DOING SCIENCE: THE PROCESS OF SCIENTIFIC INQUIRY		
Georgia Science Performance Standards – Grades 6, 7, 8		
Lesson	**Standard**	**Description**
3	**S6CS1.a** **S7CS1.a** **S8CS1.a**	Understand the importance of—and keep—honest, clear, and accurate records in science.
1, 2, 3	**S6CS1.b** **S7CS1.b** **S8CS1.b**	Understand that hypotheses are valuable if they lead to fruitful investigations, even if the hypotheses turn out not to be completely accurate descriptions.
1	**S6CS2.a** **S7CS2.a** **S8CS2.a**	Follow correct procedures for use of scientific apparatus.
1	**S6CS2.b** **S7CS2.b** **S8CS2.b**	Demonstrate appropriate techniques in all laboratory situations.
3, 4	**S6CS3.a** **S7CS3.a** **S8CS3.a**	Analyze scientific data by using, interpreting, and comparing numbers in several equivalent forms, such as integers, decimals (6), fractions, and percents (7 & 8).
1, 3, 4	**S6CS3.d** **S7CS3.d**	Draw conclusions based on analyzed data.
3	**S6CS4.a** **S7CS4.a** **S8CS4.a**	Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files.
1, 2	**S6CS5.b**	Identify several different models (such as physical replicas, pictures, and analogies) that could be used to represent the same thing, and evaluate their usefulness, taking into account such things as the model's purpose and complexity.
1, 2	**S7CS5.b** **S8CS5.b**	Understand that different models (such as physical replicas, pictures, and analogies) can be used to represent the same thing.

2, 3, 4	**S6CS6.a S7CS6.a S8CS6.a**	Write clear, step-by-step instructions for conducting scientific investigations, operating a piece of equipment, or following a procedure.
2, 3, 4	**S6CS6.b**	Understand and describe how writing for scientific purposes is different than writing for literary purposes.
3, 4	**S7CS6.b S8CS6.b**	Write for scientific purposes incorporating data from circle, bar and line graphs, two-way data tables, diagrams, and symbols.
3, 4	**S6CS6.c S7CS6.c S8CS6.c**	Organize scientific information using appropriate tables, charts, and graphs, and identify relationships they reveal.
1, 3, 4	**S6CS7.b S7CS7.d S8CS7.d**	Recognize that there may be more than one way to interpret a given set of findings.
3, 4	**S7CS7.c S8CS7.c**	Question the value of arguments based on small samples of data, biased samples, or samples for which there was no control.
1, 2	**S6CS8.a S7CS8.a S8CS8.a**	When similar investigations give different results, the scientific challenge is to judge whether the differences are trivial or significant, which often requires further study. Even with similar results, scientists may wait until an investigation has been repeated many times before accepting the results as meaningful.
2	**S6CS8.c S7CS8.c S8CS8.c**	As prevailing theories are challenged by new information, scientific knowledge may change and grow.
1, 2	**S6CS9.a S7CS9.a S8CS9.a**	Scientific investigations are conducted for different reasons. They usually involve collecting evidence, reasoning, devising hypotheses, and formulating explanations. (6) Investigations are conducted for different reasons, which include exploring new phenomena, confirming previous results, testing how well a theory predicts, and comparing competing theories (7) and formulating explanations to make sense of collected evidence (8).
All lessons	**S6CS9.b S7CS9.b S8CS9.b**	Scientists often collaborate to design research. To prevent bias, scientists conduct independent studies of the same questions. (6) Scientific investigations usually involve collecting evidence, reasoning, devising hypotheses, and formulating explanations to make sense of collected evidence. (7 & 8)
1, 3, 4	**S6CS9.c S7CS9.e**	Accurate record keeping, data sharing, and replication of results are essential for maintaining an investigator's credibility with other scientists and society.

	S8CS9.e	
All lessons	**S7CS9.c** **S8CS9.c**	Scientific experiments investigate the effect of one variable on another. All other variables are kept constant.
1, 3, 4	**S6CS9.d** **S7CS9.f** **S8CS0.f**	Scientists use technology and mathematics to enhance the process of scientific inquiry.
Georgia Mathematics Performance Standards – Grades 6, 7, 8		
Lesson	**Standard**	**Description**
3, 4	**M6N1.f**	Use fractions, decimals, and percents interchangeable.
3, 4	**M6N1.g**	Solve problems involving fractions, decimals, and percents.
All lessons	**M6D1.a**	Formulate questions that can be answered by data.
3	**M6D1.b**	Using data, construct frequency distributions, frequency tables, and graphs.
3, 4	**M6D1.c** **M6D1.f**	Choose appropriate graphs to be consistent with the nature of the data (categorical or numerical). Graphs should include pictographs, histograms, bar graphs, line graphs, circle graphs, line plots (6), box-and-whisker plots and scatterplots. (7)
3, 4	**M6D1.d**	Use tables and graphs to examine variation that occurs within a group and variation that occurs between groups.
All lessons	**M6D1.e**	Relate the data analysis to the context of the questions posed.
3, 4	**M6P1.b** **M7P1.b** **M8P1.b**	Solve problems that arise in mathematics and in other contexts.
3, 4	**M6P1.c** **M7P1.c** **M8P1.c**	Apply and adapt a variety of appropriate strategies to solve problems.
3, 4	**M6P4.c** **M7P4.c** **M8P4.c**	Recognize and apply mathematics in contexts outside of mathematics.

3, 4	**M6P5.b M7P5.b M8P5.b**	Select, apply, and translate among mathematical representations to solve problems.
1, 3, 4	**M6P5.c M7P5.c M8P5.c**	Use representations to model and interpret physical, social, and mathematical phenomena.
3, 4	**M7N1.d**	Solve problems using rational numbers.
3, 4	**M7A3.b**	Represent, describe, and analyze relations from tables, graphs, and formulas.
3, 4	**M7A3.c**	Describe how change in one variable affects the other variable.
3, 4	**M7D1.a**	Formulate questions and collect data from a census of at least 30 objects and from samples of varying sizes.
3, 4	**M7D1.g**	Analyze and draw conclusions about data, including describing the relationship between two variables.
Georgia English Language Arts Performance Standards – Grades 6, 7, 8		
Lesson	**Standard**	**Description**
2, 3, 4	**ELA6R1.d**	Identifies and analyzes main ideas, supporting ideas, and supporting details.
All lessons	**ELA6R1.e**	Follows multi-step instructions to complete or create a simple product.
All lessons	**ELA6R2 ELA7R2 ELA8R2**	Understands and acquires new vocabulary and uses it in reading and writing (6 & 7) / uses it correctly in reading and writing (8).
2, 3, 4	**ELA6RC1 ELA7RC1 ELA8RC1**	Reads both informational and fictional texts in a variety of genres and modes of discourse, including technical texts related to various subject areas.
All lessons	**ELA6RC2 ELA7RC2 ELA8RC2**	Participates in discussions related to curricular learning in all subject areas.
All lessons	**ELA6RC3.a ELA7RC3.a ELA8RC3.a**	Demonstrates an understanding of contextual vocabulary in various subjects.

All lessons	**ELA6RC3.b** **ELA7RC3.b** **ELA8RC3.b**	Used content vocabulary in writing and speaking.
All lessons	**ELA6RC3.c** **ELA7RC3.c** **ELA8RC3.c**	Explores understanding of new words found in subject area texts.
2, 3, 4	**ELA6RC4.a** **ELA7RC4.a** **ELA8RC4.a**	Explores life experiences related to subject area content.
All lessons	**ELA6W1.b** **ELA7W1.b** **ELA8W1.b**	Writes texts of a length appropriate to address the topic or tell a story.
All lessons	**ELA6W2.a** **ELA7W2.a** **ELA8W2.a**	Produces technical writing that creates or follows an organizing structure appropriate to purpose, audience, and context.
All lessons	**ELA6LSV1.a** **ELA7LSV1.a** **ELA8LSV1.a**	Initiates new topics in addition to responding to adult-initiated topics.
All lessons	**ELA6LSV1.b** **ELA7LSV1.b** **ELA8LSV1.b**	Asks relevant questions.
All lessons	**ELA6LSV1.c** **ELA7LSV1.c** **ELA8LSV1.c**	Responds to questions with appropriate information.
All lessons	**ELA6LSV1.f** **ELA7LSV1.f** **ELA8LSV1.f**	Actively solicits another person's comments or opinions.
All lessons	**ELA6LSV1.g** **ELA7LSV1.g** **ELA8LSV1.g**	Offers own opinion forcefully without domineering.

All lessons	**ELA6LSV1.h ELA7LSV1.h ELA8LSV1.h**	Responds appropriately to comments and questions.
All lessons	**ELA6LSV1.i ELA7LSV1.i ELA8LSV1.i**	Volunteers contributions and responds when directly solicited by teacher or discussion leader.
All lessons	**ELA6LSV1.j ELA7LSV1.j ELA8LSV1.j**	Gives reasons in support of opinions expressed.
All lessons	**ELA6LSV1.l ELA7LSV1.l ELS8LSV1.l**	Employs group decisions-making techniques such as brainstorming or a problem-solving sequence (i.e., recognizes problem, defines problem, identifies possible solutions, selects optimal solution, implements solution, evaluates solution).
All lessons	**ELA6LSV1.m**	Writes a response to/reflection of interactions with others.
National Health Education Standards – Grades 56 – 8: cited from pre-publication document of National Health Education Standards, Pre K-12, American Cancer Society, December 2005 – August 2006		
Lesson	**Standard**	**Performance Indicator**
3, 4	**1.8.1**	Analyze the relationship between healthy behaviors and personal health.
3	**1.8.3**	Analyze how the environment impacts personal health.
4	**1.8.5**	Describe ways to reduce or prevent injuries and other adolescent health problems.
3, 4	**1.8.7**	Describe the benefits and barriers to practicing healthy behaviors.
3, 4	**1.8.8**	Examine the likelihood of injury or illness if engaging in unhealthy behaviors.
3, 4	**1.8.9**	Examine the potential seriousness of injury or illness if engaging in unhealthy behaviors.
3	**2.8.3**	Describe how peers influence healthy and unhealthy behaviors.
3	**2.8.8**	Explain the influence of personal values and beliefs on individual health practices and behaviors.
3, 4	**2.8.9**	Describe how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
3, 4	**2.8.10**	Explain how school and public health policies can influence health promotion and disease prevention.
3, 4	**3.8.1**	Analyze the validity of health information, products, and services.

3, 4	**3.8.4**	Describe situations that may require professional health services.
3, 4	**4.8.1**	Apply effective verbal and nonverbal communication skills to enhance health.
3	**5.8.1**	Identify circumstances that can help or hinder healthy decision-making.
3, 4	**5.8.2**	Determine when health-related situations require the application of a thoughtful decision-making process.
3, 4	**5.8.3**	Distinguish when individual or collaborative decision-making is appropriate.
3, 4	**5.8.5**	Predict the potential short and long-term impact of each alternative on self and others.
4	**5.8.6**	Choose healthy alternatives over unhealthy alternatives when making a decision.
3, 4	**5.8.7**	Analyze the outcomes of a health-related decision.
3, 4	**7.8.3**	Demonstrate behaviors to avoid or reduce health risks to self and others.
3, 4	**8.8.1**	State a health enhancing position on a topic and support it with accurate information.
4	**8.8.2**	Demonstrate how to influence and support others to make positive health choices.
4	**8.8.4**	Identify ways that health messages and communication techniques can be altered for different audiences.