Science – Grade 3, 2015

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 clearly testable questions identifying all necessary observable or measurable characteristics	Generally rephrases questions clearly 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	Generally identifies and controls most relevant variables for a fair test	Sometimes (or with support) identifies and controls most relevant variables for a fair test	Has difficulty (even with support) identifying and controlling most relevant variables for a fair test
Independently and consistently makes predictions relevant to question supported by scientific learning	Generally makes predictions relevant to question and supported by observations	Sometimes (or with support) makes a prediction relevant to question	Has difficulty (even with support) making a prediction relevant to question
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 follows procedures step by step	Generally follows procedures step by step	Sometimes (or with support) follows procedures step by step	Has difficulty (even with support) following procedures step by step
Uses materials, techniques and equipment competently	Generally uses materials, techniques and equipment appropriately	Sometimes (or with support) mostly uses materials, techniques and equipment appropriately	Has difficulty (even with support) using materials, techniques and equipment
Independently and consistently makes relevant observations	Generally makes relevant observations	Sometimes (or with support) makes observations	Has difficulty (even with support) making observations
Independently and consistently records evidence appropriately (units, labels, pictures)	Generally records evidence appropriately (units, labels, pictures)	Sometimes (or with support) records evidence appropriately (units, labels, pictures)	Has difficulty (even with support) recording evidence (units, labels, pictures)
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 “Analyze, Explain” section)			

Skills: Analyze, Explain

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently organizes evidence efficiently and effectively (e.g., charts, graphs)	Generally organizes evidence appropriately and effectively (e.g., charts, graphs)	Sometimes (or with support) organizes evidence appropriately (e.g., charts, graphs)	Has difficulty (even with support) organizing evidence appropriately (e.g., charts, graphs)
Independently and consistently sequences or sorts based on more than one attribute	Generally sequences or sorts based on one or more attribute	Sometimes (or with support) sequences or sorts based on one attribute	Has difficulty (even with support) sequencing or sort based on one attribute
Independently and consistently recognizes and explains patterns and relationships in objects or events	Generally recognizes patterns and relationships in objects or events	Sometimes (or with support) recognizes some patterns in objects or events	Has difficulty (even with support) recognizing patterns
Independently and consistently identifies a discrepancy, suggesting an explanation	Generally identifies a discrepancy, suggesting an explanation	Sometimes (or with support) identifies a discrepancy, suggesting an explanation	Has difficulty (even with support) identifying a discrepancy, suggesting an explanation
Independently and consistently makes simple conclusions based on observations	Generally makes simple conclusions based on observations	Sometimes (or with support) makes some conclusions	Has difficulty (even with support) making a conclusion
Independently and consistently relates conclusion to prediction	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 constructed objects or experimental design	Sometimes (or with support) evaluates constructed objects or experimental design	Has difficulty (even with support) evaluating 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) collaborate with others	Has difficulty (even with support) 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) respecting the views of others
Applies findings to other situations			
Evidence: (following “Analyze, Explain” 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 – Grade 4

Science, Technology, Society, Environment (STSE)

4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Independently and consistently describes that science and technology uses processes to investigate the natural and constructed world (e.g., multiple trials, re-testing, variations in data)	Generally describes that science and technology uses processes to investigate the natural and constructed world (e.g., multiple trials, re-testing, variations in data)	Sometimes (or with support) describes that science and technology uses processes to investigate the natural and constructed world (e.g., multiple trials, re-testing, variations in data)	Has difficulty (even with support) describing that science and technology uses processes to investigate the natural and constructed world (e.g., multiple trials, re-testing, variations in data)
Independently and consistently describes that science and technology develop over time	Generally describes that science and technology develop over time	Sometimes (or with support) describes that science and technology develop over time	Has difficulty (even with support) describing that science and technology develop over time
Independently and consistently describes ways that science and technology work together	Generally describes ways that science and technology work together	Sometimes (or with support) describes ways that science and technology work together	Has difficulty (even with support) describing ways that science and technology work together
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 describes applications of science and technology that have developed in response to human and environmental needs	Generally describes applications of science and technology that have developed in response to human and environmental needs	Sometimes (or with support) describes applications of science and technology that have developed in response to human and environmental needs	Has difficulty (even with support) describing applications of science and technology that have developed in response to human and environmental needs
Independently and consistently describes positive and negative effects that result from applications of science and technology in their own lives, the lives of others, and the environment	Generally describes positive and negative effects that result from applications of science and technology in their own lives, the lives of others, and the environment	Sometimes (or with support) describes positive and negative effects that result from applications of science and technology in their own lives, the lives of others, and the environment	Has difficulty (even with support) describing positive and negative effects that result from applications of science and technology in their own lives, the lives of others, and the 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	Generally selects relevant variables to ensure a fair test (controlling variables	Sometimes (or with support) selects some variables to ensure a fair test (controlling variables)	Has difficulty (even with support) selecting variables to ensure a fair test (controlling 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) uses materials, techniques and equipment competently	Has difficulty (even with support) using materials, techniques and equipment
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)			

Skills: Analyze, Explain

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)			

Science – Grade 4

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 (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
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)			

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

Skills: Analyze, Explain

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 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 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
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 (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 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 demonstrates deep and extensive understanding of concepts	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
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)			

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 – Grade 6

Science, Technology, Society, Environment (STSE)

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

Skills: Analyze, Explain

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” section)			

Knowledge:

Excelling	Meeting	Approaching	Working Below
Independently and consistently demonstrates understanding of concepts that goes beyond the curricular outcomes	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)
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)			

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 – Grade 7

Science, Technology, Society, Environment (STSE)

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

Skills: Analyze, Explain

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 interprets patterns and relationships in data	Generally interprets patterns and relationships in data	Sometimes (or with support) recognizes patterns and relationships in data	Has difficulty (even with support) recognizing patterns and relationships in data
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)
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 tests the design of a constructed device and re-tests to make improvements	Generally tests the design of a constructed device	Sometimes (or with support) tests the design of a constructed device	Has difficulty (even with support) testing the design of a constructed device
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 curricular outcomes	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)
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)-			

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 – Grade 8

Science, Technology, Society, Environment (STSE)

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

Skills: Analyze, Explain

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
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
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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 curricular outcomes	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)
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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)			

Evidence of Learning: Suggested Sources

Observations:

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- Observe student presentations and demonstrations
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Conversations (oral/written):

- Conferences and interviews
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- Debates including scientific information, point of view, different perspectives
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Products:

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- 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)