Grade 10 Design
Units of Study

UNIT 1:	**Recording the Past** (Students create a product which illustrates changes through times (and places) to where we are today)	**Start:** August	**Duration:** 13 Weeks/ 30 Hours

- **Concepts:** Communities and Perspectives
- **Subject Specific Skills**: Digital design, woodworking, laser cutting, finishing and coding.
- **Learning Experiences**:
  - o Students research about their past and how it influences them today
  - o Students design a product that reflects their past, its effect on their present and the future.
  - o Students manufacture, assemble and finish their products.
  - o Students evaluate the success of their product.

UNIT 2:	**"E-Portfolio"** **(This culminating project is released by the IB in November)**	**Start:** December	**Duration: 14 weeks/33 hours**

- **Concepts: TBD**
- **Subject Specific Skills**: TBD
- **Learning Experiences**: TBD

UNIT 3:	**Gear it Up**	**Start:** April	**Duration: 9 Weeks/20 Hours**

- **Concepts:** Systems and Aesthetics
- **Subject Specific Skills**: Digital design, woodworking, laser cutting, and finishing..
- **Learning Experiences**:
  - o Students design and construct a set of gears to display a poem written in Language and Literature.

Grade 10 Design
Unit 1: Recording the Past

Start: August   **Duration:** 13 Weeks (30 Hours)

LEARNING EXPERIENCES: In preparation for the e-portfolio, the student produces an ePortfolio that follows the design cycle to develop a solution (or range of solutions), which illustrates changes through times (and places) to where we are today.

KEY CONCEPT: Community	Related Concepts:Perspectives

STATEMENT OF INQUIRY:	Reflecting on our past allows us to understand ourselves today and prepare for the future.

INQUIRY QUESTIONS:	
Factual:	What is a community? What are we in danger of losing from our past? How can we map the passing of time?
Conceptual:	Can looking backwards help us look forwards? What responsibilities do we have for accurately recording the past?
Debatable:	Do designers have an ethical responsibility for the impact of their work?

OBJECTIVES AND ASSESSMENT CRITERIA:		
A:	**Inquiring & Analyzing**	i. explain and justify the need for a solution to a problem for a specified client/target audience ii. identify and prioritize primary and secondary research needed to develop a solution to the problem iii. analyse a range of existing products that inspire a solution to the problem iv. develop a detailed design brief, which summarizes the analysis of relevant research.
B:	**Developing Ideas**	i. develop design specifications, which clearly states the success criteria for the design of a solution ii. develop a range of feasible design ideas, which can be correctly interpreted by others iii. present the chosen design and justify its selection iv. develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution.
C:	**Creating the Solution**	i. construct a logical plan, which describes the efficient use of time and resources, sufficient for peers to be able to follow to create the solution ii. demonstrate excellent technical skills when making the solution iii. follow the plan to create the solution, which functions as intended iv. fully justify changes made to the chosen design and plan when making the solution
D:	**Evaluating**	i. design detailed and relevant testing methods, which generate data, to measure the success of the solution ii. critically evaluate the success of the solution against the design specification iii. explain how the solution could be improved iv. explain the impact of the solution on the client/target audience.

ATLs:	Self-Management, Thinking

RESOURCES: Digital Design, Computer-aided manufacturing, assembly and finishing

SUMMATIVE ASSESSMENT TASKS:
1. Criterion A: Students explore their past with interviews of their family and community. They explore a wide range of different skills. Students also analyze existing products.
2. Criterion B: Students develop design specification and design ideas for their product.
3. Criterion C: Students document the process of creating their product.
4. Criterion D: Students evaluate the success of their products in multiple ways.

Grade 10 Design
Unit 2: E-Portfolio

Start: December   **Duration:** 14 Weeks (33 Hours)

LEARNING EXPERIENCES: The E-Portfolio is an IB created unit used to assess the students in general design skills.

KEY CONCEPT: TBD	Related Concepts: TBD

STATEMENT OF INQUIRY:	TBD

INQUIRY QUESTIONS:	
Factual:	TBD
Conceptual:	TBD
Debatable:	TBD

OBJECTIVES AND ASSESSMENT CRITERIA:	
A: **Inquiring & Analyzing**	i. explain and justify the need for a solution to a problem for a specified client/target audience ii. identify and prioritize primary and secondary research needed to develop a solution to the problem iii. analyse a range of existing products that inspire a solution to the problem iv. develop a detailed design brief, which summarizes the analysis of relevant research.
B: **Developing Ideas**	i. develop design specifications, which clearly states the success criteria for the design of a solution ii. develop a range of feasible design ideas, which can be correctly interpreted by others iii. present the chosen design and justify its selection iv. develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution.
C: **Creating the Solution**	i. construct a logical plan, which describes the efficient use of time and resources, sufficient for peers to be able to follow to create the solution ii. demonstrate excellent technical skills when making the solution iii. follow the plan to create the solution, which functions as intended iv. fully justify changes made to the chosen design and plan when making the solution
D: **Evaluating**	i. design detailed and relevant testing methods, which generate data, to measure the success of the solution ii. critically evaluate the success of the solution against the design specification iii. explain how the solution could be improved iv. explain the impact of the solution on the client/target audience.

ATLs:	Research, Self-Management, Communication, Thinking

RESOURCES: TBD

SUMMATIVE ASSESSMENT TASKS:
1. Criterion A: Students explore an IB determined topic. They explore a wide range of different skills. Students also analyze existing products.
2. Criterion B: Students develop design specification and design ideas for their product.
3. Criterion C: Students document the process of creating their product.
4. Criterion D: Students evaluate the success of their products in multiple ways.

Grade 10 Design
Unit 3: Gear it Up

Start: April   **Duration:** 9 Weeks (20 Hours)

LEARNING EXPERIENCES: In this Interdisciplinary Unit, display a poem on a set of gears. Students will design, cut and assembly gears to make an interactive art display.

KEY CONCEPT:	Systems and Aesthetics

STATEMENT OF INQUIRY:	Layering components in a system can call attention to a message.

INQUIRY QUESTIONS:	
Factual:	What are aesthetics? How do gears work?
Conceptual:	What are some unique ways that a message can be communicated?
Debatable:	Does adding mechanics to an art display help improve aesthetics?

OBJECTIVES AND ASSESSMENT CRITERIA:	For each criterion below summarize **ALL** the assessment strands into 2-3 sentences.
A: Inquiring and Analyzing	i. explain and justify the need for a solution to a problem for a specified client/target audience ii. identify and prioritize the primary and secondary research needed to develop a solution to the problem iii. analyse a range of existing products that inspire a solution to the problem iv. develop a detailed design brief, which summarizes the analysis of relevant research

ATLs:	Research

RESOURCES / LITERATURE OPTIONS:
- Vector programs (illustrator and inkscape)
- Laser cutter
- Finishing techniques

SUMMATIVE ASSESSMENT TASKS:
1. Criterion A: Students explore methods of designing, constructing, and finishing a project that integrates a gear system to help communicate a message.