

Subject-Group Overviews: Design

Created in the Late Fall of 2014 at Rochester Montessori School, Revised June 2016, Fall 2017

Year One, Grade 6

Unit Name	Key Concept	Related Concepts	Global Context	Statement of Inquiry	Objectives	ATL Skills	Content
Design a Learning Space [bre]	Form	Function	Personal and Cultural Expression	Metacognition, or "thinking about your thinking," can influence the creation of form and function of products.	B C	Social Thinking Self-Management	Metacognition Learning Styles IB Learner Profiles Design Cycle Brainstorming Technical Writing emailing basics Reflection
A Sew Cool Design [bre]	Development	Form, Sustainability	Globalization and Sustainability	Developing sustainability skills will limit over-consumption.	A B	Self-management	Sewing Basics: threading, stitches, using a sewing machine and troubleshooting Sustainable fabrics Skills of self-reliance
Learner Profile Short Film [bre]	Communication	Evaluation, Collaboration	Identities and Relationships, Competition and Cooperation	Routine, required and honest evaluations of product design[ideas] will depend on sustained communication, open-mindedness and cooperation with collaborators.	A B C D	Communication Self-management	Storytelling Design Cycle Inquiring and Analyzing Developing Ideas Brainstorming Justification of ideas Creating Film Storyboards

							Acting Producing and Directing Films Location Scouting Managing paperwork Arranging schedules for filming Writing scripts Editing sound Cinematography Editing Software Action Planning Event Planning
Bees and Beekeeping [greg]	Communities	Resources and sustainability	Identities and Relationships	Bees can be incorporated at RMS to develop a sustainable community that provides resources that can be used by humans	B C D	Communicat ion and Research	-Create a poster illustrating a type of bee, equipment used by beekeepers, and uses of honey -Write a summary reflection on a news article about bees -Create a paper evaluating three different types of hives

Years Two/Three, Grades 7/8: YEAR A

Unit Name	Key Concept	Related Concepts	Global Context	Statement of Inquiry	Objectives	ATL Skills	Content
Destination Transportatio n Center [bre]	Development	Sustainability	Scientific and Technical Innovation	Developing an innovative transportation system design for our community's future will depend on its sustainability.	A B	Thinking	Transportation Systems Innovation and Inventions Sustainability in Transportation Inquiry Questions Design Cycle

							<p>Inquiring and Analyzing Developing ideas Making a prototype 3-d design Design briefs Organizing research Presentations Design Specifications</p>
A Sew Cool Design* [bre]	Development	Form, Sustainability	Globalization and Sustainability	Developing sustainability skills will limit over-consumption.	C D	Self-management	<p>Sewing Basics: threading, stitches, using a sewing machine and troubleshooting Sustainable fabrics Skills of self-reliance</p>
Learner Profile Short Film [bre]	Communication	Evaluation, Collaboration	Identities and Relationships, Competition and Cooperation	Routine, required and honest evaluations of product design[ideas] will depend on sustained communication, open-mindedness and cooperation with collaborators.	A B C D	Communication Self-management	<p>Storytelling Design Cycle Inquiring and Analyzing Developing Ideas Brainstorming Justification of ideas Creating Film Storyboards Acting Producing and Directing Films Location Scouting Managing paperwork Arranging schedules for filming Writing scripts Editing sound Cinematography Editing Software Action Planning Event Planning</p>

Urban Planning [greg]	Communities	Resources and Sustainability	Scientific and Technical Innovation	Design an ideal urban community that makes thoughtful use of natural resources and strives to be sustainable	A C	Communication Skills	-Elements of urban planning -Readings on infrastructure -Site study: urban sprawl and pollution -Energy conservation concepts -Water quality testing
Elements of Set Design [greg]	Community	Perspective, form, and function	Identities and relationships	Students explore the use of creative set designs, which provide perspective on scale, and incorporate form and function into innovative solutions.	A C	Social skills	-introduction to 19th century paper theater -19th century paper theater projects -Elements of set design -Constructing set design elements

Years Two/Three, Grades 7-8: YEAR B

Unit Name	Key Concept	Related Concepts	Global Context	Statement of Inquiry	Objectives	ATL Skills	Content
Home Page Book [bre]	Form	Evaluation and Function	Identities and Relationships	Form is developed through careful evaluation and discussion of function.	B D	Communication Critical and Creative Thinking	Form Function Evaluating Design
Energy Hogs [greg]	Communities	Resources and Sustainability	Identities and Relationships	Energy can help sustain all aspects of human communities provided that resources are being used wisely to obtain energy.	A D	Communication skills and information literacy skills	-Energy resources -Renewable/ Nonrenewable sources -Geographic resource distribution -Community growth and resources -Appliance energy consumption

Learner Profile Short Film [bre]	Communication	Evaluation, Collaboration	Identities and Relationships, Competition and Cooperation	Routine, required and honest evaluations of product design[ideas] will depend on sustained communication, open-mindedness and cooperation with collaborators.	A B C D	Communication Self-management	Storytelling Design Cycle Inquiring and Analyzing Developing Ideas Brainstorming Justification of ideas Creating Film Storyboards Acting Producing and Directing Films Location Scouting Managing paperwork Arranging schedules for filming Writing scripts Editing sound Cinematography Editing Software Action Planning Event Planning
Engineering Design [greg]	Development	Innovation, Resources, and Function	Scientific and Technical Innovation	Students will be learning about different types of engineered structures, applying their knowledge, and using the design cycle to create models that meet specific engineering objectives.	B C D	Thinking skills and communication skills	-Introduction to bridge design concepts -Bridge design challenge -Forces -Tower design -Model car construction -Developments in vehicle design