

## Grade 5 Science Rubric

	4 Meeting	3 Approaching	2 Developing	1 Beginning
<u>Develops and revises</u> <u>models to describe a</u> <u>phenomenon</u>	Develops and uses models to describe and/ or predict phenomena to test cause and effect relationships or interactions concerning the functioning of a natural or designed system	Develops and uses models to describe and/ or predict phenomena to test cause and effect relationships or interactions concerning the functioning of a natural or designed system with minimal support	Develops and uses models to describe and/ or predict phenomena to test cause and effect relationships or interactions concerning the functioning of a natural or designed system with additional prompting and support	Does not yet develop and use models to describe and/ or predict phenomena to test cause and effect relationships or interactions concerning the functioning of a natural or designed system
	Identifies limitations for models and collaboratively develops and/or revises a model based on evidence	Identifies limitations for models and collaboratively develops and/or revises a model based on evidence	Identifies limitations for models and collaboratively develops and/or revises a model based on evidence	Does not yet identify limitations for models and collaboratively develops and/or revises a model

	that shows the relationships amongst variables for frequent and occurring events	that shows the relationships amongst variables for frequent and occurring events with minimal support.	that shows the relationships amongst variables for frequent and occurring events with additional prompting and support.	based on evidence that shows the relationships amongst variables for frequent and occurring events
	Develops a model using an analog, example, or abstract representation to describe a scientific principle or design solution	Develops a model using an analog, example, or abstract representation to describe a scientific principle or design solution with minimal support	Develops a model using an analog, example, or abstract representation to describe a scientific principle or design solution with additional prompting and support	Does not yet develop a model using an analog, example, or abstract representation to describe a scientific principle or design solution
	Develops a diagram or simple physical prototype to convey a proposed object, tool, or process	Develops a diagram or simple physical prototype to convey a proposed object, tool, or process with minimal support	Develops a diagram or simple physical prototype to convey a proposed object, tool, or process with additional prompting and support.	Does not yet develop a diagram or simple physical prototype to convey a proposed object, tool, or process
Plans and carries out investigations that control variables and provide evidence to support explanations or design solutions	Plans and carries out investigations that control variables and provide evidence to support explanations or design solutions using fair tests in which variables are	Plans and carries out investigations that control variables and provide evidence to support explanations or design solutions using fair tests in which variables are controlled and the number	Plans and carries out investigations that control variables and provide evidence to support explanations or design solutions using fair tests in which variables are controlled and the number	Does not yet plan and carry out investigations that control variables and provide evidence to support explanations or design solutions using fair tests in which variables are controlled and the

controlled and the number of trials considered	of trials considered with minimal support	of trials considered with additional prompting and support	number of trials considered
Makes observations and measurements to produce data to serve as the basis for evidence for an explanation or phenomenon or to test a design solution	Makes observations and measurements to produce data to serve as the basis for evidence for an explanation or phenomenon or to test a design solution with minimal support	Makes observations and measurements to produce data to serve as the basis for evidence for an explanation or phenomenon or to test a design solution with additional prompting and support	Does not yet make observations and measurements to produce data to serve as the basis for evidence for an explanation or phenomenon or to test a design solution
Evaluates appropriate methods and/or tools for collecting data	Evaluates appropriate methods and/or tools for collecting data with minimal support	Evaluates appropriate methods and/or tools for collecting data with additional prompting and support	Does not yet evaluate appropriate methods and/or tools for collecting data
Makes predictions about what would happen when variables change	Makes predictions about what would happen when variables change with minimal support	Makes predictions about what would happen when variables change with additional prompting and support	Does not yet make predictions about what would happen when variables change
Tests two different models of the same object, tool, or process to determine	Tests two different models of the same object, tool, or process to determine which better meets criteria	Tests two different models of the same object, tool, or process to determine which better meets criteria	Does not yet test two different models of the same object, tool, or process to determine

	which better meets criteria for success	for success with minimal support	for success with additional prompting and support	which better meets criteria for success
Accurately measures, and represents data in tables and/or various graphical displays to reveal patterns that indicate relationships	Accurately measures, and represents data in tables and/or various graphical displays to reveal patterns that indicate relationships such as weight, mass, or size to address science and engineering	Accurately measures, and represents data in tables and/or various graphical displays to reveal patterns that indicate relationships such as weight, mass, or size to address science and engineering with minimal support	Accurately measures, and represents data in tables and/or various graphical displays to reveal patterns that indicate relationships such as weight, mass, or size to address science and engineering with additional prompting and support	Does not yet accurately measure, and represent data in tables and/or various graphical displays to reveal patterns that indicate relationships such as weight, mass, or size to address science and engineering
	Describes and organizes simple data sets to reveal patterns that suggest relationships	Describes and organizes simple data sets to reveal patterns that suggest relationships with minimal support	Describes and organizes simple data sets to reveal patterns that suggest relationships with additional prompting and support	Does not yet describe and organize simple data sets to reveal patterns that suggest relationships
	Graphs quantities accurately	Graphs quantities accurately with minimal support	Graphs quantities accurately with additional prompting and support	Does not yet graph quantities accurately

Obtains and combines information from texts and/or reliable media to explain phenomena or solutions to a design problem	Obtains and combines information from texts and/or reliable media to explain phenomena or solutions to a design problem by reading and comprehending grade level and complex texts and/or other reliable media to summarize and obtain scientific and technical ideas to describe how they are supported by evidence	Obtains and combines information from texts and/or reliable media to explain phenomena or solutions to a design problem by reading and comprehending grade level and complex texts and/or other reliable media to summarize and obtain scientific and technical ideas to describe how they are supported by evidence with minimal support	Obtains and combines information from texts and/or reliable media to explain phenomena or solutions to a design problem by reading and comprehending grade level and complex texts and/or other reliable media to summarize and obtain scientific and technical ideas to describe how they are supported by evidence with additional prompting and support	Does not yet obtain and combine information from texts and/or reliable media to explain phenomena or solutions to a design problem by reading and comprehending grade level and complex texts and/or other reliable media to summarize and obtain scientific and technical ideas to describe how they are supported by evidence
	Combines information in written text to include corresponding tables, diagrams, and/or charts to support scientific or engineering practices	Combines information in written text to include corresponding tables, diagrams, and/or charts to support scientific or engineering practices with minimal support	Combines information in written text to include corresponding tables, diagrams, and/or charts to support scientific or engineering practices with additional prompting and support	Does not yet combine information in written text to include corresponding tables, diagrams, and/or charts to support scientific or engineering practices
	Communicates scientific information in written text or orally to include corresponding tables, diagrams, and/or charts to	Communicates scientific information in written text or orally to include corresponding tables, diagrams, and/or charts to	Communicates scientific information in written text or orally to include corresponding tables, diagrams, and/or charts to	Does not yet communicate scientific information in written text or orally to include corresponding tables, diagrams, and/or

	support scientific or engineering practices	support scientific or engineering practices with minimal support	support scientific or engineering practices with additional prompting and support	charts to support scientific or engineering practices
Constructs and supports an explanation and engages in argument, using evidence, data, and/or a model.	Constructs and supports an explanation and engage in argument, using evidence, data, and/or a model to construct or support an explanation or design a solution to a problem	Constructs and supports an explanation and engage in argument, using evidence, data, and/or a model to construct or support an explanation or design a solution to a problem with minimal support	Constructs and supports an explanation and engage in argument, using evidence, data, and/or a model to construct or support an explanation or design a solution to a problem with additional prompting and support	Does not yet use evidence to construct or support an explanation or design a solution to a problem
	Identifies the evidence that supports particular points in an explanation	Identifies the evidence that supports particular points in an explanation with minimal support	Identifies the evidence that supports particular points in an explanation with additional prompting and support.	Does not yet identify the evidence that supports particular points in an explanation
	Applies scientific ideas to solve design problems	Applies scientific ideas to solve design problems with minimal support	Applies scientific ideas to solve design problems with additional prompting and support.	Does not yet apply scientific ideas to solve design problems
	Generates and compares multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution	Generates and compares multiple solutions to a problem based on how well they meet the criteria and constraints of the design solutions with	Generates and compares multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution with	Does not yet generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution

	minimal support	additional prompting and support	
Supports an argument with evidence, data, or a model	Supports an argument with evidence, data, or a model with minimal support	Supports an argument with evidence, data, or a model with additional prompting and support	Does not yet support an argument with evidence, data, or a model
Distinguishes among facts reasoned judgement based on research findings, and speculation in an explanation	Distinguishes among facts reasoned judgement based on research findings, and speculation in an explanation with minimal support	Distinguishes among facts reasoned judgement based on research findings, and speculation in an explanation with additional prompting and support	Does not yet distinguish among facts reasoned judgement based on research findings, and speculation in an explanation
Provides and receives critique from peers about a proposed procedure, explanation, or model by citing relevant evidence and posing specific questions	Provides and receives critique from peers about a proposed procedure, explanation, or model by citing relevant evidence and posing specific questions with minimal support	Provides and receives critique from peers about a proposed procedure, explanation, or model by citing relevant evidence and posing specific questions with additional prompting and support	Does not provide and/or receive critique from peers about a proposed procedure, explanation, or model by citing relevant evidence and posing specific questions