

Decoding Carbon Marking Rubric



Level 5	Level 4	Level 3	Level 2	Level 1	
Initiating and Plannin	g				
Students ask questions	Students ask questions about observed relationships, and plan investigations of questions, ideas, problems, and issues				
e.g., defining a problem	n; stating a hypothesis; id	entifying variables; defin	ing required materials a	nd tools	
Prediction is clear and insightful, referencing a significant amount of evidence and background information from the activity as well as concepts previously learnt in class.	Prediction is clear and is based on some of evidence and background information from the activity as well as concepts previously learnt in class.	Prediction is clear and is based on background information from the activity.	Prediction is not based on evidence or background information.	Prediction is vague or does not relate to the issue and is not based on evidence or background information.	
Evidence is collected using a variety of appropriate and reliable instruments. The most effective decisionmaking processes are selected to allow for perceptive problem solving.	Evidence is collected using multiple of appropriate instruments. A clear decision making processes is selected to allow for well-reasoned problem solving.	Evidence is collected using an appropriate instrument. A decision making processes is selected to allow for concrete problem solving.	Evidence is collected using inappropriate instruments. Incomplete decision making processes are selected for problem solving.	Evidence is collected using undefined instruments. Decision making processes are selected that do not address the problem.	
Performing and Recor	ding				
Students conduct investigations into relationships between variables, and use a tools and techniques to gather and record data and information e.g., researching, compiling, and organizing data					
Research tools and instruments are used to effectively and accurately collect information and data.	Research tools and instruments are used to clearly and accurately collect information and data.	Research tools and instruments are used to accurately collect information and data.	Research tools and instruments are used to collect limited or vague information and data.	Research tools and instruments are used to collect incorrect or inappropriate information and data.	

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Data is compiled and	Data is compiled and	Data is compiled and	Data is compiled and	Data is compiled and
organized using	organized	organized	organized	organized
effective formats and	using appropriate	using adequate formats	using appropriate	using appropriate
data treatments to	formats and	and	formats and	formats and
facilitate perceptive	data treatments to	data treatments to	data treatments to	data treatments to
interpretation of the	facilitate	facilitate	facilitate	facilitate
data.	well-reasoned	concrete interpretation	interpretation of the	interpretation of the
	interpretation of	of the	data.	data.
	the data.	data.		
Insightful information is	Appropriate information	Information is selected	Inadequate or	Inappropriate
selected and integrated	is selected and	and	incomplete	information is
from	integrated from various	integrated from one	information is selected	selected. Sources are
various sources or from	sources or from several	source or	and	not listed.
several	parts of the same	from a couple parts of	integrated from a	
parts of the same	source.	the same	source.	

Analyzing and Interpreting

source.

Students ask questions about observed relationships, and plan investigations of questions, ideas, problems, and issues e.g., use of nomenclature; comparisons; graphing; analysis; sources of error; analyzing data; drawing conclusions; prototyping; iterations

source.

Evidence and	Evidence and	Evidence and	Evidence and	Evidence and
information are	information are	information are	information are	information are
compiled and displayed	compiled and displayed	adequately and	incompletely displayed.	incorrectly displayed.
effectively and in a	clearly	correctly		
variety of formats.	and in a variety of	compiled and displayed.		
	formats.			
Patterns and trends in	Patterns and trends in	Patterns and trends in	Limited patterns and	Patterns, trends and
data are	data are	data are well as	trends in data a well as	relationships are
thoughtfully interpreted	interpreted with reason	relationships among	relationships	incorrectly identified.
and	and	variables are identified.	among variables are	Calculation is missing or
relationships among	relationships among	Calculation may be	identified and may be	incorrect.
variables	variables	missing or incorrect.	incorrect. Calculation is	
are perceptively inferred	are inferred and		missing or incorrect.	
and	calculated			
calculated when	when appropriate.			
appropriate.				
Strengths and	Strengths and	Strengths and	Strengths and	A single solution is
weaknesses from	weaknesses from	weaknesses from	weaknesses from	selected.
a variety of excellent	a variety of well-	a couple acceptable	a single solution is	
potential solutions are	reasoned potential	potential solutions are	identified.	
insightfully compared,	solutions are compared,	compared and a		
and a single solution is	and a single solution is	single solution is		
selected.	selected.	selected.		



Communication

Students ask questions about observed relationships, and plan investigations of questions, ideas, problems, and issues e.g., analogies, explanations; synthesizing information; multiple perspectives; significant digits; modes of communication

Information is	Information is clearly	Information is	Information is	Information is
masterfully synthesized	synthesized from	adequately synthesized	incompletely	incorrectly
from multiple sources	multiple	from sources to form	synthesized from a	synthesized to form
or from complex and	sources or from	basic inferences.	single source to form	inaccurate inferences.
lengthy texts to form	complex and lengthy		limited inferences.	
insightful inferences.	texts to form well			
	developed inferences			
Evidence or finding are	Evidence or finding are	Evidence or finding are	Evidence or finding are	Evidence or finding are
effectively used to	used to	used concretely to	used to	not used when
develop, present, and	clearly develop, present	develop, present, and	incompletely develop,	developing,
defend a perceptive	and	defend a basic position	present, and defend a	presenting and/or
position or course of	defend a well-reasoned	or course of action.	vague position or	defending a position or
action.	position		course of action.	course of action.
	or course of action.			

Climate Concepts

Investigate and interpret the role of environmental factors on global energy transfer and climate change

A variety of human	A variety of human	A few human actions	A limited number of	Human actions and
actions and their impact	actions and their impact	and their impact on	human actions and their	their impact on biomes
on biomes and climate	on biomes and climate	biomes and climate	impact on	and climate change
change have been	change have been	change have been	biomes and climate	have been inaccurately
insightfully described.	clearly described.	sufficiently described.	change have been	described.
			incompletely described.	
Climate and climate	Climate and climate	Climate and climate	Climate and climate	Climate and climate
change is effectively and	change is clearly	change is concretely	change is vaguely	change is incorrectly
astutely described and	described and evaluated	described and	described through an	described and evaluated
evaluated through a	through a well-	evaluated through a	incomplete	through an inaccurate
masterful	developed	developing	understanding of	understanding of
understanding of	understanding of	understanding of	scientific concepts and	scientific concepts and
scientific concepts and	scientific concepts and	scientific concepts and	international programs	international programs
international	international	international		
programs.	programs.	programs.		
Measuring, modelling	Measuring, modelling	Measuring, modelling	Measuring, modelling	Measuring, modelling
and interpreting climate	and interpreting climate	and interpreting climate	and interpreting climate	and interpreting climate
and climate	and climate	and climate	and climate	and climate
change technology has	change technology has	change technology has	change technology has	change technology has
been excellently	been well described.	been adequately	been incompletely	been inaccurately
described.		described.	described.	described.
An abundant list of risks	A significant list of risks	A few risks and benefits	Risks and benefits of	Risks and benefits of
and benefits of human	and benefits of human	of	human activity, and	human activity, have
activity, and their	activity, and	human activity, and	their impacts on	been incorrectly
impacts on the	their impacts on the	their impacts on the	the biosphere and the	linked to their impacts
biosphere and the	biosphere and the	biosphere and	climate, have been	on the
climate, have been	climate, have been	the climate, have been	unclearly assessed	biosphere and the
insightfully assessed	assessed with reason	concretely assessed	from a limited number	climate and may be
from a large variety of	from a large variety of	from a few	of perspectives.	from a single
perspectives.	perspectives.	perspectives.		perspectives.