Kindergarten

Components:	Instructional Strategies:
Focus Question, Purpose, or Problem	Teacher will provide this component either by typing it in investigation template or allowing students to cut and paste in their science notebook. Teacher will post this component in room.
Prediction/Hypothesis	Teacher will provide support and guidance while students predict what might happen in regards to the focus question, purpose, or problem. This is done in whole group. Teacher will provide the hypothesis to students to cut and paste into their science notebook and or allow students to input hypothesis to their science notebook. Teacher will post this component in room.
Materials and Procedure	Teacher will list materials and procedure on the board, Elmo, Ladybug, etc. Teacher will post this component in room.
Data Collection	Teacher will provide support and guidance to the students while they collect qualitative observation through dictating, drawing, and or pictures summarizing the key details of the investigation. This can be done in whole group or small group collaboration. Teacher will post this component in room. .
Interpretation of Data: Claims and Evidence ***Focus component***	**Teacher will offer guidance and support to the students while they collaborate with peers to develop claims and evidence T chart documenting their findings, through a combination of drawings, non-linguistic representations, dictation and writing. This can be done in whole group, or small group collaboration. Teacher will post examples of this component in room.**
Conclusion	Teacher will provide guidance and support to the students in whole group while they make a concluding statement based on what they learned in the investigation. Students will do this through a combination of drawing, dictation, and writing. Once a group conclusion is made, teacher will provide the conclusion to students to cut and paste into their science notebook. Teacher will post this component in room.
Further thoughts or "I wonder"	Teacher will provide guidance and support to the students in whole group while they develop a "further thought" or "I wonder" based on prior knowledge and information just attained from their investigation. Teacher will generate a list of "Further Thoughts" or "I wonder" to be posted in classroom.
Vocabulary	Teacher will post this component in room.

Note:

Qualitative **observations are observations that deal with descriptions. It is data that is observed but can't be measured, i.e.: colors, textures, smells, tastes, appearance, beauty, etc.**

Quantitative **observations are observations that deal with numbers. It is data that can be measured. i.e.: length, height, area, volume, weight, speed, time, temperature, humidity, sound levels, cost, ages, etc.**

First Grade

Components:	Instructional Strategies:
Focus Question, Purpose, or Problem	Teacher will provide this component either by typing it in the investigation template or allowing students to cut and paste in their science notebook. Teacher will post this component in room.
Prediction/Hypothesis	Teacher will provide support and guidance while students predict what might happen in regards to the focus question, purpose, or problem. This is done in whole group. Teacher will provide the hypothesis to students to cut and paste into their science notebook and or allow students to input hypothesis to their science notebook. Teacher will post this component in room.
Materials and Procedure	Teacher will list materials and procedure on the board, Elmo, Ladybug, etc.
Data Collection ***Focus Component***	**Teacher will provide support and guidance to the students while they collaborate with peers to collect qualitative, and quantitative observations through dictating, drawing, and or pictures summarizing the key details of the investigation. This can be done in whole group, or small group collaboration.**
Interpretation of Data: Claims and Evidence ***Focus component***	**Teacher will offer guidance and support to the students while they collaborate with peers to record their own data and organize their data using a claims and evidence T chart. Students will document their findings, through a combination of drawings, non-linguistic representations, dictating and writing.**
Conclusion	Teachers will provide guidance and support to the students in whole group while they make a concluding statement based on what they learned in the investigation. Students will do this through a combination of drawing, dictating, and writing. Once group conclusion is made, teacher will provide the conclusion to students to cut and paste into their science notebook and or allow students to input conclusion to their science notebook. Teacher will also post it in the room.
Further thoughts or "I wonder"	Teacher will provide guidance and support to the students while they develop an "I wonder" or "further thought" based on prior knowledge and information just attained from their investigation. This is whole group. Teacher will generate a list of "Further Thoughts" or "I wonder" to be posted in classroom. Students can also input into their scientist notebook.
Vocabulary	Teacher will post this component in room.

Note:

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Second Grade

Components:	Instructional Strategies:
Focus Question, Purpose, or Problem	Teacher will provide guidance and support to students with asking appropriate, testable questions regarding the investigation. Teacher will post this component in room.
Prediction/Hypothesis	Teacher will provide guidance and support with predicting what might happen in regards to the focus question prior to the investigation. Students will state their prediction through a combination of drawings, dictating and writing an opinion piece in which students: introduce the topic: state an opinion: use linking works, (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section. A collective piece can be developed together and then students can input into their scientist notebook.
Materials and Procedure	Students should collaborate with peers to generate a list of materials needed to carry out the investigation, and step by step instructions. Pictures and drawings can be used to help explain and illustrate the materials and steps. Teacher will post an example this component in the room. A collective piece can be developed by the class together and then students can input into their scientist notebook.
Data Collection ***Focus Component***	**Teacher will provide guidance and support, students as they organizing and collecting qualitative and quantitative observations. Students should compute independently beginning in the third quarter.**
Interpretation of Data: Claims and Evidence ***Focus component***	**Teacher will provide guidance and support, with interpreting the data collected using non-linguistics strategies. Students should be independent in the third quarter. From the hypothesis and data collected during the investigation, student will organize in a non linguistic strategy. Students should collaborate with peers to organize data through counting, measuring, dictating, drawing, and writing key details regarding the investigation. The claims/evidence T chart should be completed. Explicit instruction is needed to determine best representation to use to display data.**
Conclusion	Teacher will provide guidance and support, with recalling information gathered during the investigation to answer the focus question. Evidence should be collected from data and from informational text to support student's argument of claims. (Claims and Evidence) Students will collaborate with peers to interpret graphs, charts, and tables into a writing piece, or combination of drawings, dictation and writing which recounts two or more appropriately sequenced events, includes some details regarding what happened. Temporal words should be used to signal event order, and provide some sense of closure, for example, Conclusion should • State what the investigation was. • State the claims/evidence. • State what they learned.
Further Thoughts	Teacher will provide guidance and support, with developing a "further thought" or an "I wonder" based on prior knowledge and information attained from their investigation in whole group. Teacher will generate a list of "further thoughts" or "I wonder" to be posted in the room.

	Students will reflect about what they learned in the investigation and in collaboration with others develop an "I wonder" through a combination of drawing, dictating, and writing.
Vocabulary	Teacher will post this component in room.

Note:

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Third Grade

Components:	Instructional strategies:
Focus Question, Purpose, or Problem	Teachers will provide guidance and support with a gradual release of support, towards independence by the end of the year. Through a combination of drawings, dictating and writing student will select or identify an appropriate, testable focus question, purpose, or problem aligned with the investigation. Students will input into their scientist notebook.
Prediction/Hypothesis ***Focus Component***	**Teachers will provide guidance and support with a gradual release of support by the end of the third quarter towards independence by the end of the year, with predicting what might happen in regards to the focus question, purpose, or problem, prior to the investigation.** **Students will predict what might happen in regards to the focus question prior to the investigation based prior knowledge, and on facts provided by informational text, through drawing, dictating, and writing.** **Writing an opinion pieces on topics, supporting a point of view with reasons, using linking words and phrases, i.e., because, therefore, since, and for example, to connect their opinions with reasons, and providing a concluding statement. Students will input into their scientist notebook.**
Materials and Procedure	Teachers will provide guidance and support with a gradual release of support towards independence by the end of the year with listing the materials needed and step by step instructions to carry out the investigation. Students should collaborate with peers to generate a list of materials and step by step instructions needed to carry out the investigation. Pictures and drawings can be used to help explain and illustrate the materials and steps. Students will input into their scientist notebook.
Data Collection	Teachers will facilitate students with organizing and collecting qualitative and quantitative observations regarding the investigation. Describing observations through counting, measuring, dictating, drawing, and summarizing key details of the investigation. This is illustrated through graphs, charts, tables, etc. Students will input into their scientist notebook.
Interpretation of Data: Claims and Evidence ***Focus component***	**Teachers will provide a gradual release of support by the end of the third quarter, towards independence by the end of the year with organizing the student's Claims and Evidence. Independently and collaborating with peers, students will interpret data gathered from informational text, and the investigation using graphs, charts, tables, and writing narratives in which they recount an elaborated event or sequence of events, and explaining why events happened in regards to the investigation. Explicit instruction is needed to determine best representation to use to display data. Students will input into their scientist notebook.**
Conclusion ***Focus Component***	**Teachers will provide a gradual release of support by the end of the third quarter, towards independence by the end of the year. Independently and collaborating with peers, students will interpret graphs, charts and tables into a writing piece of either informative or explanatory texts to examine a topic and convey information collected clearly, using linking words and phrases, i.e., also, another, more, but, and to connect ideas within categories of information, (claims and evidence), including details to describe actions, thoughts and feelings, and provides some sense of closure to the investigation's study.** **Students will, through a combination of drawings, dictating and writing, narrate a single event or several events, in**

	the order for which they occurred and provide a reaction to what happened in the investigation. Using their claims and evidence to explain why their prediction/hypothesis was right or wrong, what evidence they have to support that finding and ending with a concluding statement. **a. State what the investigation was.** **b. State their hypothesis/claim.** **c. State if their hypothesis/ claim was right or wrong, based on their collection and interpretation of data. (Claims/evidence)** **d. State what they learned.** **e. Make a concluding statement.** **Students will input into their scientist notebook.**
Further Thoughts	Teachers will provide guidance and support, and as the year progresses, a gradual release of support towards independence by the end of the year. Students will reflect about what they learned in the investigation and by collaboration with others develop an "I wonder" through a combination of drawing, dictating, and writing to document a further thought from the investigation. "A reflection on problem solving is essential to develop a generalized problem-solving ability." Habits of Mind, Project 2061. Students will input into their scientist notebook.
Vocabulary	Teacher will post this component in room.

Note:

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Fourth Grade

Components:	Instructional Strategies:
Focus Question, Purpose, or Problem	Teacher will facilitate students to select or identify a focus question, purpose, or problem that is appropriate and testable in regards to the investigation. Students will collaborate with peers to select or identify a focus question through a combination of drawings, dictating and writing in regards to the investigation. Students will input into their scientist notebook.
Prediction/ Hypothesis ***Focus Component***	**Teacher will facilitate students with the development of a prediction to what might happen in regards to the focus question, purpose, or problem, prior to the investigation.** **Independently and collaborating with peers, student will predict through a combination of drawings, dictating, and writing, what might happen in regards to the focus question, purpose, or problem, prior to the investigation.** **Students will write an opinion piece on topics, supporting a point of view with prior knowledge and information collected from informational text. Student will provide reasons that are supported by facts and details. Linking opinion and reasons using words and phrases, i.e., for instance, in order to, and in addition to, and provide a concluding statement related to the opinion presented. Students will input into their scientist notebook.**
Materials and Procedure	Teacher will facilitate students with listing the materials needed and step by step instruction to carry out the investigation. Independently and collaborating with peers students are to generate a list of materials and step by step instructions needed to carry out the investigation. Pictures and drawings can be used to help explain and illustrate the materials and steps. Students will input into their scientist notebook.
Data Collection	Teachers will facilitate students with the collecting of qualitative and quantitative observations in regards to the investigation. Independently and collaborating with peers, student will describe observations of the investigation through counting and measuring, dictating, drawing, and summarizing key details. This should be illustrated through a variety of representations, such as graphs, charts, tables, etc. Students will input into their scientist notebook.
Interpretation of Data: Claims and Evidence ***Focus Component***	**Teachers will facilitate students with organizing the student's Claims and Evidence. Independently and collaborating with peers, students will interpret data gathered from informational text, and the investigation using graphs, charts, tables, and writing narratives in which they recount an elaborated event or sequence of events, and explaining why events happened in regards to the investigation. Explicit instruction is needed to determine best representation to use to display data.** **Claims and evidence are displayed in this section through non linguistic strategies, so that they may be organized and will include the information in the conclusion of the investigation. Students will input into their scientist notebook.**
Conclusion ***Focus Component***	**Teachers will facilitate students in recalling information from the investigation and gathered information from informational text to answer the focus question, purpose, or problem of the investigation. Using their claims and evidence to support or disprove their original hypothesis, and provide a concluding section.** **Independently and collaborating with peers, students will write a concluding statement through a combination of**

	drawings, dictating and writing, a narrative of a single event or several events, in the order for which they occurred and provide a reaction to what happened in the investigation. Using their claims and evidence to explain why their prediction/hypothesis was right or wrong and ending with a concluding statement. **a. State what the investigation was.** **b. State their hypothesis/claim.** **c. State if their hypothesis/ claim was right or wrong, based on their collection and interpretation of data. (Claims/evidence)** **d. State what they learned.** **e. Make a concluding statement.** **Students will input into their scientist notebook.**
Further Thoughts	Teachers will Facilitate students in using a combination of drawing, dictating, and writing to document a further thought from the investigation. "I wonder..." Independently and collaborating with peers, students will reflect about what they learned in the investigation and by collaborating with others develop an "I wonder" through a combination of drawing, dictating and writing. "A reflection on problem solving is essential to develop a generalized problem-solving ability", Habits of Mind, Project 2061. Students will input into their scientist notebook.
Vocabulary	Teacher will post this component in room.

Note:

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Fifth Grade

The focus of the science notebook at 5th grade is on all areas. Please focus on the following across the year:

- **1st Quarter: Hypothesis**
- **2nd Quarter: Data Collection**
- **3rd Quarter: Interpretation of Data**
- **4th Quarter: Conclusion**

Components:	Instructional Strategies:
Focus Question, Purpose, or Problem	Teacher will facilitate students to select or identify a focus question in regards to the investigation. Students will select or identify a focus question through a combination of drawing, dictating, and writing in regards to the investigation independently or in collaboration with peers. Students will input into their scientist notebook.
Prediction/Hypothesis	Teachers will facilitate students in the development of a prediction to what might happen in regards to the focus question, purpose, or problem, prior to the investigation. Independently and collaborating with peers, students will predict through a combination of drawings, dictating, and writing, what might happen in regards to the focus question, based on prior knowledge and informational text, prior to the investigation. Students will write opinion pieces on their focus question, purpose, or problem, supporting a point of view with reasons and information. Students will provide reasons that are supported by facts and details, and are logically grouped. Students will link opinion and reasons using linking words and phrases, and clauses, i.e., consequently, specifically, etc. Providing a concluding statement related to the opinion presented in regards to the investigation. Students will input into their scientist notebook.
Materials and Procedure	Teachers will facilitate listing the materials needed and step by step instructions to carry out the investigation. Independently and collaborating with peers, students will generate a list of materials and step by step instructions needed to carry out the investigation. Pictures and drawings can be used to help explain and illustrate the materials and steps. Students will input into their scientist notebook.
Data Collection	Teachers will facilitate students with the collecting of qualitative and quantitative observations in regards to the investigation. Independently and collaborating with peers, students will describe observations of the investigation through counting and measuring, dictating, drawing, and summarizing key details. This should be illustrated through a variety of strategies, such as graphs, charts, tables, etc. Students will input into their scientist notebook.
Interpretation of Data	Teachers will facilitate students with their organizing of their claims and evidence chart. Students should include information gathered from informational text, and data from the investigation and organize it using graphs, charts, tables. Teacher will also facilitate students with determining the best representation to use to display data. Independently and collaborating with peers, students will develop their Claims and Evidence chart in this section through non linguistic strategies, to be organized so that they may be included in the conclusion writing.
Conclusion	Teachers will facilitate students in recalling information from the investigation, or gathered information to answer the focus question, purpose, or problem of the investigation. Using their claims and evidence to support or disprove their

	original hypothesis, and provide a concluding section. Students will write narratives to develop real experiences or events using effective techniques, descriptive details, and clear even sequences. Using techniques such as description and pacing to develop experiences and events. Independently and collaborating with peers, students will conclude their investigation through a combination of drawings, dictating and writing a narrative of a single event or several events, in the order for which they occurred and provide a reaction to what happened in the investigation. Using their claims and evidence to explain why their prediction/hypothesis was right or wrong and ending with a concluding statement. a. State what the investigation was. b. State their hypothesis/claim. c. State if their hypothesis/ claim was right or wrong, based on their collection and interpretation of data. (Claims/evidence) d. State what they learned. e. Make a concluding statement. Students will input into their scientist notebook.
Further Thoughts	Teachers will facilitate students in using a combination of drawing, dictating, and writing to document a further thought from the investigation. "I wonder..." Independently and collaborating with peers, students will reflect about what they learned in the investigation and by collaborating with others develop an "I wonder" through a combination of drawing, dictating and writing. "A reflection on problem solving is essential to develop a generalized problem-solving ability", Habits of Mind, Project 2061. Students will input into their scientist notebook.
Vocabulary	Teacher will post this component in room.

Note:

Qualitative **observations are observations that deal with descriptions. It is data that is observed but can't be measured, i.e.: colors, textures, smells, tastes, appearance, beauty, etc.**

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