ADST Course Learning Map - Grade 9

APPLIED DESIGN	←			Remove this column?
Discovering *(Understanding Context, Defining)*	Identifies and shows thorough understanding of the needs of others on a deep level; explores several potential design opportunities. Identifies potential features and shows thorough consideration and examination of possible constraints (challenges and limitations). Clearly and effectively articulates criteria for success.	Identifies and understands the needs of others; explores potential design opportunities. Identifies potential features and considers possible constraints (challenges and limitations). Identifies criteria for success.	Identifies the needs of others, but understanding of those needs is superficial. Exploration of design opportunities is limited. Identifies potential features. Consideration of constraints (challenges and limitations) is incomplete. Criteria for success is unclear or inconsistent.	Does not consider the needs of others in design. Does not put thought into design. Potential features or possible constraints are not identified. Does not identify criteria for success.
Generating Ideas *(Ideating)*	**Generates** and **chooses** potential ideas by considering several possible constraints and criteria for success, keeping other potential ideas open **Critically evaluates** personal, social, environmental impacts, sustainability and ethical considerations.	Generates and chooses potential ideas by considering possible constraints (challenges and limitations) and criteria for success. Evaluates personal, social, environmental impacts, sustainability and ethical considerations.	Generates and chooses potential ideas, some constraints have been considered Identifies personal, social, environmental impacts, sustainability and ethical considerations, but no evaluation is present.	Possible constraints are not considered when generating ideas. Does not identify possible personal, social, environmental impacts, sustainability and ethical considerations.
Creating *(Prototyping, Testing, Making)*	Plan is developed using several reliable sources of information and inspiration. Choose a form prototyping and complete list of stages and resources required to achieve plan. Identifies sources of recycling and biodegradability in planning. Constructs and tests multiple versions of designs (prototypes) using a variety	Develops a plan using different sources of information and inspiration. Identifies stages and resources required. Considers using recycling and biodegradability in planning. Constructs and tests versions of designs (prototypes) using a	Develops a plan using different sources of information and identifies stages and resources required. Considers recycling and biodegradability. Constructs and tests at least one version of designs (prototypes). Does	Plan has not been developed using different sources of information. Stages and resourced are missing. Has not considered recycling and biodegradability in plan. Constructs and tests have not been developed. Has not demonstrated

	of appropriate tools, materials and methods. Gathers appropriate peer, user, and expert inspiration to inform changes. Develops and tests prototype collecting data before making appropriate changes. Re-evaluates stages of process as needed for prototype to be successful. Makes a plan for stages of production in detail and identifies and uses a variety of appropriate tools, technologies, and materials to minimize waste.	variety of tools, materials, and methods. Gathers peer, user, and expert inspiration to make changes. Develops and tests prototype before making appropriate changes. Records stages of process as needed for prototype. Plans stages of production and identifies and uses appropriate tools, technologies, and materials to minimize waste. Makes changes as needed.	not employ the use of a variety of tools, materials, and methods. Gathers limited peer, user, and expert inspiration to make changes. Develops and tests prototype, no record of changes have been made. Records stages of process for prototype. Stages of production are incomplete. Few tools, technologies, and materials are used to minimize waste. Tools, technologies, and materials are not appropriate. Changes made are not necessary or do not make sense.	use of a variety of tools, materials, and methods. No gathering of peer, user, and expert inspiration is evident. No changes to original prototype have been made. No recordings are present. Stages of production are not present. Tools, technologies and materials do not minimize waste. Does not demonstrate use of multiple technologies and materials. No changes have been made to original prototype.
Sharing	Demonstrates and shares product and process with an appropriate audience. Provide a detailed rationale of changes using appropriate terminology. Critically evaluates product against criteria and reflects consistently throughout all stages of the design process. Critically reflects on ability to work effectively both individually and within a group. Maintains a cooperative work space. Identifies and suggests possible solutions to new design issues.	Demonstrates and shares product with an audience. Provide a rationale of changes using appropriate terminology. Evaluates product against criteria and reflects on the design process. Evaluates ability to work effectively both individually and within a group. Identifies new design issues.	Demonstrates and shares product with an audience ineffectively. Provides a list of changes using. Lacks evaluation of assessment of the product and design process. Reflection is limited and superficial. Acknowledges ability to work effectively both individually and within a group, but lacks evaluation of such ability. Identifies new design issues, but issues are only loosely connected to original problem.	Does not demonstrate or share product with an audience. Does not include changes made Critical assessment of the product and design process is missing. Reflection has not been completed. Does not recognize ability to work effectively both individually and within a group. Does not identify new design issues.

APPLIED SKILLS	←			
Safety	Demonstrates an acute awareness of precautionary and emergency safety procedures in both physical and digital environments	Demonstrates an awareness of precautionary and emergency safety procedures in both physical and digital environments	Demonstrates a limited awareness of the precautionary and emergency safety procedures in both physical and digital environments	Does not demonstrate awareness of the precautionary and emergency safety procedures in both physical and digital environments
Skills	Identifies and critically evaluates the skills and skill levels needed, individually or as a group, in relation to a specific task, and develops them as needed	Identifies and evaluates the skills and skill levels needed, individually or as a group, in relation to a specific task, and develops them as needed	Identifies the skills and skill levels needed, individually or as a group, in relation to a specific task, and develops them as needed	Is not able to identify the skills and skill needed to complete a task.

APPLIED TECHNOLOGIES	←			
Selecting	Choose and adapt, and as needed, learns about appropriate tools and technologies to extend their capability to complete a task	Selects, and as needed, learns about appropriate tools and technologies to extend their capability to complete a task	Selects limited tools and technologies to complete a task.	Appropriate tools and technologies are not selected to complete task.
Accountability	Evaluates the personal, social, and environmental impacts, including unintended negative consequences, of the choices they make about technology use Evaluates how the land, natural resources, and culture influence the development and use of tools and technologies	Identifies the personal, social, and environmental impacts, including unintended negative consequences, of the choices they make about technology use Identifies how the land, natural resources, and culture influence the development and use of tools and technologies	Acknowledges the personal, social, and environmental impacts, including unintended negative consequences, of the choices they make about technology use Acknowledges how the land, natural resources, and culture influence the development and use of tools and technologies	Does not acknowledge the personal, social, and environmental impacts, including unintended negative consequences, of the choices they make about technology use Does not acknowledge how the land, natural resources, and culture influence the development and use of tools and technologies