

Thinking and Reasoning Skills Rubric

Name: _____

Description: This rubric will help assess a student's thinking and reasoning skills.

Marzano, Robert J. (2000). *Transforming Classroom Grading*. Alexandria, VA: Association for Supervision and Curriculum Development.

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	4	3	2	1	0
Comparing & Contrasting	The student includes all important characteristics on which the items should be compared or contrasted.	The student includes the most important but not all characteristics on which the items should be compared or contrasted.	The student excludes some critical elements on which the items should be compared or contrasted.	The student uses trivial elements to compare or contrast the items.	No judgment can be made.
Analyzing Relationships	The student identifies the main (superordinate) pattern running through the information along with all minor (subordinate) patterns.	The student identifies the main (superordinate) pattern running through the information.	The student addresses some of the features of the main (superordinate) pattern running through the information but excludes some critical aspects.	The student does not address the main (superordinate) pattern running through the information.	No judgment can be made.
Classifying	The student organizes the items into meaningful categories and describes the defining characteristics of each category.	The student organizes the items into meaningful categories but does not thoroughly describe the defining characteristics of the categories.	The student organizes the items into categories that are not very meaningful but address some of the important characteristics of the items.	The student organizes the items into categories that are illogical or trivial.	No judgment can be made.
Argumentation	The student provides a well-articulated and detailed argument containing no errors in logic.	The student provides a well-articulated but not detailed argument containing no errors in logic.	The student presents an argument that makes a point but is not well articulated or contains some significant errors in logic.	The student's argument makes no clear point or has so many errors in logic that it is invalid.	No judgment can be made.
Induction	The student constructs a valid generalization and clearly articulates the logic of this generalization based on the specifics that have been identified.	The student constructs a valid generalization but does not clearly articulate the logic underlying that generalization.	The student constructs a generalization that has some relationship to the specifics that have been identified; however, the specifics do not totally support the generalization.	The student does not construct a generalization or constructs one that is not at all supported by the specifics.	No judgment can be made.
Deduction	The student generates a valid prediction or conclusion and accurately articulates the relationship between the prediction or conclusion and the principle or premise that was used.	The student generates a valid prediction or conclusion but does not completely articulate the relationship between the prediction or conclusion and the principle or premise that was used.	The student generates a prediction or conclusion that is only partially supported by the premise or rule that was used.	The student does not generate a prediction or conclusion or generates one that is not at all supported by the premise or rule that was used.	No judgment can be made.
Experimental	The student designs	The student designs	The student designs	The student does	No

Inquiry	and conducts an experiment that adequately tests a well-articulated hypothesis. When the experiment is completed, the student fully and accurately explains the results in light of the hypothesis.	and conducts an experiment that adequately tests a well-articulated hypothesis but does not completely explain the results in light of the hypothesis.	and conducts an experiment that is related to but does not adequately test the hypothesis.	not design and conduct an experiment or designs one that has no relationship to the hypothesis.	judgment can be made.
Investigation	The student thoroughly and accurately identifies what is known about the subject of the investigation and presents a well-articulated solution to the confusions or contradictions associated with the situation.	The student thoroughly and accurately identifies what is known about the subject of the investigation but does not fully address the confusions or contradictions associated with the situation.	The student presents a partial description of what is known about the subject of the investigation.	The student's description of what is known about the subject of the investigation is severely flawed.	No judgment can be made.
Problem Solving	The student selects the solution that is the most effective for overcoming the obstacle or constraint and accurately explains why it is the most effective of the possible solutions.	The student selects the solution that is the most effective for overcoming the obstacle or constraint but does not completely explain why it is the most effective of the possible solutions.	The student selects a solution that overcomes the obstacle or constraint but is not the most effective solution given the options.	The student selects a solution that does not overcome the obstacle or constraint.	No judgment can be made.
Decision Making	The student uses relevant criteria to select the most appropriate option. The student explains why the option selected is the most appropriate.	The student uses relevant criteria to select the most appropriate option but does not completely explain why the option selected is the most appropriate.	The student uses criteria that are related to the situation but not the most relevant, or the student selects an option that is not the most appropriate given the criteria.	The student uses criteria that are unrelated to the situation.	No judgment can be made.