

Communication

Evaluation Report

- Answer the questions on the Evaluation Report handout. Word process.

Level One	Level Two	Level Three	Level Four
10 11	12 13	14 15	16 18 20
Paragraph structure is limited	Paragraph structure is somewhat proper	Paragraph structure is considerably proper	Proper paragraph structure used
Limited use of good grammar in sentences	Sentences have somewhat correct grammar	Sentences have considerably correct grammar	Sentences are grammatically correct
Analysis is limited in its scope	Analysis is somewhat thorough	Analysis is considerably thorough	All questions are thoroughly answered and address the design challenge

Thinking and Inquiry

Rough Sketches

- Come up with 3 possible and unique designs for your project.
- Draw comprehensive 3 view sketches (top, front and right view) for each of the designs.

Level One	Level Two	Level Three	Level Four
10 11	12 13	14 15	16 18 20
Sketches are difficult to understand	Sketches are somewhat comprehensive	Sketches are considerably comprehensive	Sketches are comprehensive
Limited variety of ideas are shown among the drawings	Some variety of ideas are shown among the drawings	Considerable variety of ideas are shown among the drawings	Variety of ideas are shown among the drawings
Designs are limited in their level of completeness	Designs are somewhat complete	Designs are considerably complete	3 designs are complete with three views each using standard drafting conventions*
Sketches are limited with regards to aerodynamic design	Sketches somewhat exemplify good aerodynamic design	Sketches considerably exemplify good aerodynamic design	Sketches exemplify good aerodynamic design

* Draw the front view first; the top view is drawn above the front view; the right view is drawn to the right of the front view.

Answers to Best Solutions

- Identify areas on your thumbnail sketches where there may be drag. (Use a red pen to draw asterisks *)
- On a separate sheet of paper, entitled, “Best Solutions”, write down and answer the following questions:
- Which design has the least amount of drag? (Explain why comparing it to the other two designs.)
 - What features have you included to enable your car to withstand a crash at the end of the track?

Level One	Level Two	Level Three	Level Four
10 11	12 13	14 15	16 18 20
Answers are limited in their investigation	Answers are somewhat thorough	Answers are considerably thorough	Answers are thorough; Answers refer to the material provided

Application Part 1

3 View Drawing of Your Car

- Draw a 3 view scaled drawing of your chosen design, the one with the least amount of drag, using the graph paper provided. (Include the top, front and side view.)
- Dimension your drawing, including sub-dimensions and overall dimensions.

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10 11	12 13	14 15	16 18 20
Each view reflects the other two views in a limited way	Each view somewhat reflects the other two views	Each view considerably reflects the other two views	Each view reflects the other two views
All three views do not line up well	All three views somewhat line up	All three views considerably line up	All three views line up correctly
Limited use of proper drafting conventions	Proper drafting conventions somewhat used	Proper drafting conventions considerably used	Proper drafting conventions used
Limited use of dimensions	Dimensions somewhat accounted for	Most dimensions accounted for	All dimensions are accounted for
Dimensions are limited in their accuracy	Dimensions are somewhat accurate	Dimensions are considerably accurate	All dimensions are accurate according to the established scale
Lines are limited in their neatness	Lines are somewhat neat; pencil and ruler used	Lines are considerably neat; pencil and ruler used	All lines are neatly drawn using a pencil and a ruler

Application Part 2 - The Car Construction

Safety and Work Standards

Level One	Level Two	Level Three	Level Four
5	6	7	8 9 10
Safe procedures employed in a limited way; Safe work environment is maintained in a limited way	Safe procedures somewhat employed; Safe work environment somewhat maintained	Safe procedures considerably employed; Safe work environment considerably maintained	Safe procedures consistently employed; Safe work environment maintained
Use of class time is limited in focus; distracting to peers	Use of class time is somewhat focused	Use of class time is considerably focused	Use of class time is focused
Limited clean up procedures	Clean up procedures somewhat employed	Clean up procedures considerably employed	Clean up procedures employed

Craftsmanship

Level One	Level Two	Level Three	Level Four
10 11	12 13	14 15	16 18 20
Wood is cleanly cut; Gouges are obvious	Wood is cut somewhat clean; Some evidence of gouges	Wood is cut considerably clean; Little evidence of gouges	Wood is cleanly cut; No evidence of gouges
Surface of wood is more rough than smooth	Surface of wood is somewhat smooth	Surface of wood is considerably smooth	Surface of wood is completely smooth
Shape has limited symmetry	Shape is somewhat symmetrical	Shape is considerably symmetrical	Shape is symmetrical *

* Symmetrical means that the left side and the right side are identical

Paint Application and Aesthetics

Level One	Level Two	Level Three	Level Four
10 11	12 13	14 15	16 18 20
Even application of base coat is limited; Application of clean and even accent lines is limited; Appearance has limited aesthetic appeal	Base coat is somewhat even; Accent lines are somewhat clean and even; Aesthetic appearance is somewhat pleasing	Base coat is considerably even; Accent lines are considerably clean and even; Aesthetic appearance is considerably pleasing	Base coat is evenly applied; Accent lines are cleanly and evenly applied; Aesthetic appearance is pleasing

Assembly and Smooth Running

Level One	Level Two	Level Three	Level Four
10 11	12 13	14 15	16 18 20
All car parts are accounted for and properly assembled	All car parts are accounted for and properly assembled	All car parts are accounted for and properly assembled	All car parts are accounted for and properly assembled
Eyelets have proper clearance and do not drag on the ground; eyelets are loose to touch	Eyelets have proper clearance and do not drag on the ground; eyelets are set somewhat firm	Eyelets have proper clearance and do not drag on the ground; eyelets are set considerably firm	Eyelets have proper clearance and do not drag on the ground; eyelets firmly set in the wood
Wheels are properly attached and have limited rotation	Wheels are properly attached and rotate somewhat free	Wheels are properly attached and rotate considerably free	Wheels are properly attached and rotate freely
Car has some difficulty running in a straight line	Car runs in a somewhat straight line when test pushed	Car runs in a considerably straight line when test pushed	Car runs freely and in a straight line when test pushed *

* Please note: A test push is simply pushing the car that has not been attached to the fishing line assembly through the eyelets. Also note that this largely depends on how well the axle holes are drilled.

Speed

Level One	Level Two	Level Three	Level Four
10 11	12 13	14 15	16 18 20
Car is limited in its speed	Car is somewhat fast	Car is considerably fast	Car is very fast