

NAME _____

COURSE _____

DATE _____

PERFORMANCE RUBRIC

Science Fair Project

FINAL GRADE _____

Element	Advanced (6)	Exceed Expectations (5)	Meets Expectations (4)	Needs Improvement (3)	Insufficient (2)	Self	Teacher
Established Goals and Content Understanding (40%): Scientific Thought Or Engineering Goals	<u>Scientific Thought</u> Demonstrates a deep and thorough understanding of the topic chosen. Formulates a sophisticated question or problem that is stated clearly and unambiguously. Demonstrates a deep and thorough commitment to procedure/methods that were well thought out and organized. The data and results were presented using quantifiable numbers and statistical analysis. Variables and controls are clearly recognized and used appropriately. Demonstrates a deep and thorough understanding of their project's tie to related research. Measurements were made with as much accuracy as possible. <u>Engineering Goals</u> Demonstrates a deep and thorough understanding of the design objective or goal.	<u>Scientific Thought</u> Consistently demonstrates a thorough understanding of the topic chosen. Formulates a question or problem that is stated clearly and unambiguously. Consistently demonstrates a commitment to procedure/methods that were well thought out and organized. The data and results were presented using quantifiable numbers and statistical analysis. Variables and controls are clearly recognized and used appropriately. Consistently demonstrates a thorough understanding of their project's tie to related research. Measurements were made with as much accuracy as possible. <u>Engineering Goals</u> Consistently demonstrates a thorough understanding of the design objective or goal. The solution is workable and economically feasible. The solution has been successfully tested under the conditions of use. The solution is an improvement over previous alternatives.	<u>Scientific Thought</u> Demonstrates an understanding of the topic chosen. Formulates a question or problem that is stated clearly. Demonstrates a commitment to an organized procedure/methods. The data and results were presented using quantifiable numbers and basic statistical analysis (mean, median, mode, range). Variables and controls are recognized and used appropriately. Demonstrates an understanding of their project's tie to related research. Measurements were made. <u>Engineering Goals</u> Demonstrates an understanding of the design objective or goal. The solution is workable. The solution has been tested under the conditions of use. The solution is an improvement over	<u>Scientific Thought</u> Demonstrates a limited understanding of the topic chosen. Formulates a question or problem that is may or may not be stated clearly. Demonstrates a somewhat organized procedure/methods. The data and results were presented and may or may not have used quantifiable numbers and basic statistical analysis (mean, median, mode, range). Variables and controls may or may not be recognized and used appropriately. Demonstrates a limited understanding of their project's tie to related research. Measurements were made. <u>Engineering Goals</u> Demonstrates a limited understanding of the design objective or goal. The solution may or may not be workable. The solution may or may not have been tested under the conditions of use. The solution may be equal to or slightly less so	<u>Scientific Thought</u> Does not demonstrate an understanding of the topic chosen. Does not formulate a question or problem. Does not demonstrate an organized procedure/methods. The data and results were not presented and may or may not have used quantifiable numbers and basic statistical analysis (mean, median, mode, range). Does not show that Variables and controls were recognized and used appropriately. Does not demonstrate an understanding of their project's tie to related research. Measurements were not made. <u>Engineering Goals</u> Does not demonstrate an understanding of the design objective or goal. The solution is not workable. The solution was not tested under the conditions of use. The solution is not feasible or demonstrates a critical		

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	The solution is elegant, workable and economically feasible. The solution has been thoroughly and successfully tested under the conditions of use. The solution is a significant improvement over previous alternatives.		previous alternatives.	than previous alternatives.	design flaw.		
Problem Solving Critical and Creative Thinking: Implements Appropriate Strategies (20%): <i>Research skills</i> <i>Analysis</i> <i>Evaluation and incorporation of information</i>	--Demonstrates initiative in independently and effectively locating information from conventional and unique sources. --Thoroughly evaluates and incorporates information using critical analysis skills.	--Consistently locates information from conventional and unique sources. -- Evaluates and incorporates information using critical analysis skills.	--Locates information from a variety of sources. --Incorporates some information through critical analysis skills.	--Locates some information from limited sources. . --Incorporates some information through critical analysis skills.	--Unable to locate and evaluate information. . --Unable to provide information through critical analysis skills.		
Communication (Written) (10%) <i>Mechanics,</i> <i>Purpose,</i> <i>Development of ideas,</i> <i>Organization,</i> <i>Audience awareness</i>	-Few errors in conventions. -Clear purpose/claim. -Innovative development of specific examples/evidence and organizational structure clearly and effectively support the purpose/claim. -Mastery of language and communication strategies for a variety of audiences.	-Minor errors do not interfere with communication. -Clear purpose/claim. -Strong development of specific examples/evidence and effective organizational structure that support the purpose. -Effective use of language and communication strategies appropriate to audience.	-Some errors interfere with communication. -Identifiable purpose/claim. -Adequate development of specific examples/evidence and organizational structure that support the purpose/claim. -Adequate use of language and communication strategies appropriate to audience.	-Errors interfere substantially with communication -Unclear purpose/claim. -Weak development of specific examples/evidence. -Weak organizational structure. -Inappropriate use of language and communication strategies for an audience.	Poor understanding of mechanics, purpose/claim, development, organization, and audience.		
Self-Direction (10%) <i>Engagement,</i>	--Makes complex personal connections with course material	--Understands the inherent value of knowledge. --Makes strong personal	--Somewhat understands the inherent value of	--Does not understand the value of knowledge. --Struggles to make	--Disinterested in learning. --Rarely makes		

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<i>Planning, Implementation, Execution, Reflection</i>	and extends inquiry beyond requirements. --Shows innovation through adaptability and perseverance. --Engages targeted assistance. --Takes initiative to set goals beyond task expectations. --Creates clear timelines while demonstrating awareness of task scope and available resources. --Innovatively completes all task parameters in a timely and organized manner. --Actively engages in independent and collaborative reflection and self-evaluation --Discerningly incorporates feedback to promote personal development	connections with course material and extends inquiry. --Shows strong adaptability and perseverance. --Seeks targeted assistance. --Takes initiative to set goals meeting task expectations. --Creates clear timelines while demonstrating awareness of task scope and available resources Shows some initiative in preparing, securing resources, collaborating with others equitably and practicing self-monitoring. Completes all task parameters in a timely and organized manner --Engages in independent and collaborative reflection and self-evaluation --Incorporates feedback to promote personal development	knowledge. --Makes some personal connections with course material and extends inquiry. --Shows adequate adaptability and perseverance. --Seeks general assistance. --Sets goals necessary to meet task expectations. --Creates timelines with minimal assistance while demonstrating adequate awareness of task scope and available resources. Adequately prepares, secures resources, collaborates with others and practices self-monitoring. Completes most task parameters in a timely and adequately organized manner. --Adequately engages in reflection and self-evaluation --Incorporates collaborative feedback with some regard to improvement	personal connections with course material. --Shows minimal inquiry --Exhibits little adaptability or perseverance. --Does not recognize needs for assistance --Relies on teacher to set task expectations. --Creates timelines with significant assistance and has some awareness of task scope and available resources. Exhibits rudimentary preparation, securing of resources, collaboration and occasional self-monitoring. Completes some task parameters in a timely and minimally organized manner --Rudimentary reflection and self-evaluation --Minimal incorporation of feedback	connections with course material. --Unwilling to seek assistance. --Does not set expectations. --Unaware of task scope and available resources. Does not implement effectively or self-monitor. Task not completed according to parameters --Significant lack of reflection and self-evaluation --No incorporation of feedback		
Technology (and Scientific Tools) Use and/or Technology Product (10%)	-Uses technology innovatively to enhance communication tailored to a given audience -Uses technology to demonstrate mastery of content knowledge -Displays exceptional creativity in visual	- Consistently demonstrates the ability to collect information and evaluate sources -Analyzes and synthesizes information from a variety of sources in order to draw relevant conclusions -Uses technology effectively	-Demonstrates the ability to collect information and evaluate sources -Collects information from a variety of sources in order to draw conclusions Uses technology to enhance	-Demonstrates little ability to collect information and evaluate sources -Attempts to manage time -Draws irrelevant conclusions from information -Uses technology to	-Inconsistently collects information -Does not use technology to communicate -Does not demonstrate use of technology to demonstrate content knowledge		

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	<p>presentation</p> <ul style="list-style-type: none"> -Demonstrates innovative organization and consistent formatting -Demonstrates initiative in independently and effectively collecting information and evaluating sources beyond requirements -Analyzes and synthesizes information from a variety of sources in order to draw insightful conclusions 	<p>to enhance communication tailored to a given audience</p> <ul style="list-style-type: none"> -Effectively uses technology to demonstrate content knowledge -Displays creativity in visual presentation -Demonstrates effective organization and consistent formatting --Applies interesting strategies in presenting information. 	<p>communication with an awareness of a given audience</p> <ul style="list-style-type: none"> -Uses technology to demonstrate content knowledge -Displays some creativity in visual presentation -Demonstrates organization and consistent formatting --Applies relevant strategies in presenting information. 	<p>communicate</p> <ul style="list-style-type: none"> -Uses technology to demonstrate some content knowledge -Displays little creativity in visual presentation -Demonstrates minimal organization and inconsistent formatting --Applies some strategies in presenting information 	<ul style="list-style-type: none"> -Does not demonstrate creativity in visual presentation -Does not demonstrate organization and consistent formatting -- Does not select or apply relevant strategies in presenting information 	
Collaboration (10%)	<ul style="list-style-type: none"> -Dynamically collaborates with peers to conduct research and overcome obstacles through partnerships --Actively seeks out diversity with the recognition that the whole is greater than the sum of its parts --Identifies strengths and weaknesses of self and others exceptionally well and on an ongoing basis --Innovatively adapts to utilize personal and peer strengths and minimize weaknesses 	<ul style="list-style-type: none"> -Effectively collaborates with peers to conduct research --Respects the benefits of group diversity --Identifies strengths and weaknesses of self and others -- Adapts to utilize personal and peer strengths and minimize weaknesses 	<ul style="list-style-type: none"> -Interacts and collaborates with peers to conduct research --Respects group diversity --Usually identifies strengths and weaknesses of self and others -- Usually adapts to utilize personal and peer strengths and minimize weaknesses 	<ul style="list-style-type: none"> -Ineffectively interacts with peers to conduct research --Rarely respects diversity -- Occasionally identifies strengths and weaknesses of self and others -- Occasionally adapts in a group setting 	<ul style="list-style-type: none"> -Does not interact with peers to conduct research --Does not demonstrate respect or rejects diversity --Does not identify strengths or weaknesses --Does not adapt in a group setting 	
Additional Comment Box						

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