and technologies.   Questions to generate ideas:   1. What information could they convey through their media project to motivate students to recycle correctly? What information could they convey through their media project to support students in knowing how to recycle correctly? 2. What type of media project do they think will be most effective in reaching the student body and inspiring change?   Step 2: Inspiring Change  To encourage waste reduction practices and/or improved recycling practices, students will share their media project with the student body, as appropriate for the type of project created. For example:   * Posters and cartoons can be printed and posted throughout the school. * Radio ads can be broadcasted as part of school announcements. * Depending on the length, videos, newscasts, animations, and documentaries could possibly be shown: * In the school cafeteria over lunch, * As part of morning announcements in schools with televised or visual announcements, * During a school assembly, * In a screening for other classes in the school. * Podcasts could be included in curriculum-connected courses in the school. * A social media challenge (E.g. Quiz using Instagram, Twitter, Survey Monkey, Kahoot!, etc.) could offer a prize to encourage students to participate. * If the interactive webpage includes a challenge or a quiz, a small prize could be offered to entice students to visit the webpage. (E.g. The class could partner with the EcoTeam and award environmental prizes to the first ten students who participate and get all answers correct, etc.). Social media could raise awareness of the webpage / challenge / quiz. |



A picture containing mug

Description automatically generated

**Appendix 1: Curriculum Connections**

**This workshop enhances learning and/or provides context related to the following curriculum expectations:**

**Arts**

**Visual Arts, Grade 9 Open**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create a variety of art works, individually and/or collaboratively;

A2. The Elements and Principles of Design: apply elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;

A3. Production and Presentation: produce art works, using a variety of media/materials and traditional and/or emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others.

A2.2 apply elements and principles of design to create art works that communicate ideas and information (e.g., an informational public service poster on a social issue such as bullying or protecting the environment)

**Media Arts, Grade 11, Open**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create media art works, individually and/or collaboratively;

A2. The Principles of Media Arts: design and produce media art works, applying the principles of media arts and using various elements from contributing arts (dance, drama, music, visual arts);

A3. Using Technologies, Tools, and Techniques: apply traditional and emerging technologies, tools, and techniques to produce and present media art works for a variety of audiences and purposes.

A1.1 use a variety of strategies (e.g., a placemat or jigsaw exercise; brainstorming; sketches; a checklist; a concept web or mind map; research) to generate and explore ideas, individually and collaboratively, for solutions to creative challenges (e.g., creating a media art work on the signs of or issues relating to climate change in their community or on a cultural theme)

A1.2 develop plans, individually and/or collaboratively, that address a range of creative challenges (e.g., use outlines, scripts, diagrams, rough copies, templates, thumbnail sketches, storyboards, and/or production notes to help develop their plans; outline the steps in the creative process that they plan to apply), and revise their plans on the basis of self-assessment and the input of others

A1.3 produce and refine media art works, using experimentation, input, and reflection (e.g., use their plan and outline to guide experimentation; use rating charts, self-assessment rubrics, simulations, journals, class critiques, and/or discussion boards to gather feedback and reflect on their preliminary work; refine their art work on the basis of peer input and self-assessment)

A1.4 exhibit or perform media art works, individually and/or collaboratively, using a variety of methods that are appropriate for their work (e.g., a classroom exhibition showcasing a variety of works on a social issue; an outdoor installation based on an environmental theme; a podcast on the significance of storytelling in First Nation, Métis, and/or Inuit cultures)

**Media Arts, Grade 11, University/College Preparation**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create media art works, individually and/or collaboratively;

A2. The Principles of Media Arts: design and produce media art works, applying the principles of media arts and using various elements from contributing arts (dance, drama, music, visual arts);

A3. Using Technologies, Tools, and Techniques: apply traditional and emerging technologies, tools, and techniques to produce and present media art works for a variety of audiences and purposes.

A1.1 use a variety of strategies (e.g., brainstorming, concept webs, mind maps, group discussions, research using sources such as case studies) to investigate creative challenges and generate innovative ideas, individually and/or collaboratively, for addressing them (e.g., the challenge of creating a video art work on cyberbullying)

A1.2 develop plans, individually and/or collaboratively, that address a variety of creative challenges (e.g., reflect on and filter their ideas to select a feasible one as the basis for their plan; use storyboards, thumbnail sketches, production notes, scripts, choreographic notes, and/or blocking notes to help develop their plans), and assess and revise their plans on the basis of feedback and reflection

A1.3 produce and refine media art works, using research, exploration, input, and reflection (e.g., research audio/visual codes and alternative media; explore new media tools, practise a range of techniques, and reflect on which tools and techniques would be appropriate for their art work; reflect on feedback from their teacher, peers, and others, and modify their preliminary work as appropriate on the basis of this feedback)

A1.4 exhibit or perform media art works, individually and/or collaboratively, using methods that are highly appropriate for the work (e.g., present a performance art work with sound effects or music that enhances their message; post their digital work on the Internet; play the class a DVD of their animation; present their work in an actual or virtual gallery)

**Visual Arts, Grade 11 Open**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create a variety of art works, individually and/or collaboratively;

A2. The Elements and Principles of Design: apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;

A3. Production and Presentation: produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others.

A1.1 use a variety of strategies, individually and/or collaboratively, to generate and explore ideas and to develop plans for the creation of art works (e.g., use brainstorming, research, and/or checklists to generate and explore a range of original ideas; reflect on and filter ideas to select a suitable one to serve as the basis for their art work; use diagrams, notes, and/or outlines to help them develop detailed plans that reflect the stages of the creative process; reflect on and revise their plans on the basis of peer- and self-assessment)

A1.2 apply the appropriate stages of the creative process to produce two- and three-dimensional art works using a variety of traditional and contemporary media (e.g., explore various media and techniques, and determine which ones are most appropriate for their planned art work; reflect on their work at each stage of the creative process; use a variety of strategies to gather feedback on their preliminary work, and refine their work on the basis of feedback and self-assessment)

A1.3 document their use of each stage of the creative process in a portfolio (e.g., include notes, checklists, rough sketches, preliminary versions, and final products to provide evidence of planning, exploration, experimentation, production, reflection, and revision), and refer to this portfolio to reflect on how effectively they have used the creative process

A2.2 apply elements and principles of design as well as art-making conventions to create a variety of art works that explore and/or present a point of view on contemporary social issues and/or themes (e.g., use line, form, and contrast as well as imagery and symbols associated with an urban subculture in a drawing or mixed-media work that explores the issue of discrimination)

A3.1 explore a range of techniques, tools, materials/ media, and technologies, including alternative media and current technologies, and apply them to create and present a variety of art works (e.g., use digital photographs, image-editing software, found objects, and fabric to create an original work of art; create site-specific art works, mosaics, plaster works; present their art work in a virtual gallery)

**Visual Arts, Grade 11 University/College Preparation**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create a variety of art works, individually and/or collaboratively;

A2. The Elements and Principles of Design: apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;

A3. Production and Presentation: produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others.

A1.1 use various strategies, individually and/or collaboratively, to generate, explore, and elaborate on ideas and to develop and revise detailed plans for the creation of art works that address a variety of creative challenges (e.g., use brainstorming, concept webs, and/or group discussions to formulate original ideas for thematic works and/or works of personal expression; use research and discussions with a partner to explore and elaborate on ideas; use diagrams, notes, and/or outlines to help them formulate detailed plans for the art work; revise their plans on the basis of reflection)

A1.2 apply the appropriate stages of the creative process to produce and revise two- and three-dimensional art works using a variety of traditional and contemporary media (e.g., explore, experiment with, and refine their use of a variety of media; choose a medium/media appropriate for their planned art work; reflect on the effectiveness of preliminary versions of their work; revise their art work on the basis of reflection and useful feedback)

A2.2 apply elements and principles of design as well as art-making conventions to create art works that comment and/or communicate their personal perspective on issues related to social justice or the environment (e.g., use line and value in a dry point etching that integrates satire or symbolism to comment on an issue such as poverty, child labour, or discrimination)

A3.1 explore and experiment with media, including alternative media, and current technologies, and use them to create a variety of art works (e.g., use media such as digitally enhanced photographs, transparencies, and/or found objects when creating a collage; create a mixed-media image reflecting their personal identity or cultural heritage)

**Media Arts, Grade 12 University/College Preparation**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create media art works, individually and/or collaboratively;

A2. The Principles of Media Arts: design and produce media art works, applying the principles of media arts and using various elements from contributing arts (dance, drama, music, visual arts);

A3. Using Technologies, Tools, and Techniques: apply traditional and emerging technologies, tools, and techniques to produce and present media art works for a variety of audiences and purposes.

A1.1 use a variety of strategies (e.g., brainstorming, concept webs, mind maps, advisory/production team discussions, research using a variety of sources) to investigate increasingly complex creative challenges and to generate and organize innovative ideas, individually and/or collaboratively, for addressing these challenges (e.g., the challenge of developing a virtual gallery)

A1.2 develop detailed plans, individually and/or collaboratively, that address a variety of creative challenges, including increasingly complex challenges (e.g., reflect on and filter their ideas to select a feasible one as the basis for their plan; use storyboards, thumbnail sketches, production notes, scripts, choreographic notes, and/or blocking notes to help develop their plans; with a partner, plan a media work using alter egos or, in the digital world, avatars), and assess and refine their plans on the basis of feedback and reflection

A1.3 produce and refine media art works, including increasingly complex art works, using research, exploration, input, and reflection (e.g., research audio/visual codes and alternative media; extend their skills by experimenting with new tools and practising unfamiliar techniques; reflect on feedback from their teacher, peers, and others, and modify their preliminary work as appropriate on the basis of this feedback)

A1.4 exhibit or perform media art works, including increasingly complex works, independently and/or collaboratively, using the most appropriate methods for the work (e.g., present a performance-based installation with a soundscape in a space with effective lighting, sightlines, and acoustics; exhibit their digital works in a virtual gallery; present their animation at a school-wide film festival)

**Media Arts, Grade 12 Workplace Preparation**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create media art works, individually and/or collaboratively;

A2. The Principles of Media Arts: design and produce media art works, applying the principles of media arts and using various elements from contributing arts (dance, drama, music, visual arts);

A3. Using Technologies, Tools, and Techniques: apply traditional and emerging technologies, tools, and techniques to produce and present media art works for a variety of audiences and purposes.

A1.1 use a variety of strategies (e.g., brainstorming, concept webs, mind maps, group discussions, research) to generate and organize ideas, individually and/or collaboratively, for addressing creative challenges (e.g., the creation of a mixed media installation that raises awareness of workplace safety issues in Ontario)

A1.2 develop production plans, individually and/or collaboratively, that address a variety of creative challenges (e.g., use thumbnail sketches, storyboards, and/or production notes to help them formulate plans for a sound and image presentation for the workplace), and modify their plans on the basis of feedback from their teacher, their peers, and others

A1.3 use experimentation, input, and reflection to produce a media art work based on their production plan and to refine their art work (e.g., experiment with media tools and techniques; before producing their final product, reflect on feedback from their teacher, peers, and others, and use it to refine their preliminary work)

A1.4 present media art works, individually and/or collaboratively, using methods that are appropriate for the work (e.g., project digital images with a soundtrack that enhances the theme of the images; create an interactive web page with clear instructions; present their site-based installation in a space that complements the installation; present their video or animation during a classroom film festival)

**Visual Arts, Grade 12 University/College Preparation**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create a variety of art works, individually and/or collaboratively;

A2. The Elements and Principles of Design: apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;

A3. Production and Presentation: produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others.

A1.1 use various strategies, individually and/or collaboratively, with increasing skill to generate, explore, and elaborate on original ideas and to develop, reflect on, and revise detailed plans for the creation of art works that address a variety of creative challenges (e.g., extend their skills in using brainstorming, concept webs, mind maps, and/or group discussions to formulate original and innovative ideas for an art work on a social or personal theme; use critical research skills to explore and elaborate on ideas; demonstrate fluency in formulating clear and detailed plans; demonstrate flexibility in revising their plans on the basis of reflection)

A1.2 apply, with increasing fluency and flexibility, the appropriate stages of the creative process to produce two- and three-dimensional art works using a variety of traditional and contemporary media (e.g., extend their skills in working with a range of media; demonstrate flexibility in revising plans in response to problems encountered during other stages of the creative process; reflect on the effectiveness of preliminary versions of their work, and revise the work on the basis of reflection and self-assessment)

A3.1 use with increasing skill a wide variety of media, including alternative media, and current technologies to create two- and three dimensional art works for a variety of purposes (e.g., extend their skills in the manipulation of a variety of media and technologies to create a sculpture for an outdoor space, a mixed-media work for display on the Internet, an installation evoking their cultural heritage)

**Visual Arts, Grade 12 Workplace Preparation**

Strand: Creating and Presenting

A1. The Creative Process: apply the creative process to create a variety of art works, individually and/or collaboratively;

A2. The Elements and Principles of Design: apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;

A3. Production and Presentation: produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others.

A1.1 use a variety of strategies, individually and/or collaboratively, to generate, explore, and reflect on ideas and to develop and revise plans for the creation of art works, including applied and commercial art works (e.g., extend their skills in brainstorming and research to generate and explore a range of creative ideas; reflect on ideas and choose one that is suitable for the creative challenge; use strategies such as thumbnail sketches, diagrams, notes, and/or outlines to help them develop detailed plans; reflect on and revise their plans)

A1.2 apply the appropriate stages of the creative process to create a variety of art works, including applied and commercial art works, in areas of personal interest (e.g., produce art works in one or more of the following areas: digital art, furniture design, fashion design, graphic arts, jewellery design, painting, sculpture; use charts or checklists to ensure they complete the stages of the creative process that are most appropriate for the creative challenge) the stages of the creative process you would need to use in your work-related project.”

A2.1 apply the elements and principles of design with increasing skill to create art works, including applied and commercial art works, that reflect their personal interests or personal experience and/or that convey emotion (e.g., extend their skills in the use of texture, value, line, shape, form, unity, and/or variety to create a narrative work based on a workplace experience; use colour, space, emphasis, and proportion to create an advertisement that conveys a feeling of excitement)

A2.2 apply the elements and principles of design as well as art-making conventions with increasing skill to create a variety of art works that explore and/or present a point of view on contemporary social issues and/or themes (e.g., use dramatic symbols, shapes, colours, and values to create a poster on a current issue for an advocacy group)

A3.1 extend their exploration of media/materials, techniques, tools, and traditional and emerging technologies, and apply them to create a variety of art works, including applied and commercial art works, for a range of purposes (e.g., use appropriate software to design and produce a logo and stationery products, including letterhead and business cards, for a business enterprise; create a promotional item such as a poster or T-shirt for a fund-raising event for an environmental advocacy group)

A3.3 demonstrate an understanding of the variety of ways in which art works, including applied and commercial art works, can be presented to reach a variety of audiences (e.g., peers in their school, members of the community at a local venue, a particular demographic group that might be interested in a product/service, a broad audience on the Internet) and for different purposes (e.g., to promote events, to sell products or services, to inform)

**Marketing**

**Marketing: Goods, Services, Events - Grade 11, College Preparation**

Strand: The Marketing Mix

* Create a variety of print, audiovisual, and electronic promotions (e.g., magazine, newspaper, television, radio, Internet, specialty advertising) for different audiences.

Strand: Marketing Fundamentals

* Identify ways in which not-for-profit and government organizations market their goods, services, and events;
* Compare the purposes of marketing for profit and not-for-profit organizations (e.g., to sell products and lifestyles, to raise funds, to raise awareness about issues).

**Technology**

**Exploring Technologies, Grade 9, Open**

Strand: Technology Fundamentals

A1. demonstrate an understanding of the fundamental concepts and skills required in the planning and development of a product or service, including the use of a design process and/or other problem-solving processes and techniques.

A1.4 incorporate appropriate technological concepts (e.g., aesthetics, control, environmental sustainability/stewardship, ergonomics, fabrication/building/creation, function, innovation, material, mechanism, power and energy, safety, structure, systems) in the design, fabrication or delivery, and evaluation of a product or service (see pp. 5–6).

Strand: Technological Skills

B1.1 apply the steps of a design process or other problem-solving process to plan and develop products and services (e.g., define the problem or challenge, taking into account relevant contextual or background information; gather information [about criteria, materials, constraints]; generate possible solutions, using techniques such as brainstorming; choose the best solution; develop and produce a model or prototype; test the model or prototype; incorporate improvements or redesign and retest; report on results) (see pp. 16–19).

B1.2 apply the steps and/or techniques of appropriate problem-solving processes and methods (e.g., diagnostics, reverse engineering, trial and error, divide and conquer, parts substitution, extreme cases) to solve a variety of problems in different technological areas

B.2 fabricate products or deliver services, using a variety of resources

B2.1 use appropriate tools, materials, and equipment (computer, software, printer, video camera) to create products or deliver services;

B2.3 meet all design criteria (e.g., technical requirements, type and quality of materials, appearance, ease of use, safety, timeline, client’s expectations) in creating a product or delivering a service;

**Communications Technology, Grade 10, Open**

Strand: Communications Technology Skills

B2. apply a design process or other problem-solving processes to meet a range of challenges in communications technology;

B2.1 define a problem or challenge precisely and in adequate detail, taking into account relevant contextual or background information.

B2.2 define project objectives and performance criteria precisely and in adequate detail, and identify constraints such as cost, time, or technology restrictions that will limit design or problem-solving options.

B2.3 use a variety of information sources and research techniques (e.g., Internet and library searches, checking manuals and other printed materials, consulting experts) to help identify possible solutions.

B2.4 use idea-generating techniques such as brainstorming or clarification techniques such as situation analyses to help identify possible solutions.

B2.6 evaluate possible solutions to identify those that most effectively meet the objectives and criteria within the existing constraints.

B3. create products or productions that demonstrate competence in the application of creative and technical skills.

B3.1 apply creative skills, equipment operating skills, and software skills to create components for a media production (e.g., text, video footage, voice-overs, graphics, animations for a video promoting a school event).

**Communications Technology, Grade 11, University/College Preparation**

Strand: Communications Technology Fundamentals

A2.2 use application software and/or equipment competently to perform a variety of communications tasks (e.g., inputting, manipulating, and outputting sounds and images; embedding and linking graphics in an interactive portable document; posting media on the Internet).

A4.2 describe and apply concepts and techniques that facilitate effective collaboration in a team environment (e.g., cooperative discussion, conflict resolution techniques, providing opportunities for all to participate, listening, respecting the ideas of others, constructive criticism).

Strand: Communications Technology Skills

B1. apply project management techniques to develop communications technology products effectively in a team environment;

B1.1 describe the roles that are required for effective management of team-based projects (e.g., scheduler, budget controller, secretary/coordinator) and apply coordination techniques (e.g., meeting regularly to review progress and make decisions, forming task groups to deal with special issues);

B1.2 use a variety of planning techniques and tools (e.g., research, design briefs, task lists, scripts, mock-ups, storyboards, site maps, project-planning software) when creating plans for communications projects;

B1.3 use appropriate organizational and time management tools (e.g., student planners, journals, electronic organizers, organizational software) throughout the project to manage resources and ensure that project deadlines are met;

B1.4 use a variety of techniques (e.g., comparing outcomes to specifications) to evaluate the results of the project management process.

B2. apply a design process or other problem-solving processes or strategies to meet a range of challenges in communications technology;

B2.1 define a problem or challenge precisely and in adequate detail, taking into account relevant contextual or background information;

B2.2 define project objectives and performance criteria precisely and in adequate detail, and identify constraints such as cost, time, or technology restrictions that will limit design or problem-solving options;

B2.3 use a variety of information sources and research techniques to help identify possible solutions (e.g., Internet and library searches, checking manuals and other printed materials, consulting experts);

B2.4 use idea-generating techniques such as brainstorming or clarification techniques such as situation analyses to help identify possible solutions;

B2.5 use charts or hand-drawn sketches to organize sequences, clarify relationships, or compare alternatives;

B2.6 evaluate possible solutions to identify those that most effectively meet the objectives and criteria within the existing constraints.

B3. create productions that demonstrate competence in the application of creative and technical skills and incorporate current standards, processes, formats, and technologies.

B3.1 use appropriate procedures to set up and operate media production equipment (e.g., audio, video, or graphic systems; studio lighting systems; electronic pre-press equipment; printing systems); B3.2 use appropriate software applications (e.g., computer graphics, photo editing, video editing) to complete a variety of tasks associated with designing communications media;

B3.3 demonstrate an understanding of industry guidelines, conventions, rules, and standards and apply them to the production of communications media products (e.g., standards for legibility, type measurement, and letter spacing in graphic design; video resolution standards [standard versus high definition] and colour standards [NTSC versus ATSC] for TV; colour proofing guidelines for printing; resolution, readability, file size, browser compatibility, and accessibility standards for websites).

**Communications Technology: Broadcast and Print Production, Grade 11, Open**

Strand: Communications Technology Fundamentals

A1.3 use video editing, audio editing, graphic arts, and publishing software correctly to perform basic production tasks or create simple products (e.g., use dissolves and fades, stop motion; add titles; create simple layouts, logos);

A1.7 apply design principles (e.g., balance, rhythm, proportion, contrast, and flow) and elements (e.g., colour, line, space, form, and texture) to communicate an idea or concept.

A3. demonstrate an understanding of and apply the interpersonal skills necessary to work effectively in a team setting.

A3.2 describe and use techniques that encourage participation by all members of a team (e.g., brainstorming, group discussion, celebration of others’ thoughts or contributions);

A3.3 describe and use concepts and techniques that facilitate effective collaboration in a team environment (e.g., cooperative discussion, conflict resolution techniques, motivation techniques, respect for the ideas of others, constructive criticism).

Strand: Communications Technology Skills

B1. apply project management techniques to the planning and development of audio, video, broadcast journalism, graphic arts, and printing products;

B1.1 use a variety of planning techniques and tools (e.g., research, project proposals, storyboards, script treatments) when creating plans for an audio, video, broadcast journalism, graphic arts, and/or printing project;

B1.2 use appropriate organizational and time management tools (e.g., student planners, journals, production schedules, electronic organizers, organizational software) throughout the project to manage resources and ensure that project deadlines are met. By the end of this course, students will:

B2. apply a design process or other problem-solving processes or strategies to meet a range of challenges in creating audio, video, broadcast journalism, graphic arts, and printing products;

B2.1 apply the steps in a design process to develop solutions to creative challenges (e.g., define the problem or challenge, taking into account relevant contextual or background information; define project objectives and criteria and identify constraints such as cost, time, or technology limitations; gather information and generate possible solutions using techniques such as brainstorming; evaluate possible solutions and apply the one that most effectively meets the objectives and criteria within the existing constraints);

B2.2 apply appropriate problem-solving approaches and/or techniques to solve specific technical problems (e.g., diagnostics, reverse engineering, trial and error, divide and conquer, parts substitution, extreme cases).

B3. create products or productions that demonstrate competence in the application of creative and technical skills.

B3.1 apply creative skills, equipment operating skills, and software skills to create components for a media production (e.g., news copy, video footage, voice-overs for a TV news broadcast; text, images, page layouts for a publication);

B3.2 apply editing skills to integrate the components into a unified and effective production.

Strand: Technology, the Environment, and Society

C1.2 describe ways in which environmental problems are being or can be addressed by the audio, video, broadcast journalism, graphic arts, and printing industries (e.g… using the persuasive power of the media to promote environmental stewardship).

**Communications Technology, Grade 12, University/College Preparation**

Strand: Communications Technology Foundations

A4.1 describe and apply a variety of team-building strategies (e.g., cooperative discussion, collaboration strategies, conflict resolution strategies, motivational strategies, respect for the ideas of others);

A4.2 demonstrate an understanding of and apply techniques for encouraging collaboration and building consensus (e.g., sharing information, resources, and expertise; providing opportunities for all to participate; listening);

A4.3 demonstrate an understanding of leadership techniques (e.g., provide clear expectations, recognize contributions, value opinions, communicate progress, criticize constructively) and apply them in a team setting.

Strand: Communications Technology Skills

B1. apply project management techniques to the planning and development of communications media projects;

B1.1 use a variety of planning techniques and tools (e.g., research, project proposals, design briefs, storyboards, site maps, production schedules) when creating plans for communications technology projects;

B1.2 use a variety of software applications to manage time and resources throughout a project (e.g., scheduling software to produce production schedules and track progress, spreadsheet software to produce equipment availability lists and edit decision lists);

B1.3 use review procedures to measure progress and adapt plans and processes as necessary to ensure timely and accurate completion of projects.

B2. apply a design process or other problem-solving processes or strategies to meet a range of challenges in communications technology;

B2.1 define a problem or challenge precisely and in adequate detail, taking into account relevant contextual or background information;

B2.2 define project objectives and performance criteria precisely and in adequate detail, and assess the effects of constraints such as cost, time, or technology restrictions that will limit design or problem-solving options;

B2.3 use a variety of information sources and research techniques to help identify possible solutions (e.g., conducting Internet and library searches, checking manuals and other printed materials, consulting experts); B2.4 use idea-generating techniques such as brainstorming, or clarification techniques such as situation analyses, to help identify possible solutions;

B2.5 use charts or hand-drawn sketches to organize sequences, clarify relationships, or compare alternatives;

B2.6 evaluate possible solutions to identify those that most effectively meet the objectives and criteria within the existing constraints.

B3. create products or productions that demonstrate competence in the application of creative and technical skills and incorporate current and evolving standards, processes, formats, and technologies.

B3.1 use advanced procedures to set up and operate media production equipment (e.g., cameras, lighting equipment, audio and video recorders, audio mixers, video switchers, scanners, printing equipment, camera supports);

B3.2 apply creative skills, equipment operating skills, and software skills to create and integrate components for a media production (e.g., news copy, video footage, voice-overs, graphics, animations for a TV news broadcast);

B3.3 demonstrate an understanding of and apply industry standards for technical manipulations (e.g., lighting, colour balance) and calibrations (e.g., input and output devices, monitors);

B3.4 produce rich media products that conform to evolving industry standards and formats (e.g., interactive graphics, streamed video, radio broadcasts).

**Communications Technology: Digital Imagery and Web Design, Grade 12, Open**

Strand: Communications Technology Fundamentals

A1.3 use imaging, image editing, animation, 3D modelling, and web design software correctly to perform basic production tasks or create simple products (e.g., correcting and manipulating images, preparing images for web or print viewing, tweening, texture mapping, creating an animated GIF, designing a web page);

A1.4 demonstrate an understanding of the creative skills and techniques required to produce effective photographs, digital images, animations, 3D models, and/or web pages (e.g., composition, lighting, image editing and optimization, claymation, site planning);

A1.7 apply basic design principles (e.g., balance, rhythm, proportion, contrast, flow) and elements (e.g., colour, line, space, form, texture) to communicate an idea or concept.

A3.1 explain the value of sharing ideas, information, resources, and expertise when working in a team setting;

A3.2 describe and use techniques that encourage participation by all members of a team (e.g., brainstorming, group discussion, celebration of others’ thoughts or contributions);

A3.3 describe and use concepts and techniques that facilitate effective collaboration in a team environment (e.g., cooperative discussion, conflict resolution techniques, motivation techniques, respect for the ideas of others, constructive criticism).

Strand: Communications Technology Skills

B1. use project management techniques effectively in the development of photographic, digital imaging, animation, 3D modelling, and web design products;

B1.1 use planning techniques and tools effectively (e.g., research, storyboards, scripts, site plans, roughs, mock-ups, design briefs) when creating plans for a photographic, digital imaging, animation, 3D modelling, and/or web design project;

B1.2 use appropriate organizational and time management tools (e.g., student planners, journals, production schedules, electronic organizers, organizational software) throughout the project to ensure that project deadlines are met.

B2. apply a design process or other problem-solving processes or strategies to meet a range of challenges in creating photographic, digital imaging, animation, 3D modelling, and web design products;

B2.1 apply the steps in a design process to develop solutions to creative challenges (e.g., define the problem or challenge, taking into account relevant contextual or background information; define project objectives and criteria and identify constraints such as cost, time, or technology limitations; gather information and generate possible solutions using techniques such as brainstorming; evaluate possible solutions and apply the one that most effectively meets the objectives and criteria within the existing constraints);

B2.2 apply appropriate problem-solving approaches and/or techniques to solve specific technical problems (e.g., diagnostics, reverse engineering, trial and error, divide and conquer, parts substitution, extreme cases).

B3. create productions that demonstrate competence in the application of creative and technical skills.

B3.1 apply creative skills, equipment operating skills, and software skills to create components for a media production (e.g., create images and animations, design page layout and navigation scheme, edit markup language for a website; shoot photographs, process images, make and mount prints for a photographic exhibition); B3.2 apply editing skills to integrate the components into a unified and effective production.

Strand: Technology, The Environment, and Society

C1.2 describe ways in which environmental problems are being or can be addressed by the photographic, digital imaging, animation, 3D modelling, and web design industries (e.g., use of rechargeable batteries; reduction of packaging; recycling of paper, toner and ink cartridges; use of energy-efficient equipment; upgrading rather than replacing obsolete equipment; recycling equipment slated for disposal; environmental certification of operations [EcoLogo, ISO 14001]).