CREATIVITY & INNOVATION RUBRIC

Courtesy of the Buck Institute for Education

PROCESS:

Creativity & Innovation Opportunity at Phases of a Project	Below Standard	Approaching Standard	At Standard	Above Standard
Launching the Project: Define the Creative Challenge	• may just "follow directions" without understanding the purpose for innovation or considering the needs and interests of the target audience	• understands the basic purpose for innovation but does not thoroughly consider the needs and interests of the target audience	• understands the purpose driving the process of innovation (Who needs this? Why?) • develops insight about the particular needs and interests of the target audience	
Building Knowledge, Understanding, and Skills: Identify Sources of Information	• uses only typical sources of information (website, book, article) • does not offer new ideas during discussions	• finds one or two sources of information that are not typical • offers new ideas during discussions, but stays within narrow perspectives	• in addition to typical sources, finds unusual ways or places to get information (adult expert, community member, business or organization, literature) • promotes divergent and creative perspectives during discussions (CC 11-12.SL.1c)	
Developing and Revising Ideas and Products: Generate and Select Ideas	• stays within existing frameworks; does not use idea-generating techniques to develop new ideas for product(s) • selects one idea without evaluating the quality of ideas • does not ask new questions or elaborate on the selected idea • reproduces existing ideas; does not imagine new ones • does not consider or use feedback and critique to revise product	• develops some original ideas for product(s), but could develop more with better use of idea-generating techniques • evaluates ideas, but not thoroughly before selecting one • asks a few new questions but may make only minor changes to the selected idea • shows some imagination when shaping ideas into a product, but may stay within conventional boundaries • considers and may use some feedback and critique to revise a product, but does not seek it out	• uses idea-generating techniques to develop several original ideas for product(s) • carefully evaluates the quality of ideas and selects the best one to shape into a product • asks new questions, takes different perspectives to elaborate and improve on the selected idea • uses ingenuity and imagination, going outside conventional boundaries, when shaping ideas into a product • seeks out and uses feedback and critique to revise product to better meet the needs of the intended audience (CC 6-12.W.5)	

CREATIVITY & INNOVATION RUBRIC, PROCESS, continued

Creativity & Innovation Opportunity at Phases of a Project	Below Standard	Approaching Standard	At Standard	Above Standard
Presenting Products and Answers to Driving Question: Present Work to Users/Target Audience	• presents ideas and products in typical ways (text-heavy slides, recitation of notes, no interactive features)	• adds some interesting touches to presentation media • attempts to include elements in presentation that make it more lively and engaging	• creates visually exciting presentation media • includes elements in presentation that are especially fun, lively, engaging, or powerful to the particular audience	

PRODUCT:

	Below Standard	Approaching Standard	At Standard	Above Standard
Originality	• relies on existing models, ideas, or directions; it is not new or unique • follows rules and conventions; uses materials and ideas in typical ways	• has some new ideas or improvements, but some ideas are predictable or conventional • may show a tentative attempt to step outside rules and conventions, or find new uses for common materials or ideas	• is new, unique, surprising; shows a personal touch • may successfully break rules and conventions, or use common materials or ideas in new, clever and surprising ways	
Value	• is not useful or valuable to the intended audience/user • would not work in the real world; impractical or unfeasible	• is useful and valuable to some extent; it may not solve certain aspects of the defined problem or exactly meet the identified need • unclear if product would be practical or feasible	• is seen as useful and valuable; it solves the defined problem or meets the identified need • is practical, feasible	
Style	• is safe, ordinary, made in a conventional style • has several elements that do not fit together; it is a mish-mash	• has some interesting touches, but lacks a distinct style • has some elements that may be excessive or do not fit together well	• is well-crafted, striking, designed with a distinct style but still appropriate for the purpose • combines different elements into a coherent whole	

Note: The term "product" is used in this rubric as an umbrella term for the result of the process of innovation during a project. A product may be a constructed object, proposal, presentation, solution to a problem, service, system, work of art or piece of writing, an invention, event, an improvement to an existing product, etc.

PRESENTATION RUBRIC

Courtesy of the Buck Institute for Education

	Below Standard	Approaching Standard	At Standard	Above Standard
Explanation of Ideas & Information	• does not present information, arguments, ideas, or findings clearly, concisely, and logically; argument lacks supporting evidence; audience cannot follow the line of reasoning • selects information, develops ideas and uses a style inappropriate to the purpose, task, and audience (may be too much or too little information, or the wrong approach) • does not address alternative or opposing perspectives	• presents information, findings, arguments and supporting evidence in a way that is not always clear, concise, and logical; line of reasoning is sometimes hard to follow • attempts to select information, develop ideas and use a style appropriate to the purpose, task, and audience but does not fully succeed • attempts to address alternative or opposing perspectives, but not clearly or completely	• presents information, findings, arguments and supporting evidence clearly, concisely, and logically; audience can easily follow the line of reasoning (CC 9-12.SL.4) • selects information, develops ideas and uses a style appropriate to the purpose, task, and audience (CC 9-12.SL.4) • clearly and completely addresses alternative or opposing perspectives (CC 11-12.SL.4)	
Organization	• does not meet requirements for what should be included in the presentation • does not have an introduction and/or conclusion • uses time poorly; the whole presentation, or a part of it, is too short or too long	• meets most requirements for what should be included in the presentation • has an introduction and conclusion, but they are not clear or interesting • generally times presentation well, but may spend too much or too little time on a topic, a/v aid, or idea	• meets all requirements for what should be included in the presentation • has a clear and interesting introduction and conclusion • organizes time well; no part of the presentation is too short or too long	
Eyes & Body	• does not look at audience; reads notes or slides • does not use gestures or movements • lacks poise and confidence (fidgets, slouches, appears nervous) • wears clothing inappropriate for the occasion	• makes infrequent eye contact; reads notes or slides most of the time • uses a few gestures or movements but they do not look natural • shows some poise and confidence, (only a little fidgeting or nervous movement) • makes some attempt to wear clothing appropriate for the occasion	• keeps eye contact with audience most of the time; only glances at notes or slides • uses natural gestures and movements • looks poised and confident • wears clothing appropriate for the occasion	

PRESENTATION RUBRIC, continued

	Below Standard	Approaching Standard	At Standard	Above Standard
Voice	• mumbles or speaks too quickly or slowly • speaks too softly to be understood • frequently uses "filler" words ("uh, um, so, and, like, etc.") • does not adapt speech for the context and task	• speaks clearly most of the time • speaks loudly enough for the audience to hear most of the time, but may speak in a monotone • occasionally uses filler words • attempts to adapt speech for the context and task but is unsuccessful or inconsistent	• speaks clearly; not too quickly or slowly • speaks loudly enough for everyone to hear; changes tone and pace to maintain interest • rarely uses filler words • adapts speech for the context and task, demonstrating command of formal English when appropriate (CC 9-12.SL.6)	
Presentation Aids	• does not use audio/visual aids or media • attempts to use one or a few audio/visual aids or media, but they do not add to or may distract from the presentation	• uses audio/visual aids or media, but they may sometimes distract from or not add to the presentation • sometimes has trouble bringing audio/visual aids or media smoothly into the presentation	• uses well-produced audio/visual aids or media to enhance understanding of findings, reasoning, and evidence, and to add interest (CC 9-12.SL.5) • smoothly brings audio/visual aids or media into the presentation	
Response to Audience Questions	• does not address audience questions (goes off topic or misunderstands without seeking clarification)	• answers audience questions, but not always clearly or completely	• answers audience questions clearly and completely • seeks clarification, admits "I don't know" or explains how the answer might be found when unable to answer a question	
Participation in Team Presentations	• Not all team members participate; only one or two speak	• All team members participate, but not equally	• All team members participate for about the same length of time • All team members are able to answer questions about the topic as a whole, not just their part of it	

COLLABORATION RUBRIC

Courtesy of the Buck Institute for Education

Individual Performance	Below Standard	Approaching Standard	At Standard	Above Standard
Takes Responsibility for Oneself	• is not prepared, informed, and ready to work with the team • does not use technology tools as agreed upon by the team to communicate and manage project tasks • does not do project tasks • does not complete tasks on time • does not use feedback from others to improve work	• is usually prepared, informed, and ready to work with the team • uses technology tools as agreed upon by the team to communicate and manage project tasks, but not consistently • does some project tasks, but needs to be reminded • completes most tasks on time • sometimes uses feedback from others to improve work	• is prepared and ready to work; is well informed on the project topic and cites evidence to probe and reflect on ideas with the team (CC 6-12.SL.1a) • consistently uses technology tools as agreed upon by the team to communicate and manage project tasks • does tasks without having to be reminded • completes tasks on time • uses feedback from others to improve work	
Helps the Team	• does not help the team solve problems; may cause problems • does not ask probing questions, express ideas, or elaborate in response to questions in discussions • does not give useful feedback to others • does not offer to help others if they need it	• cooperates with the team but may not actively help it solve problems • sometimes expresses ideas clearly, asks probing questions, and elaborates in response to questions in discussions • gives feedback to others, but it may not always be useful • sometimes offers to help others if they need it	• helps the team solve problems and manage conflicts • makes discussions effective by clearly expressing ideas, asking probing questions, making sure everyone is heard, responding thoughtfully to new information and perspectives (CC 6-12.SL.1c) • gives useful feedback (specific, feasible, supportive) to others so they can improve their work • offers to help others do their work if needed	
Respects Others	• is impolite or unkind to teammates (may interrupt, ignore ideas, hurt feelings) • does not acknowledge or respect other perspectives	• is usually polite and kind to teammates • usually acknowledges and respects other perspectives and disagrees diplomatically	• is polite and kind to teammates • acknowledges and respects other perspectives; disagrees diplomatically	

COLLABORATION RUBRIC, continued

Team Performance	**Below Standard**	**Approaching Standard**	**At Standard**	**Above Standard**
Makes and Follows Agreements	• does not discuss how the team will work together • does not follow rules for collegial discussions, decision-making and conflict resolution • does not discuss how well agreements are being followed • allows breakdowns in teamwork to happen; needs teacher to intervene	• discusses how the team will work together, but not in detail; may just "go through the motions" when creating an agreement • usually follows rules for collegial discussions, decision-making, and conflict resolution • discusses how well agreements are being followed, but not in depth; may ignore subtle issues • notices when norms are not being followed but asks the teacher for help to resolve issues	• makes detailed agreements about how the team will work together, including the use of technology tools • follows rules for collegial discussions (CC 6-12.SL.1b), decision-making, and conflict resolution • honestly and accurately discusses how well agreements are being followed • takes appropriate action when norms are not being followed; attempts to resolve issues without asking the teacher for help	
Organizes Work	• does project work without creating a task list • does not set a schedule and track progress toward goals and deadlines • does not assign roles or share leadership; one person may do too much, or all members may do random tasks • wastes time and does not run meetings well; materials, drafts, notes are not organized (may be misplaced or inaccessible)	• creates a task list that divides project work among the team, but it may not be in detail or followed closely • sets a schedule for doing tasks but does not follow it closely • assigns roles but does not follow them, or selects only one "leader" who makes most decisions • usually uses time and runs meetings well, but may occasionally waste time; keeps materials, drafts, notes, but not always organized	• creates a detailed task list that divides project work reasonably among the team (CC 6-12.SL.1b) • sets a schedule and tracks progress toward goals and deadlines (CC 6-12.SL.1b) • assigns roles if and as needed, based on team members' strengths (CC 6-12.SL.1b) • uses time and runs meetings efficiently; keeps materials, drafts, notes organized	
Works as a Whole Team	• does not recognize or use special talents of team members • does project tasks separately and does not put them together; it is a collection of individual work	• makes some attempt to use special talents of team members • does most project tasks separately and puts them together at the end	• recognizes and uses special talents of each team member • develops ideas and creates products with involvement of all team members; tasks done separately are brought to the team for critique and revision	

CRITICAL THINKING RUBRIC

Courtesy of the Buck Institute for Education

Critical Thinking Opportunity at Phases of a Project	**Below Standard**	**Approaching Standard**	**At Standard**	**Above Standard**
Launching the Project: Analyze Challenging Question and Begin Inquiry	• sees only superficial aspects of, or one point of view on, the Challenging Question	• identifies some central aspects of the Challenging Question, but may not see complexities or consider various points of view • asks some follow-up questions about the topic or the wants and needs of the audience or users of a product, but does not dig deep	• shows understanding of central aspects of the Challenging Question by identifying in detail what needs to be known to answer it and considering various possible points of view on it • asks follow-up questions that focus or broaden inquiry, as appropriate (CC 6-12.W.7) • asks follow-up questions to gain understanding of the wants and needs of audience or product users	
Building Knowledge, Understanding, and Skills: Gather and Evaluate Information	• is unable to integrate information to address the Challenging Question; gathers too little, too much, or irrelevant information, or from too few sources • accepts information at face value (does not evaluate its quality)	• attempts to integrate information to address the Challenging Question, but it may be too little, too much, or gathered from too few sources; some of it may not be relevant • understands that the quality of information should be considered, but does not do so thoroughly	• integrates relevant and sufficient information to address the Challenging Question, gathered from multiple and varied sources (CC 6,11-12.RI.7) • thoroughly assesses the quality of information (considers usefulness, accuracy and credibility; distinguishes fact vs. opinion; recognizes bias) (CC 6-12.W.8)	
Developing and Revising Ideas and Products: Use Evidence and Criteria	• accepts arguments for possible answers to the Challenging Question without questioning whether reasoning is valid • uses evidence without considering how strong it is • relies on “gut feeling” to evaluate and revise ideas, product prototypes or problem solutions (does not use criteria)	• recognizes the need for valid reasoning and strong evidence, but does not evaluate it carefully when developing answers to the Challenging Question • evaluates and revises ideas, product prototypes or problem solutions based on incomplete or invalid criteria	• evaluates arguments for possible answers to the Challenging Question by assessing whether reasoning is valid and evidence is relevant and sufficient (CC 6-12.SL.3, RI.8) • justifies choice of criteria used to evaluate ideas, product prototypes or problem solutions • revises inadequate drafts, designs or solutions and explains why they will better meet evaluation criteria (CC 6-12.W.5)	

CRITICAL THINKING RUBRIC, continued

Critical Thinking Opportunity at Phases of a Project	**Below Standard**	**Approaching Standard**	**At Standard**	**Above Standard**
Presenting Products and Answers to Driving Question: Justify Choices, Consider Alternatives & Implications	• chooses one presentation medium without considering advantages and disadvantages of using other mediums to present a particular topic or idea • cannot give valid reasons or supporting evidence to defend choices made when answering the Challenging Question or creating products • does not consider alternative answers to the Challenging Question, designs for products, or points of view • is not able to explain important new understanding gained in the project	• considers the advantages and disadvantages of using different mediums to present a particular topic or idea, but not thoroughly • explains choices made when answering the Challenging Question or creating products, but some reasons are not valid or lack supporting evidence • understands that there may be alternative answers to the Challenging Question or designs for products, but does not consider them carefully • can explain some things learned in the project, but is not entirely clear about new understanding	• evaluates the advantages and disadvantages of using different mediums to present a particular topic or idea (CC 8.RI.7) • justifies choices made when answering the Challenging Question or creating products, by giving valid reasons with supporting evidence (CC 6-12.SL.4) • recognizes the limitations of an answer to the Challenging Question or a product design (how it might not be complete, certain, or perfect) and considers alternative perspectives (CC 11-12.SL.4) • can clearly explain new understanding gained in the project and how it might transfer to other situations or contexts	

APPLICATION OF CONTENT KNOWLEDGE: FORMAL WRITTEN REPORTS AND PUBLIC PRESENTATIONS RUBRIC

Indicators of Achievement Adapted from Costa and Kallick, NCTE, and NGSS

Habit of Mind	Unsatisfactory	Growing to Competency	Competent (State Standard)	Distinguished
Striving for Accurancy	Sloppy or incomplete work with no evidence of revision or editing process. Feedback from peer reviewers and adult colaborators is not incorporated into work.	Student occasionally reviews checklists, rubrics, and peer feedback to enhance wrtten communications. Care is taken to convey significnat science concepts with examples and data.	Student understands and can apply two to three relevant science concepts in a written sequence of claims, evidence, and reasoning. Student works with peers as instructional resources.	Without sacrificing scientific accuracy, student constructs a coherent storyline referencing California places, issues, and connections to his or her own life. Student demonstrates a command of writing mechanics, organization, and ability to revise and edit.
Creative Questioning	Student does not initiate questioning in any written or verbal form. When questions are asked, they focus on meeting minimum requirements as articulated by adults.	Student intiates science-based questioing with support from peers or teachers. The value of questioing is understood, but the habit is still being cultivated.	Student independently produces original questions, considers questions from multiple perspectives, and produces original answers. Student brainstorms with others during the questioning process and listens carefully to arguments made by peers.	Student uses science and engineering practices to develop personalized place-based driving questions with connections to science concepts and to the ideas of classmates. Student considers alternative perspectives and nurtures an inclination to question daily.
Applying Past Knowledge to New Situations	Science notebooks, feedback from peers, and previous experience does not inform actions or writing.	When reminded and supported, prior knowledge is accessed and used to improve speaking and written communications.	Student consistently uses prior knowledge to investigate new phenomena. Reference to previous experience or careful use of analogies may be seen.	Student consistently uses prior knowledge to investigate new phenomena. Reference to previous experience or careful use of analogies may be seen.
Thinking and Communicating with Clarity and Precision	Use of vague and imprecise language leads to confusion about meaning. Science vocabulary is missiing or used incorrectly.	Science concepts and ideas are communicated using analogies from everyday life, but subtle distinctions are lost due to a lack of vocabulary or incomplete grasp of scientific concepts.	Student avoids generalizations and distortions of fact while clearly defining science terms, concepts, and ideas. Student can distinguish between closely related science topics (e.g. weather and climate, or heat and temperature).	Students use exact language to convey science concepts and emerging ideas. Claims are supported with evidence and reasoning that is grounded in place, personal experience, and relevant science concepts. Writing is concise, descriptive, and coherent.

SCIENCE NOTEBOOK AND EXIT TICKET RUBRIC

NGSS Element	**Unsatisfactory**	**Growing to Competency**	**Competent (State Standard)**	**Distinguished**
Crosscutting Concepts	Student does not show connections across content area boundaries. Most learning activity is limited to memorizing facts without context.	Student identifies patterns and classifies relationships as causal or correlational. Student understands that events that occur closely in time may or may not be related.	Student places significant knowledge in context using systems, models, and causal analysis. Student evaluates questions and models for testability, arguments for validity, and solutions for practicality.	Explanatory power of crosscutting concepts is fully utilized to think and write as scientists do while addressing real world environmental problems. Alternative explanations are routinely considered, as is instrument error.
Science and Engineering Practices	Student identifies testable questions and performs simple qualitative investigations, but fails to recognize the many ways that scientists perform their work.	Student specifies relationships, between variables and clarifies arguments, but rarely evaluates or proposes solutions.	Student uses evidence and computational thinking to analyze geoscience data, construct arguments, develop conceptual models, plan investigations, and propose science-based actions.	Science and engineering practices are habitually referenced in writing. System level thinking is demonstrated in reference to boundaries, interactions, and constraints posed by methods, society, or environmental concerns.
Disciplinary Core Ideas	Student does not demonstrate understanding of science content; science vocabulary is wholly absent.	Student can identify components, yet understandings about relationships between components are elusive. Placing knowledge in context, using thinking tools like the crosscutting concepts is rare, but increasing.	Student presents Earth systems that are dynamic, interactive, and composed of both living and non-living features, with feedback effects that may be altered by human activity. Science vocabulary is weilded with precision and clarity.	Writing is precise and clear with no composition or style errors leading to elegant place-based expression of science concepts. Student makes a personal connection to the information and acts upon valid science information.
Conceptual Models	Work is inaccurate, lacking most needed components; messy craftsmanship detracts from overall presentation and obscures meaning.	Poor craftsmanship obscures meaning. Model is missing an element needed to completely understand science concepts or make predictions.	Model is neat; all depictions are accurate, legible, and scientifically defensible. Models have components, relationships, and connections labeled. Predictions about future conditions may be made.	Models can be used to evalute the merits and disadvantages of various actions, generate predictions, and quantify relationships between components or variables.