# Science, Technology, Society, Environment (STSE)/Knowledge:

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently demonstrates deep and extensive understanding of concepts	Generally demonstrates understanding of most concepts (four out of five opportunities)	Sometimes (or with support) demonstrates understanding of some concepts (three out of five opportunities)	Has difficulty (even with support) understanding concepts	
Independently, consistently and completely describes content and uses specific science vocabulary appropriately	Generally descriptions of content are mostly complete, using specific science vocabulary appropriately	Sometimes (or with support) describes content (sometimes incomplete); science vocabulary used at times	Has difficulty (even with support) describing content; science vocabulary used at times	
Independently and consistently evaluates reliability of sources	Generally evaluates reliability of sources	Sometimes (or with support) evaluates reliability of sources	Has difficulty (even with support) evaluating reliability of sources	
Independently and consistently communicates knowledge efficiently and effectively (written, oral, and/or visual)	Generally communicates knowledge effectively (written, oral, and/or visual)	Sometimes (or with support) communicates knowledge with some difficulty (written, oral, and/or visual)	Has difficulty (even with support) communicating knowledge (written, oral, and/or visual)	
Independently and consistently gives examples of how concepts explored relate to and impact daily life	Generally gives examples of how concepts explored relate to daily life	Sometimes (or with support) gives an example of how concepts explored relate to daily life	Has difficulty (even with support) giving an example of how concepts explored relate to daily life	
Evidence: (following "Analyze, Explain" section)				

# Skills: Plan, Perform

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently states	Generally rephrases questions clearly	Sometimes (or with support) states a	Has difficulty (even with support)	
clearly testable questions identifying	in a testable form identifying	question answerable by doing an	stating a question answerable by	
all necessary observable or	necessary observable or measurable	experiment identifying some	doing an experiment seldom	
measurable characteristics	characteristics	observable or measurable characteristics	identifying observable or measurable characteristics	
Independently and consistently	Generally identifies and controls most	Sometimes (or with support) identifies	Has difficulty (even with support)	
selects all relevant variables to test,	relevant variables for a fair test	and controls most relevant variables	identifying and controlling most	
control, and measure		for a fair test	relevant variables for a fair test	
Independently and consistently	Generally makes predictions relevant	Sometimes (or with support) makes a	Has difficulty (even with support)	
makes predictions relevant to	to question and supported by	prediction relevant to question	making a prediction relevant to	
question supported by scientific	observations		question	
learning				
Independently and consistently	Generally designs experiments to	Sometimes (or with support) designs	Has difficulty (even with support)	
designs experiments to collect	collect intended evidence; steps are	experiments to collect intended	designing a complete experiment	
intended evidence; steps are	complete and can be understood by	evidence; some steps may be		
complete, concise and can be	others	incomplete or missing		
understood by others				
Independently and consistently	Generally chooses appropriate	Sometimes (or with support) chooses	Has difficulty (even with support)	
chooses appropriate materials and	materials and equipment	appropriate materials and equipment	choosing appropriate materials and	
equipment			equipment	
Independently and consistently	Generally follows procedures step by	Sometimes (or with support) follows	Has difficulty (even with support)	
follows procedures step by step	step	procedures step by step	following procedures step by step	
Uses materials, techniques and	Generally uses materials, techniques	Sometimes (or with support) mostly	Has difficulty (even with support)	
equipment competently	and equipment appropriately	uses materials, techniques and	using materials, techniques and	
		equipment appropriately	equipment	
Independently and consistently	Generally makes relevant	Sometimes (or with support) makes	Has difficulty (even with support)	
makes relevant observations	observations	observations	making observations	
Independently and consistently	Generally records evidence	Sometimes (or with support) records	Has difficulty (even with support)	
records evidence appropriately (units,	appropriately (units, labels, pictures)	evidence appropriately (units, labels,	recording evidence (units, labels,	
labels, pictures)		pictures)	pictures)	
Independently and consistently	Generally identifies and uses safety	Sometimes (or with support) identifies	Has difficulty (even with support)	
identifies and uses safety procedures	procedures	and uses safety procedures	using safety procedures	
<b>Evidence:</b> (following "Analyze, Explain"	Evidence: (following "Analyze, Explain" section)			
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4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently organizes	Generally organizes evidence	Sometimes (or with support)	Has difficulty (even with support)
evidence efficiently and effectively (e.g.,	appropriately and effectively (e.g.,	organizes evidence appropriately	organizing evidence appropriately
charts, graphs)	charts, graphs)	(e.g., charts, graphs)	(e.g., charts, graphs)
Independently and consistently sequences	Generally sequences or sorts based	Sometimes (or with support)	Has difficulty (even with support)
or sorts based on more than one attribute	on one or more attribute	sequences or sorts based on one	sequencing or sort based on one
		attribute	attribute
Independently and consistently recognizes	Generally recognizes patterns and	Sometimes (or with support)	Has difficulty (even with support)
and explains patterns and relationships in	relationships in objects or events	recognizes some patterns in	recognizing patterns
objects or events		objects or events	
Independently and consistently identifies a	Generally identifies a discrepancy,	Sometimes (or with support)	Has difficulty (even with support)
discrepancy, suggesting an explanation	suggesting an explanation	identifies a discrepancy,	identifying a discrepancy, suggesting
		suggesting an explanation	an explanation
Independently and consistently makes	Generally makes simple	Sometimes (or with support)	Has difficulty (even with support)
simple conclusions based on observations	conclusions based on observations	makes some conclusions	making a conclusion
Independently and consistently relates	Generally relates conclusion to	Sometimes (or with support)	Has difficulty (even with support)
conclusion to prediction	prediction	relates conclusion to prediction	relating conclusion to prediction
Independently and consistently identifies 2	Generally identifies 1-2 new	Sometimes (or with support)	Has difficulty (even with support)
or more new testable questions that arise	questions that arise from what was	identifies another question that	identifying another question that
from what was learned	learned	arises from what was learned	arises from what was learned
Independently and consistently evaluates	Generally evaluates constructed	Sometimes (or with support)	Has difficulty (even with support)
and suggests practical improvements to	objects or experimental design	evaluates constructed objects or	evaluating constructed objects or
constructed objects or experimental design		experimental design	experimental design
Independently and consistently	Generally communicates questions,	Sometimes (or with support)	Has difficulty (even with support)
communicates questions, procedures, and	procedures, and results effectively	communicates questions,	communicating questions,
results efficiently and effectively	0	procedures, and results	procedures, results
Independently and consistently uses	Generally uses specific science	Sometimes (or with support) uses	Has difficulty (even with support)
specific science vocabulary appropriately	vocabulary appropriately	science vocabulary appropriately	using science vocabulary
Independently and consistently averages	Constally averages ideas also the	Competing as (or with a compant)	appropriately
Independently and consistently expresses	Generally expresses ideas clearly	Sometimes (or with support)	Has difficulty (even with support)
ideas clearly	Conorolly collaborates with athere	expresses ideas	expressing ideas
Independently and consistently	Generally collaborates with others	Sometimes (or with support)	Has difficulty (even with support)
collaborates with others	Congrelly gooks and respects the	collaborate with others	collaborating with others
Independently and consistently seeks and respects the views of others	Generally seeks and respects the views of others	Sometimes (or with support) respects the views of others	Has difficulty (even with support)
•	VIEWS OF OFFICE	respects the views of others	respecting the views of others
Applies findings to other situations			
Evidence: (following "Analyze, Explain" sect	ion)		I

### **Evidence of Learning: Suggested Sources**

#### Observations:

- Observe students during "warm up" activities
- Observe students during experiments
- Observe students during group work
- Observe student presentations and demonstrations
- "Gallery" walks

#### Conversations (oral/written):

- Conferences
- Interviews
- Whole class and group discussions
- Science journal entry
- Exit slips (written responses)
- Self- and peer assessment and reflection

#### Products:

- Quizzes (oral/written)
- Projects
- Tests
- Work samples
- Exit slips or other responses to questions
- Science journal entry
- Photos of student's work
- Group problem solving records
- Portfolios

# Science, Technology, Society, Environment (STSE)

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently	Generally describes that science and	Sometimes (or with support)	Has difficulty (even with support)
describes that science and	technology uses processes to	describes that science and	describing that science and technology
technology uses processes to	investigate the natural and	technology uses processes to	uses processes to investigate the natural
investigate the natural and	constructed world (e.g., multiple trials,	investigate the natural and	and constructed world (e.g., multiple
constructed world (e.g., multiple trials,	re-testing, variations in data)	constructed world (e.g., multiple trials,	trials, re-testing, variations in data)
re-testing, variations in data)		re-testing, variations in data)	
Independently and consistently	Generally describes that science and	Sometimes (or with support)	Has difficulty (even with support)
describes that science and	technology develop over time	describes that science and	describing that science and technology
technology develop over time		technology develop over time	develop over time
Independently and consistently	Generally describes ways that	Sometimes (or with support)	Has difficulty (even with support)
describes ways that science and	science and technology work together	describes ways that science and	describing ways that science and
technology work together		technology work together	technology work together
Independently and consistently	Generally evaluates reliability of	Sometimes (or with support)	Has difficulty (even with support)
evaluates reliability of sources	sources	evaluates reliability of sources	evaluating reliability of sources
Independently and consistently	Generally describes applications of	Sometimes (or with support)	Has difficulty (even with support)
describes applications of science and	science and technology that have	describes applications of science and	describing applications of science and
technology that have developed in	developed in response to human and	technology that have developed in	technology that have developed in
response to human and	environmental needs	response to human and	response to human and environmental
environmental needs		environmental needs	needs
Independently and consistently	Generally describes positive and	Sometimes (or with support)	Has difficulty (even with support)
describes positive and negative	negative effects that result from	describes positive and negative	describing positive and negative effects
effects that result from applications of	applications of science and	effects that result from applications of	that result from applications of science
science and technology in their own	technology in their own lives, the lives	science and technology in their own	and technology in their own lives, the
lives, the lives of others, and the	of others, and the environment	lives, the lives of others, and the	lives of others, and the environment
environment		environment	
Evidence: (following "Knowledge" section)			

# Skills: Plan, Perform

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently	Generally rephrases clearly	Sometimes (or with support) states a	Has difficulty (even with support)	
states clearly testable questions	questions in a testable form	question answerable by doing an	stating a question answerable by	
identifying all necessary observable	identifying necessary observable or	experiment identifying some	doing an experiment seldom	
or measurable characteristics	measurable characteristics)	observable or measurable	identifying observable or measurable	
		characteristics	characteristics	
Independently and consistently	Generally selects relevant variables	Sometimes (or with support) selects	Has difficulty (even with support)	
selects all relevant variables to test,	to ensure a fair test (controlling	some variables to ensure a fair test	selecting variables to ensure a fair	
control, and measure	variables	(controlling variables)	test (controlling variables)	
Independently and consistently	Generally makes plausible prediction	Sometimes (or with support) makes	Has difficulty (even with support)	
makes prediction supported by	supported by scientific learning	prediction supported by scientific	making a prediction	
scientific learning and research		learning		
Independently and consistently	Generally designs experiments to	Sometimes (or with support) designs	Has difficulty (even with support)	
designs experiments to collect	collect intended evidence; steps are	experiments to collect intended	designing a complete experiment	
intended evidence; steps are	complete and can be understood by	evidence; some steps may be		
complete, concise and can be	others	incomplete or missing		
understood by others				
Independently and consistently	Generally chooses appropriate	Sometimes (or with support)	Has difficulty (even with support)	
chooses appropriate materials and	materials and equipment	chooses appropriate materials and	choosing appropriate materials and	
equipment		equipment	equipment	
Independently and consistently	Generally conducts experiments that	Sometimes (or with support)	Has difficulty (even with support)	
conducts experiments that control all	control most variables	conducts experiments that controls	conducting an experiment that	
needed variables		some variables	controls some variables	
Independently and consistently	Generally uses materials, techniques	Sometimes (or with support) uses	Has difficulty (even with support)	
uses materials, techniques and	and equipment competently	materials, techniques and equipment	using materials, techniques and	
equipment competently		competently	equipment	
Independently and consistently	Generally observes relevant	Sometimes (or with support)	Has difficulty (even with support)	
observes relevant evidence	evidence	observes evidence	observing evidence	
Independently and consistently	Generally records evidence	Sometimes (or with support) records	Has difficulty (even with support)	
records evidence appropriately	appropriately (symbols, units, labels,	evidence appropriately (symbols,	recording evidence (symbols, units,	
(symbols, units, labels, readability)	readability)	units, labels, readability)	labels, readability)	
Independently and consistently	Generally identifies and uses safety	Sometimes (or with support)	Has difficulty (even with support)	
identifies and uses safety	procedures	identifies and uses safety	using safety procedures	
procedures		procedures		
Evidence: (following "Knowledge" section)				

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently organizes and displays evidence efficiently and effectively (charts, graphs, tables)	Generally organizes and displays evidence appropriately and effectively (charts, graphs, tables)	Sometimes (or with support) organizes and displays evidence appropriately (charts, graphs, tables)	Has difficulty (even with support organizing and displaying evidence appropriately (charts, graphs, tables)	
Independently and consistently classifies accurately	Generally classifies accurately	Sometimes (or with support) classifies to some extent	Has difficulty (even with support) classifying	
Independently and consistently recognizes and explains patterns and relationships in data	Generally recognizes patterns and relationships in data	Sometimes (or with support) recognizes some patterns in data	Has difficulty (even with support) recognizing patterns	
Independently and consistently makes conclusions supported by data	Generally makes conclusions supported by data	Sometimes (or with support) makes conclusions	Has difficulty (even with support) making a conclusion	
Independently and consistently relates conclusion to prediction based on research	Generally relates conclusion to prediction	Sometimes (or with support) relates conclusion to prediction	Has difficulty (even with support) relating conclusion to prediction	
Independently and consistently identifies 2 or more new testable questions that arise from what was learned	Generally identifies 1-2 new questions that arise from what was learned	Sometimes (or with support) identifies another question that arises from what was learned	Has difficulty (even with support) identifying another question that arises from what was learned	
Independently and consistently evaluates and suggests practical improvements to constructed objects or experimental design	Generally evaluates and suggest improvements to constructed objects or experimental design	Sometimes (or with support) evaluates and suggest improvements to constructed objects or experimental design	Has difficulty (even with support) suggesting an improvement to constructed objects or experimental design	
Independently and consistently communicates questions, procedures, and results efficiently and effectively	Generally communicates questions, procedures, and results effectively	Sometimes (or with support) communicates questions, procedures, and results	Has difficulty (even with support) communicating questions, procedures, results	
Independently and consistently uses specific science vocabulary appropriately	Generally uses specific science vocabulary appropriately	Sometimes (or with support) uses science vocabulary appropriately	Has difficulty (even with support) using science vocabulary appropriately	
Independently and consistently expresses ideas clearly	Generally expresses ideas clearly	Sometimes (or with support) expresses ideas	Has difficulty (even with support) expressing ideas	
Independently and consistently collaborates with others	Generally collaborates with others	Sometimes (or with support) collaborates with others	Has difficulty (even with support) collaborating with others	
Independently and consistently seeks and respects the views of other	Generally seeks and respects the views of others	Sometimes (or with support) respects the views of others	Has difficulty (even with support) respecting the views of others	
Applies findings to other situations				
Evidence: (following "Knowledge" section)				

# Knowledge:

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below		
Independently and consistently	Generally demonstrates	Sometimes (or with support)	Has difficulty (even with support)		
demonstrates deep and extensive	understanding of most concepts (4	demonstrates understanding of some	understanding concepts		
understanding of concepts	out of 5 opportunities)	concepts (3 out of 5 opportunities)			
Independently, consistently and	Generally descriptions of content are	Sometimes (or with support)	Has difficulty (even with support)		
completely describes content and	mostly complete, using specific	describes content (sometimes	describing content; science		
uses specific science vocabulary	science vocabulary appropriately	incomplete); science vocabulary used	vocabulary used at times		
appropriately		at times			
Independently and consistently communicates knowledge efficiently and effectively (written, oral, and/or visual)	Generally communicates knowledge effectively (written, oral, and/or visual)	Sometimes (or with support) communicates knowledge with some difficulty (written, oral, and/or visual)	Has difficulty (even with support) communicating knowledge (written, oral, and/or visual)		
Applies content to new situations					
<b>Evidence:</b> (following "Knowledge" sect	Evidence: (following "Knowledge" section)				

### **Evidence of Learning: Suggested Sources**

#### Observations:

- Observe students during "warm up" activities
- Observe students during experiments
- Observe students during group work
- Observe student presentations and demonstrations
- "Gallery" walks

#### Conversations (oral/written):

- Conferences
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- Science journal entry
- Photos of student's work
- Group problem solving records
- Portfolios

# Science, Technology, Society, Environment (STSE)

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently	Generally describes that science and	Sometimes (or with support)	Has difficulty (even with support)
describes that science and technology	technology uses processes to	describes that science and	describing that science and
uses processes to investigate the	investigate the natural and	technology uses processes to	technology uses processes to
natural and constructed world (e.g.,	constructed world (e.g., multiple trials,	investigate the natural and	investigate the natural and
multiple trials, re-testing, variations in	re-testing, variations in data)	constructed world (e.g., multiple trials,	constructed world (e.g., multiple trials,
data)		re-testing, variations in data)	re-testing, variations in data
Independently and consistently	Generally describes that science and	Sometimes (or with support)	Has difficulty (even with support)
describes that science and technology	technology develop over time	describes that science and	describing that science and
develop over time		technology develop over time	technology develop over time
Independently and consistently	Generally describes ways that	Sometimes (or with support)	Has difficulty (even with support)
describe ways that science and	science and technology work together	describes ways that science and	describing ways that science and
technology work together		technology work together	technology work together
Independently and consistently	Generally evaluates reliability of	Sometimes (or with support)	Has difficulty (even with support)
evaluates reliability of sources	sources	evaluates reliability of sources	evaluating reliability of sources
Independently and consistently	Generally describes applications of	Sometimes (or with support)	Has difficulty (even with support)
describe applications of science and	science and technology that have	describes applications of science and	describing applications of science
technology that have developed in	developed in response to human and	technology that have developed in	and technology that have developed
response to human and environmental	environmental needs	response to human and	in response to human and
needs		environmental needs	environmental needs
Independently and consistently	Congrelly, describes positive and	Compating on (on white own out)	I loo difficulty (over with over out)
Independently and consistently	Generally describes positive and	Sometimes (or with support)	Has difficulty (even with support)
describe positive and negative effects	negative effects that result from	describes positive and negative	describing positive and negative
that result from applications of science	applications of science and	effects that result from applications of	effects that result from applications of
and technology in their own lives, the	technology in their own lives, the lives	science and technology in their own	science and technology in their own
lives of others, and the environment	of others, and the environment	lives, the lives of others, and the	lives, the lives of others, and the
Evidence (following "Knowledge" og eties		environment	environment
Evidence: (following "Knowledge" section)			

### Skills: Plan, Perform

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently states clearly testable questions identifying all necessary observable or measurable characteristics	Generally rephrases clearly questions in a testable form identifying necessary observable or measurable characteristics)	Sometimes (or with support) states a question answerable by doing an experiment identifying some observable or measurable characteristics	Has difficulty (even with support) stating a question answerable by doing an experiment seldom identifying observable or measurable characteristics
Independently and consistently selects all relevant variables to test, control, and measure (quantitatively)	Generally selects relevant variables to test, control, and measure	Sometimes (or with support) selects some variables to test, control, and measure	Has difficulty (even with support) identifying variables
Independently and consistently makes prediction supported by scientific learning and research	Generally makes plausible prediction supported by scientific learning	Sometimes (or with support) makes prediction supported by scientific learning	Has difficulty (even with support) making a prediction
Independently and consistently designs experiments to collect intended evidence; steps are complete, concise and can be understood by others	Generally designs experiments to collect intended evidence; steps are complete and can be understood by others	Sometimes (or with support) designs experiments to collect intended evidence; some steps may be incomplete or missing	Has difficulty (even with support) designing a complete experiment
Independently and consistently chooses appropriate materials and equipment	Generally chooses appropriate materials and equipment	Sometimes (or with support) chooses appropriate materials and equipment	Has difficulty (even with support) choosing appropriate materials and equipment
Independently and consistently conducts experiments that control all needed variables	Generally conducts experiments that control most variables	Sometimes (or with support) conducts experiments that controls some variables	Has difficulty (even with support) conducting an experiment that controls some variables
Independently and consistently uses materials, techniques and equipment competently	Generally uses materials, techniques and equipment competently	Sometimes (or with support) mostly uses materials, techniques and equipment competently	Has difficulty (even with support) using materials, techniques and equipment
Independently and consistently measures accurately	Generally measures accurately	Sometimes (or with support) measures accurately	Has difficulty (even with support) measuring accurately
Independently and consistently observes relevant evidence	Generally observes relevant evidence	Sometimes (or with support) observes evidence	Has difficulty (even with support) observing evidence
Independently and consistently records evidence appropriately (symbols, units, labels, readability)	Generally records evidence appropriately (symbols, units, labels, readability)	Sometimes (or with support) records evidence appropriately (symbols, units, labels, readability)	Has difficulty (even with support) recording evidence (symbols, units, labels, readability)
Independently and consistently identifies and uses safety procedures	Generally identifies and uses safety procedures	Sometimes (or with support) identifies and uses safety procedures	Has difficulty (even with support) using safety procedures
Evidence: (following "Knowledge" section)			

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently organizes	Generally organizes and displays	Sometimes (or with support)	Has difficulty (even with support
and displays evidence efficiently and	evidence appropriately and effectively	organizes and displays evidence	organizing and displaying
effectively (charts, graphs, tables)	(charts, graphs, tables)	appropriately (charts, graphs,	evidence appropriately (charts,
		tables)	graphs, tables)
Independently and consistently classifies	Generally classifies accurately	Sometimes (or with support)	Has difficulty (even with support)
accurately		classifies to some extent	classifying
Independently and consistently recognizes	Generally recognizes patterns and	Sometimes (or with support)	Has difficulty (even with support)
and explains patterns and relationships in	relationships in data	recognizes some patterns in data	recognizing patterns
data			
Independently and consistently recognizes	Generally recognizes patterns and	Sometimes (or with support)	Has difficulty (even with support)
and explains patterns and relationships in	relationships in data	recognizes some patterns in data	recognizing patterns
data			
Independently and consistently relates	Generally relates conclusion to	Sometimes (or with support) relates	Has difficulty (even with support)
conclusion to prediction based on research	prediction	conclusion to prediction	relating conclusion to prediction
identifies and explains possible source(s)	Generally identifies possible source(s)	Sometimes (or with support)	Has difficulty (even with support)
of error and discrepancies in data with	of error and discrepancies in data	identifies some possible source(s)	identifying a possible source of
suggestions for improved experimental		of error	error
design			
Independently and consistently identifies 2	Generally identifies 1-2 new questions	Sometimes (or with support)	Has difficulty (even with support)
or more new testable questions that arise	that arise from what was learned	identifies another question that	identifying another question that
from what was learned		arises from what was learned	arises from what was learned
Independently and consistently	Generally communicates questions,	Sometimes (or with support)	Has difficulty (even with support)
communicates questions, procedures, and	procedures, and results effectively	communicates questions,	communicating questions,
results efficiently and effectively	0 " "	procedures, and results	procedures, results
Independently and consistently uses	Generally uses specific science	Sometimes (or with support) uses	Has difficulty (even with support)
specific science vocabulary appropriately	vocabulary appropriately	science vocabulary appropriately	using science vocabulary
The Land Control of the Control of t	0	0	appropriately
Independently and consistently expresses	Generally expresses ideas clearly	Sometimes (or with support)	Has difficulty (even with support)
ideas clearly	On a relle control with others	expresses ideas	expressing ideas
Independently and consistently	Generally collaborates with others	Sometimes (or with support)	Has difficulty (even with support)
collaborates with others	On a rellicional and account the	collaborates with others	collaborating with others
Independently and consistently seeks and	Generally seeks and respects the	Sometimes (or with support)	Has difficulty (even with support)
respects the views of other	views of others	respects the views of others	respecting the views of others
Applies findings to other situations			
<b>Evidence</b> : (following "Knowledge" section)			

# Knowledge:

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently	Generally demonstrates	Sometimes (or with support)	Has difficulty (even with support)
demonstrates deep and extensive	understanding of most concepts (4	demonstrates understanding of some	understanding concepts
understanding of concepts	out of 5 opportunities)	concepts (3 out of 5 opportunities)	
Independently, consistently and	Generally descriptions of content are	Sometimes (or with support)	Has difficulty (even with support)
completely describes content and	mostly complete, using specific	describes content (sometimes	describing content; science
uses specific science vocabulary	science vocabulary appropriately	incomplete); science vocabulary used	vocabulary used at times
appropriately		at times	
Independently and consistently	Generally communicates knowledge	Sometimes (or with support)	Has difficulty (even with support)
communicates knowledge efficiently	effectively (written, oral, and/or visual)	communicates knowledge with some	communicating knowledge (written,
and effectively (written, oral, and/or		difficulty (written, oral, and/or visual)	oral, and/or visual)
visual)			
Applies content to new situations			
Evidence: (following "Knowledge" sec	tion)	•	<del>.</del>

**Evidence**: (following "Knowledge" section)

#### **Evidence of Learning: Suggested Sources**

#### Observations:

- Observe students during "warm up" activities
- Observe students during experiments
- Observe students during group work
- Observe student presentations and demonstrations
- "Gallery" walks

#### Conversations (oral/written):

- Conferences
- Interviews
- Whole class and group discussions
- Science journal entry
- Exit slips (written responses)
- Self- and peer assessment and reflection

#### Products:

- Quizzes (oral/written)
- Projects
- Tests
- Work samples
- Exit slips or other responses to questions
- Science journal entry
- Photos of student's work
- Group problem solving records
- Portfolios

# Science, Technology, Society, Environment (STSE)

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently	Generally describes that science and	Sometimes (or with support)	Has difficulty (even with support)	
describes that science and	technology uses processes to	describes that science and	describing that science and	
technology uses processes to	investigate the natural and	technology uses processes to	technology uses processes to	
investigate the natural and	constructed world (e.g., multiple trials,	investigate the natural and	investigate the natural and	
constructed world (e.g., multiple trials,	re-testing, variations in data)	constructed world (e.g., multiple trials,	constructed world (e.g., multiple trials,	
re-testing, variations in data)		re-testing, variations in data)	re-testing, variations in data)	
Independently and consistently	Generally describes that science and	Sometimes (or with support)	Has difficulty (even with support)	
describes that science and	technology develop over time	describes that science and	describing that science and	
technology develop over time		technology develop over time	technology develop over time	
Independently and consistently	Generally describes ways that	Sometimes (or with support)	Has difficulty (even with support)	
describe ways that science and	science and technology work together	describes ways that science and	describing ways that science and	
technology work together		technology work together	technology work together	
Independently and consistently	Generally describes applications of	Sometimes (or with support)	Has difficulty (even with support)	
describe applications of science and	science and technology that have	describes applications of science and	describing applications of science	
technology that have developed in	developed in response to human and	technology that have developed in	and technology that have developed	
response to human and	environmental needs	response to human and	in response to human and	
environmental needs		environmental needs	environmental needs	
Independently and consistently	Generally describes positive and	Sometimes (or with support)	Has difficulty (even with support)	
describe positive and negative effects	negative effects that result from	describes positive and negative	describing positive and negative	
that result from applications of	applications of science and	effects that result from applications of	effects that result from applications of	
science and technology in their own	technology in their own lives, the lives	science and technology in their own	science and technology in their own	
lives, the lives of others, and the	of others, and the environment	lives, the lives of others, and the	lives, the lives of others, and the	
environment		environment	environment	
Evidence: (following "Knowledge" section)				

### Skills: Plan, Perform

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently rephrases questions clearly in a testable form (includes two variables) identifying observable or measurable characteristics	Generally rephrases questions clearly in a testable form (includes two variables) identifying observable or measurable characteristics	Sometimes (or with support) rephrases questions in a testable form (includes two variables) identifying observable or measurable characteristics	Has difficulty (even with support) rephrasing questions in a testable form and identifying observable or measurable characteristics
Consistently selects all relevant variables to test, control, and measure	Generally selects relevant variables to test, control, and measure	Sometimes selects some variables to test, control, and measure	Has difficulty (even with support) identifying variables
Independently and consistently uses 'independent', 'dependent', and 'control' terminology	Generally uses 'independent', 'dependent', and 'control' terminology	Sometimes (or with support) uses 'independent', 'dependent', and 'control' terminology	Does not uses 'independent', 'dependent', and 'control' terminology
Independently and consistently makes plausible prediction or hypothesis supported by prior scientific learning and research, written in passive voice (3 <sup>rd</sup> person)	Generally makes plausible prediction or hypothesis supported by prior scientific learning written in passive voice (3 <sup>rd</sup> person)	Sometimes (or with support) makes prediction or hypothesis supported by prior scientific learning; written in first person (e.g., "I predict")	Has difficulty (even with support) making a prediction or hypothesis
Independently and consistently designs experiments to collect intended evidence; steps are complete, concise and can be understood by others	Generally designs experiments to collect intended evidence; steps are complete and can be understood by others	Sometimes (or with support) designs experiments to collect intended evidence; some steps may be incomplete or missing	Has difficulty (even with support) designing a complete experiment
Independently and consistently conducts experiments that control all needed variables	Generally conducts experiments that control most variables	Sometimes (or with support) conducts experiments that controls some variables	Has difficulty (even with support) conducting an experiment that controls some variables
Independently and consistently uses materials, techniques and equipment competently	Generally uses materials, techniques and equipment competently	Sometimes (or with support) mostly uses materials, techniques and equipment competently	Has difficulty (even with support) using materials, techniques and equipment
Independently and consistently observes and measures relevant evidence accurately	Generally observes and measures relevant evidence accurately	Sometimes (or with support) observes and measures evidence accurately	Has difficulty (even with support) observing and measuring evidence
Independently and consistently records evidence appropriately for the task (symbols, units, labels, readability)	Generally records evidence appropriately for the task (symbols, units, labels, readability)	Sometimes (or with support) records evidence appropriately (symbols, units, labels, readability)	Has difficulty (even with support) recording evidence (symbols, units, labels, readability)
Independently and consistently identifies and uses safety procedures	Generally identifies and uses safety procedures	Sometimes identifies and uses safety procedures	Has difficulty (even with support) using safety procedures
<b>Evidence</b> : (following "Knowledge" section)-			

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Consistently organizes evidence effectively and efficiently	Generally organizes evidence appropriately and effectively	Sometimes (or with support) organizes evidence appropriately	Has difficulty (even with support) organizing evidence appropriately
Independently and consistently classifies accurately	Generally classifies accurately	Sometimes (or with support) classifies to some extent	Has difficulty (even with support) classifying
Independently and consistently makes conclusions supported by data	Generally makes conclusions supported by data	Sometimes (or with support) re-states results, but not a complete conclusion	Has difficulty (even with support) making a conclusion
Independently and consistently relates conclusion to prediction based on research	Generally relates conclusion to prediction	Sometimes (or with support) relates conclusion to prediction	Has difficulty (even with support) relating conclusion to prediction
Independently and consistently recognizes and explains patterns and relationships in data	Generally recognizes patterns and relationships in data.	Sometimes (or with support) recognizes some patterns in data	Has difficulty (even with support) recognizing patterns in data
Independently and consistently identifies and explains possible source(s) of error and discrepancies in data with suggestions for improved experimental design	Generally identifies possible source(s) of error and discrepancies in data	Sometimes (or with support) identifies some possible source(s) of error	Has difficulty (even with support) identifying a possible source of error
Independently and consistently applies findings to other situations	Generally identifies how findings can be applied to other situations	Sometimes (or with support) identifies how findings can be applied to another situation	Has difficulty (even with support) identifying how findings can be applied to another situation
Independently and consistently identifies 2 or more new testable questions that arise from what was learned	Generally identifies 1-2 new questions that arise from what was learned (sometimes contains opinion)	Sometimes (or with support) identifies another question that arises from what was learned (often contains opinion)	Has difficulty (even with support) identifying another question that arises from what was learned (contain opinion)
Consistently communicates questions, procedures, and results clearly, effectively and efficiently	Generally communicates questions, procedures, and results clearly and effectively	Sometimes (or with support) communicates questions, procedures, and results	Has difficulty (even with support) communicating questions, procedures, and results
Independently and consistently suggests improvements to a design or device, make a plausible suggestion on how to improve the design or device	Generally suggests improvements to a design or device	Sometimes (or with support) suggests improvements to a design or device	Has difficulty (even with support) suggesting improvements to a design or device
Always uses specific science vocabulary appropriately	Generally uses specific science vocabulary appropriately	Sometimes uses science vocabulary appropriately	Rarely uses science vocabulary appropriately
Evidence: (following "Knowledge" sect	ion)	1	

### Knowledge:

Excelling	Meeting	Approaching	Working Below		
Independently and consistently	Generally demonstrates	Sometimes (or with support)	Has difficulty (even with support)		
demonstrates understanding of	understanding of most concepts (4	demonstrates understanding of	understanding concepts (less than 3		
concepts that goes beyond the	out of 5 opportunities)	some concepts (3 out of 5	out of 5 opportunities)		
curricular outcomes		opportunities)			
Independently, consistently and	Generally descriptions of content are	Sometimes (or with support)	Has difficulty (even with support)		
completely describes content and uses specific science vocabulary	mostly complete, using specific science vocabulary appropriately	describes content (sometimes incomplete); science vocabulary	describing content; science vocabulary used at times		
appropriately	Science vocabulary appropriately	used at times	vocabulary used at times		
	Comprelly compression to a large state of the court of th		Llas difficulty (average)		
Independently and consistently communicates knowledge efficiently and effectively (written, oral, and/or visual)	Generally communicates knowledge effectively (written, oral, and/or visual)	Sometimes (or with support) communicates knowledge with some difficulty (written, oral, and/or visual)	Has difficulty (even with support) communicating knowledge (written, oral, and/or visual)		
Applies content to new situations					
Evidence: (following "Knowledge" sect	Evidence: (following "Knowledge" section)				

#### **Evidence of Learning: Suggested Sources**

#### Observations:

- Observe students during "warm up" activities
- Observe students completing experiments
- Observe students during group work
- · Observe student presentations and demonstrations
- Observe students during project planning; developing research questions
- "Gallery" walks

#### Conversations (oral/written):

- Conferences and interviews
- Whole class and group: questions and discussions
- Debates including scientific information, point of view, different perspectives
- Science journal entries and exit slips (written responses)
- Testable questions/predictions/hypothesis; series of steps based on a scenario
- Conclusions and predictions based on results; proposing follow-up investigations (experiment, research project)
- Critiques of lab set-up/scenario suggests improvements
- · Self- and peer assessment and reflection

#### Products:

- Quizzes (oral/written)
- Projects; research questions; Science Fair; STEAM Expo
- Tests
- Assignments
- Lab reports
- Work samples: tables and/or graphs; classification tree; diagrams
- Exit slips or other responses to questions
- Science journal entry
- Photos of student's work
- Group problem solving records
- · Design or construct a model/device; test prototypes; suggest improvements
- Portfolios
- · Review of current events articles and other scientific literature
- Timelines (History of Science and Technology)

July 2015

# Science, Technology, Society, Environment (STSE)

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently	Generally describes various	Sometimes (or with support)	Has difficulty (even with support)	
describes various processes used in	processes used in science and	describes various processes used in	describing various processes used in	
science and technology to	technology to investigate the natural	science and technology to	science and technology to	
investigate the natural and	and constructed world (e.g., multiple	investigate the natural and	investigate the natural and	
constructed world (e.g., multiple	trials, re-testing, variations in data)	constructed world (e.g., multiple	constructed world (e.g., multiple	
trials, re-testing, variations in data)		trials, re-testing, variations in data)	trials, re-testing, variations in data)	
Independently and consistently	Generally describes the	Sometimes (or with support)	Has difficulty (even with support)	
describes the development of	development of science and	describes the development of	describing the development of	
science and technology over time	technology over time	science and technology over time	science and technology over time	
Independently and consistently	Generally explains how science and	Sometimes (or with support)	Has difficulty (even with support)	
explains how science and	technology interact with and	explains how science and	explaining how science and	
technology interact with and	advance one another	technology interact with and	technology interact with and	
advance one another		advance one another	advance one another	
Independently and consistently	Generally illustrates how the needs	Sometimes (or with support)	Has difficulty (even with support)	
illustrates how the needs of	of individuals, society, and the	illustrates how the needs of	illustrating how the needs of	
individuals, society, and the	environment influence and are	individuals, society, and the	individuals, society, and the	
environment influence and are	influenced by scientific and	environment influence and are	environment influence and are	
influenced by scientific and	technological endeavors (e.g.,	influenced by scientific and	influenced by scientific and	
technological endeavors (e.g.,	careers, industry, and special	technological endeavors (e.g.,	technological endeavors (e.g.,	
careers, industry, and special	interest groups)	careers, industry, and special	careers, industry, and special	
interest groups)		interest groups)	interest groups)	
Independently and consistently	Generally analyzes social issues	Sometimes (or with support)	Has difficulty (even with support)	
analyzes social issues related to the	related to the applications and	analyzes social issues related to the	analyzing social issues related to the	
applications and limitations of	limitations of science and	applications and limitations of	applications and limitations of	
science and technology, and	technology, and explains decisions	science and technology, and	science and technology, and	
explains decisions in terms of	in terms of advantages and	explains decisions in terms of	explaining decisions in terms of	
advantages and disadvantages for	disadvantages for sustainability,	advantages and disadvantages for	advantages and disadvantages for	
sustainability, considering a few	considering a few perspectives	sustainability, considering a few	sustainability, considering a few	
perspectives		perspectives	perspectives	
Evidence: (following "Knowledge" section)				

# Skills: Plan, Perform

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently	Generally rephrases questions clearly	Sometimes (or with support)	Has difficulty (even with support)	
rephrases questions clearly in a	in a testable form (includes two	rephrases questions in a testable	rephrasing questions in a testable	
testable form (includes two variables)	variables) identifying observable or	form (includes two variables)	form and identifying observable or	
identifying observable or measurable	measurable characteristics	identifying observable or measurable	measurable characteristics	
characteristics		characteristics		
Consistently selects all relevant	Generally selects relevant variables to	Sometimes selects some variables	Has difficulty (even with support)	
variables to test, control, and measure	test, control, and measure	to test, control, and measure	identifying variables	
Independently and consistently uses	Generally uses 'independent',	Sometimes (or with support) uses	Does not uses 'independent',	
'independent', 'dependent', and 'control'	'dependent', and 'control' terminology	'independent', 'dependent', and	'dependent', and 'control'	
terminology. Student independently		'control' terminology	terminology	
chooses proper units.				
Independently and consistently makes	Generally makes plausible prediction	Sometimes (or with support) makes	Has difficulty (even with support)	
plausible prediction or hypothesis	or hypothesis supported by prior	prediction or hypothesis supported	making a prediction or hypothesis	
supported by prior scientific learning	scientific learning written in passive	by prior scientific learning; written in		
and research, written in passive voice	voice (3 <sup>rd</sup> person)	first person (e.g., "I predict")		
(3 <sup>rd</sup> person)				
Independently and consistently designs	Generally designs experiments to	Sometimes (or with support) designs	Has difficulty (even with support)	
experiments to collect intended	collect intended evidence; steps are	experiments to collect intended	designing a complete experiment	
evidence; steps are complete, concise	complete and can be understood by	evidence; some steps may be		
and can be understood by others	others	incomplete or missing	Lie difficulty (even with even out)	
Independently and consistently	Generally conducts experiments that control most variables	Sometimes (or with support)	Has difficulty (even with support)	
conducts experiments that control all needed variables	Control most variables	conducts experiments that controls some variables	conducting an experiment that controls some variables	
Independently and consistently uses	Generally uses materials, techniques	Sometimes (or with support) uses	Has difficulty (even with support)	
materials, techniques and equipment	and equipment effectively, accurately,	materials, techniques and equipment	using materials, techniques and	
effectively, accurately, and safely	and safely	effectively and safely	equipment effectively and safely	
Independently and consistently	Generally observes and measures	Sometimes (or with support)	Has difficulty (even with support)	
observes and measures relevant	relevant evidence accurately	observes and measures evidence	observing and measuring evidence	
evidence accurately		accurately		
Independently and consistently records	Generally records evidence	Sometimes (or with support) records	Has difficulty (even with support)	
evidence appropriately for the task	appropriately for the task (symbols,	evidence appropriately (symbols,	recording evidence (symbols, units,	
(symbols, units, labels, readability)	units, labels, readability)	units, labels, readability)	labels, readability)	
Evidence: (following "Knowledge" section)				

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Consistently organizes evidence effectively	Generally organizes evidence	Sometimes (or with support)	Has difficulty (even with support)	
and efficiently	appropriately and effectively	organizes evidence appropriately	organizing evidence appropriately	
Independently and consistently classifies	Generally classifies accurately	Sometimes (or with support)	Has difficulty (even with support)	
accurately		classifies to some extent	classifying	
Independently and consistently interprets	Generally interprets patterns and	Sometimes (or with support)	Has difficulty (even with support)	
patterns and relationships in data	relationships in data	recognizes patterns and	recognizing patterns and	
		relationships in data	relationships in data	
Independently and consistently makes	Generally makes predictions using	Sometimes (or with support) makes	Has difficulty (even with support)	
predictions using data patterns and	data patterns and relationships	a prediction using data patterns	making a prediction using data	
relationships			patterns	
Independently and consistently states a	Generally states a conclusion based	Sometimes (or with support) states	Has difficulty (even with support)	
conclusion based on data and explains how	on data and explains how evidence	a conclusion based on data	stating a conclusion based on	
evidence supports or refutes an initial idea	supports or refutes an initial idea		data	
Independently and consistently identifies	Generally identifies strengths and	Sometimes (or with support)	Has difficulty identifying a	
strengths and weaknesses of data collection	weaknesses of data collection and	identifies a strength or weakness of	strength or weakness of data	
and organization.	organization	data collection and/or organization	collection and/or organization	
Independently and consistently identifies and	Generally identifies possible source(s)	Sometimes (or with support)	Has difficulty (even with support)	
explains possible source(s) of error and	of error and discrepancies in data	identifies some possible source(s)	identifying a possible source of	
discrepancies in data with suggestions for		of error	error	
improved experimental design	0 " 10 " 10 "			
Independently and consistently identifies 2 or	Generally identifies 1-2 new questions	Sometimes (or with support)	Has difficulty (even with support)	
more new testable questions that arise from	that arise from what was learned	identifies another question that	identifying another question that	
what was learned	(sometimes contains opinion)	arises from what was learned (often	arises from what was learned	
		contains opinion)	(contain opinion)	
Consistently communicates questions,	Generally communicates questions,	Sometimes (or with support)	Has difficulty (even with support)	
procedures, and results clearly, effectively	procedures, and results clearly and	communicates questions,	communicating questions,	
and efficiently	effectively	procedures, and results	procedures, and results	
Independently tests the design of a	Generally tests the design of a	Sometimes (or with support) tests	Has difficulty (even with support)	
constructed device and re-tests to make	constructed device	the design of a constructed device	testing the design of a	
improvements	Congrelly, defende a position on an	Compating as (or with a propert)	constructed device	
Independently and consistently defends a	Generally defends a position on an	Sometimes (or with support)	Has difficulty (even with support)	
position on an issue in a logical, reasoned	issue based on their findings	defends a position on an issue	defending a position on an issue	
Always uses specific science vecabulary	Conorally upon appoific acionas	Sometimes uses science	Paraly upon naionan yanghulary	
Always uses specific science vocabulary	Generally uses specific science		Rarely uses science vocabulary	
appropriately Independently and consistently applies	vocabulary appropriately  Generally identifies and evaluates	vocabulary appropriately	appropriately  Has difficulty (even with support)	
		Sometimes (or with support) identifies how findings can be		
findings to other situations	how findings can be applied to other situations	applied to another situation	identifying how findings can be applied to another situation	
Tridence (fellowing #Krowdodes " C	วแนสแบบร	applied to another Situation	applied to another situation	
Evidence: (following "Knowledge" section)				

# Knowledge

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below	
Independently and consistently	Generally demonstrates	Sometimes (or with support)	Has difficulty (even with support)	
demonstrates understanding of	understanding of most concepts (4	demonstrates understanding of some	understanding concepts (less than 3	
concepts that goes beyond the	out of 5 opportunities)	concepts (3 out of 5 opportunities)	out of 5 opportunities)	
curricular outcomes				
Independently, consistently and	Generally descriptions of content are	Sometimes (or with support)	Has difficulty (even with support)	
completely describes content and	mostly complete, using specific	describes content (sometimes	describing content; science	
uses specific science vocabulary	science vocabulary appropriately	incomplete); science vocabulary	vocabulary used at times	
appropriately		used at times		
Independently and consistently	Generally communicates knowledge	Sometimes (or with support)	Has difficulty (even with support)	
communicates knowledge efficiently	effectively (written, oral, and/or	communicates knowledge with some	communicating knowledge (written,	
and effectively (written, oral, and/or	visual)	difficulty (written, oral, and/or visual)	oral, and/or visual)	
visual)				
Applies content to new situations				
Evidence: (following "Knowledge" section)-				

#### **Evidence of Learning: Suggested Sources**

#### Observations:

- Observe students during "warm up" activities
- Observe students completing experiments
- Observe students during group work
- · Observe student presentations and demonstrations
- Observe students during project planning; developing research questions
- "Gallery" walks

#### Conversations (oral/written):

- Conferences and interviews
- Whole class and group: questions and discussions
- Debates including scientific information, point of view, different perspectives
- Science journal entries and exit slips (written responses)
- · Testable questions/predictions/hypothesis; series of steps based on a scenario
- Conclusions and predictions based on results; proposing follow-up investigations (experiment, research project)
- Critiques of lab set-up/scenario suggests improvements
- Self- and peer assessment and reflection

#### Products:

- Quizzes (oral/written)
- Projects; research questions; Science Fair; STEAM Expo
- Tests
- Assignments
- Lab reports
- Work samples: tables and/or graphs; classification tree; diagrams
- Exit slips or other responses to questions
- Science journal entry
- Photos of student's work
- Group problem solving records
- Design or construct a model/device; test prototypes; suggest improvements
- Portfolios
- · Review of current events articles and other scientific literature
- Timelines (History of Science and Technology)

# Science, Technology, Society, Environment (STSE)

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently	Generally describes various	Sometimes (or with support)	Has difficulty (even with support)
describes various processes used in	processes used in science and	describes various processes used in	describing various processes used in
science and technology to investigate	technology to investigate the natural	science and technology to investigate	science and technology to investigate
the natural and constructed world (e.g.,	and constructed world (e.g., multiple	the natural and constructed world	the natural and constructed world
multiple trials, re-testing, variations in	trials, re-testing, variations in data)	(e.g., multiple trials, re-testing,	(e.g., multiple trials, re-testing,
data)		variations in data)	variations in data)
Independently and consistently	Generally describes the development	Sometimes (or with support)	Has difficulty (even with support)
describes the development of science	of science and technology over time	describes the development of science	describing the development of
and technology over time		and technology over time	science and technology over time
Independently and consistently	Generally explains how science and	Sometimes (or with support) explains	Has difficulty (even with support)
explains how science and technology	technology interact with and advance	how science and technology interact	explaining how science and
interact with and advance one another	one another	with and advance one another	technology interact with and advance
			one another
Independently and consistently	Generally illustrates how the needs of	Sometimes (or with support)	Has difficulty (even with support)
illustrates how the needs of individuals,	individuals, society, and the	illustrates how the needs of	illustrating how the needs of
society, and the environment influence	environment influence and are	individuals, society, and the	individuals, society, and the
and are influenced by scientific and	influenced by scientific and	environment influence and are	environment influence and are
technological endeavors (e.g., careers,	technological endeavors (e.g.,	influenced by scientific and	influenced by scientific and
industry, and special interest groups)	careers, industry, and special interest	technological endeavors (e.g.,	technological endeavors (e.g.,
	groups)	careers, industry, and special interest	careers, industry, and special interest
		groups)	groups)
Independently and consistently	Generally analyzes social issues	Sometimes (or with support) analyzes	Has difficulty (even with support)
analyzes social issues related to the	related to the applications and	social issues related to the	analyzing social issues related to the
applications and limitations of science	limitations of science and technology,	applications and limitations of science	applications and limitations of science
and technology, and explains decisions	and explains decisions in terms of	and technology, and explains	and technology, and explaining
in terms of advantages and	advantages and disadvantages for	decisions in terms of advantages and	decisions in terms of advantages and
disadvantages for sustainability,	sustainability, considering a few	disadvantages for sustainability,	disadvantages for sustainability,
considering a few perspectives	perspectives	considering a few perspectives	considering a few perspectives
Evidence: (following "Knowledge" section	n)		

### Skills: Plan, Perform

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently rephrases questions clearly in a testable form (includes two variables) identifying observable or measurable characteristics	Generally rephrases questions clearly in a testable form (includes two variables) identifying observable or measurable characteristics	Sometimes (or with support) rephrases questions in a testable form (includes two variables) identifying observable or measurable characteristics	Has difficulty (even with support) rephrasing questions in a testable form and identifying observable or measurable characteristics
Consistently selects all relevant variables to test, control, and measure	Generally selects relevant variables to test, control, and measure	Sometimes selects some variables to test, control, and measure	Has difficulty (even with support) identifying variables
Independently and consistently uses 'independent', 'dependent', and 'control' terminology. Student independently chooses proper units.	Generally uses 'independent', 'dependent', and 'control' terminology	Sometimes (or with support) uses 'independent', 'dependent', and 'control' terminology	Does not uses 'independent', 'dependent', and 'control' terminology
Independently and consistently makes plausible prediction or hypothesis supported by prior scientific learning and research, written in passive voice (3 <sup>rd</sup> person)	Generally makes plausible prediction or hypothesis supported by prior scientific learning written in passive voice (3 <sup>rd</sup> person)	Sometimes (or with support) makes prediction or hypothesis supported by prior scientific learning; written in first person (e.g., "I predict")	Has difficulty (even with support) making a prediction or hypothesis
Independently and consistently designs experiments to collect intended evidence; steps are complete, concise and can be understood by others	Generally designs experiments to collect intended evidence; steps are complete and can be understood by others	Sometimes (or with support) designs experiments to collect intended evidence; some steps may be incomplete or missing	Has difficulty (even with support) designing a complete experiment
Independently and consistently conducts experiments that control all needed variables	Generally conducts experiments that control most variables	Sometimes (or with support) conducts experiments that controls some variables	Has difficulty (even with support) conducting an experiment that controls some variables
Independently and consistently uses materials, techniques and equipment effectively, accurately, and safely	Generally uses materials, techniques and equipment effectively, accurately, and safely	Sometimes (or with support) uses materials, techniques and equipment effectively and safely	Has difficulty (even with support) using materials, techniques and equipment effectively and safely
Independently and consistently observes and measures relevant evidence accurately	Generally observes and measures relevant evidence accurately	Sometimes (or with support) observes and measures evidence accurately	Has difficulty (even with support) observing and measuring evidence
Independently and consistently records evidence appropriately for the task (symbols, units, labels, readability)	Generally records evidence appropriately for the task (symbols, units, labels, readability)	Sometimes (or with support) records evidence appropriately (symbols, units, labels, readability)	Has difficulty (even with support) recording evidence (symbols, units, labels, readability)
Evidence: (following "Knowledge" section	)		

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Consistently organizes evidence effectively	Generally organizes evidence	Sometimes (or with support)	Has difficulty (even with support)
and efficiently	appropriately and effectively	organizes evidence appropriately	organizing evidence appropriately
Consistently organizes evidence effectively	Generally organizes evidence	Sometimes (or with support)	Has difficulty (even with support)
and efficiently	appropriately and effectively	organizes evidence appropriately	organizing evidence appropriately
Independently and consistently makes predictions using data patterns and relationships	Generally makes predictions using data patterns and relationships	Sometimes (or with support) makes a prediction using data patterns	Has difficulty (even with support) making a prediction using data patterns
Independently and consistently states a conclusion based on data and explains how evidence supports or refutes an initial idea	Generally states a conclusion based on data and explains how evidence supports or refutes an initial idea	Sometimes (or with support) states a conclusion based on data	Has difficulty (even with support) stating a conclusion based on data
Independently and consistently identifies strengths and weaknesses of data collection and organization.	Generally identifies strengths and weaknesses of data collection and organization	Sometimes (or with support) identifies a strength or weakness of data collection and/or organization	Has difficulty identifying a strength or weakness of data collection and/or organization
Independently and consistently identifies and explains possible source(s) of error and discrepancies in data with suggestions for improved experimental design	Generally identifies possible source(s) of error and discrepancies in data	Sometimes (or with support) identifies some possible source(s) of error	Has difficulty (even with support) identifying a possible source of error
Independently and consistently identifies 2 or more new testable questions that arise from what was learned	Generally identifies 1-2 new questions that arise from what was learned (sometimes contains opinion)	Sometimes (or with support) identifies another question that arises from what was learned (often contains opinion)	Has difficulty (even with support) identifying another question that arises from what was learned (contain opinion)
Independently and consistently tests, evaluates and corrects problems of a constructed device and re-tests	Generally tests, evaluates and corrects problems of a constructed device	Sometimes (or with support) tests and identifies problems of a constructed device	Has difficulty (even with support) testing a constructed device
Consistently communicates questions, procedures, and results clearly, effectively and efficiently	Generally communicates questions, procedures, and results clearly and effectively	Sometimes (or with support) communicates questions, procedures, and results	Has difficulty (even with support) communicating questions, procedures, and results
Independently and consistently defends a position on an issue in a logical, reasoned way	Generally defends a position on an issue based on their findings	Sometimes (or with support) defends a position on an issue	Has difficulty (even with support) defending a position on an issue
Always uses specific science vocabulary appropriately	Generally uses specific science vocabulary appropriately	Sometimes uses science vocabulary appropriately	Rarely uses science vocabulary appropriately
Independently and consistently applies findings to other situations	Generally identifies and evaluates how findings can be applied to other situations	Sometimes (or with support) identifies how findings can be applied to another situation	Has difficulty (even with support) identifying how findings can be applied to another situation
Evidence: (following "Knowledge" section)			

### Knowledge:

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently demonstrates understanding of concepts that goes beyond the	Generally demonstrates understanding of most concepts (4 out of 5 opportunities)	Sometimes (or with support) demonstrates understanding of some concepts (3 out of 5 opportunities)	Has difficulty (even with support) understanding concepts (less than 3 out of 5 opportunities)
curricular outcomes	out of 3 opportunities)	concepts (3 out of 3 opportunities)	out of 5 opportunities)
Independently, consistently and completely describes content and uses specific science vocabulary appropriately	Generally descriptions of content are mostly complete, using specific science vocabulary appropriately	Sometimes (or with support) describes content (sometimes incomplete); science vocabulary used at times	Has difficulty (even with support) describing content; science vocabulary used at times
Independently and consistently communicates knowledge efficiently and effectively (written, oral, and/or visual)	Generally communicates knowledge effectively (written, oral, and/or visual)	Sometimes (or with support) communicates knowledge with some difficulty (written, oral, and/or visual)	Has difficulty (even with support) communicating knowledge (written, oral, and/or visual)
Applies content to new situations			
Evidence: (following "Knowledge" section	)		l

**Evidence**: (following "Knowledge" section)

#### **Evidence of Learning: Suggested Sources**

#### Observations:

- · Observe students during "warm up" activities
- Observe students completing experiments
- Observe students during group work
- Observe student presentations and demonstrations
- Observe students during project planning; developing research questions
- "Gallery" walks

#### <u>Conversations</u> (oral/written):

- Conferences and interviews
- Whole class and group: questions and discussions
- Debates including scientific information, point of view, different perspectives
- Science journal entries and exit slips (written responses)
- Testable questions/predictions/hypothesis; series of steps based on a scenario
- Conclusions and predictions based on results; proposing follow-up investigations (experiment, research project)
- Critiques of lab set-up/scenario suggests improvements
- Self- and peer assessment and reflection

#### Products:

- Quizzes (oral/written)
- Projects; research questions; Science Fair; STEAM Expo
- Tests
- Assignments
- Lab reports
- Work samples: tables and/or graphs; classification tree; diagrams
- Exit slips or other responses to questions
- Science journal entry
- Photos of student's work
- Group problem solving records
- Design or construct a model/device; test prototypes; suggest improvements
- Portfolios
- Review of current events articles and other scientific literature
- Timelines (History of Science and Technology)