

INSTRUCTIONAL MATERIALS ADMINISTRATOR

BID 3406

Recommendation

Yes

Comments: The submission from the publisher did not include all of the parts that I was asked to look for. There were not any links to additional pages so the only thing I had to evaluate their bid was the Publisher Questionnaire. I would like to have been able to look over a sample of the teacher and student materials especially the Murder at Old Fields activity which sounds like a wonderful resource. The standards correlation was also missing which left me with little to no data to assess the alignment with the course standards.

Material for Review

Course: Forensic Sciences 1 (2002480)

Title: Forensic Science for High School , Edition: 3rd

Copyright: 2016

Author: Barbara Ball-Deslich

Grade Level: 9 - 12

Content

Answer each item below and select the "Save" button to save your responses. You must select the "Save" button before going to another section or leaving this page to save the answers you have provided. If you are unable to complete the section, you may save your answers and come back to complete at a later time. All items must be answered for a section to be considered complete.

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- 5 - VERY GOOD ALIGNMENT
- 4 - GOOD ALIGNMENT
- 3 - FAIR ALIGNMENT
- 2 - POOR ALIGNMENT
- 1 - VERY POOR/NO ALIGNMENT

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- Additional information regarding the Content, Presentation, and Learning requirements are located in the Science K-12 Specifications for the 2017-18 Florida State Adoption of Instructional Materials.

Each set of materials submitted for adoption is evaluated based on each benchmark for that course and the Content, Presentation, and Learning items included in this rubric.

A. Alignment with curriculum
1. A. The content aligns with the state's standards and benchmarks for subject, grade level and learning outcomes.

- VERY GOOD ALIGNMENT** GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The publisher has shown correlation between each standard and the textbook sections.

2. A. The content is written to the correct skill level of the standards and benchmarks in the course.

- VERY GOOD ALIGNMENT** GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The content is written to the skill levels of high school students and holds lots of opportunities for enrichment, like the Case Studies,

3. A. The materials are adaptable and useful for classroom instruction.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The text offers opportunity for adaptability. The chapter provides instruction then shows examples using case studies.

B. Level of Treatment 4. B. The materials provide sufficient details for students to understand the significance of topics and events.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The set up of the chapters allows students to build their understanding and see how things apply to the real world.

5. B. The level (complexity or difficulty) of the treatment of content matches the standards.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The level is great for high school students, lots of pictures and diagrams and hands on activities support learning.

6. B. The level (complexity or difficulty) of the treatment of content matches the student abilities and grade level.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The level is great for high school students, lots of pictures and diagrams and hands on activities support learning.

7. B. The level (complexity or difficulty) of the treatment of content matches the time period allowed for teaching.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The Time Charts provided by the publisher are a great resource but need to be written in minute recommendations instead of periods. School period length varies by different school and a minute estimate would be much more helpful.

C. Expertise for Content Development 8. C. The primary and secondary sources cited in the materials reflect expert information for the subject.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

For example the fingerprinting unit, gives excellent information on history and current usage of fingerprinting. great pictures and diagrams help students understand.

9. C. The primary and secondary sources contribute to the quality of the content in the materials.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The power points provided by the publisher support the primary source and allow teachers to quickly correlate their classroom lessons with the text.

D. Accuracy of Content 10. D. The content is presented accurately. (Material should be devoid of typographical or visual errors).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The publisher does a good job in this area.

11. D. The content of the material is presented objectively. (Material should be free of bias and contradictions and is noninflammatory in nature).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The publisher does a good job in this area.

12. D. The content of the material is representative of the discipline? (Material should include prevailing theories, concepts, standards, and models used with the subject area).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The publisher does a good job in this area.

13. D. The content of the material is factual accurate. (Materials should be free of mistakes and inconsistencies).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The publisher does a good job in this area.

E. Currency of Content 14. E. The content is up-to-date according to current research and standards of practice.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

For example the Fingerprinting unit includes biometrics like Iris and Retina scans, facial recognition and palm scanning.

15. E. The content is presented to the curriculum, standards, and benchmarks in an appropriate and relevant context.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Text examples, diagrams and pictures align with standards and benchmarks.

16. E. The content is presented in an appropriate and relevant context for the intended learners.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The textbook flows well through the standards and chapters.

F. Authenticity of Content 17. F. The content includes connections to life in a context that is meaningful to students.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The case studies are an excellent example.

18. F. The material includes interdisciplinary connections which are intended to make the content meaningful to students.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

I would like to see more opportunities for higher order interdisciplinary work. There is some graphing, and data analysis but these resources could be stronger.

G. Multicultural Representation 19. G. The portrayal of gender, ethnicity, age, work situations, cultural, religious, physical, and various social groups are fair and unbiased. (Please explain any unfair or biased portrayals in the comments section).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

This book has strong multicultural representation. In a single chapter I was able to find males, females, young old, hispanic, asian and black representation.

H. Humanity and Compassion 20. H. The materials portray people and animals with compassion, sympathy, and consideration of their needs and values and exclude hard-core pornography and inhumane treatment. (An exception may be necessary for units covering animal welfare).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Diagrams and drawings are used to show human remains. In one chapter there is a dummy in place of a murder victim.

21. In general, is the content of the benchmarks and standards for this course covered in the material.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

I believe the content is covered well in this text.

Presentation

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A. Comprehensiveness of Student and Teacher Resources1. A. The comprehensiveness of the student resources address the targeted learning outcomes without requiring the teacher to prepare additional teaching materials for the course.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The power points are strong and contain lots of pictures. A few videos might be a good addition.

B. Alignment of Instructional Components2. B. All components of the major tool align with the curriculum and each other.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Strong alignment throughout the major tool.

C. Organization of Instructional Materials3. C. The materials are consistent and logical organization of the content for the subject area.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

It takes a little time to figure out where everything is for each chapter. I would prefer everything for one chapter in one place instead of grouped by resource "assessments, powerpoints, blackline masters..."

D. Readability of Instructional Materials4. D. Narrative and visuals engage students in reading or listening as well as in understanding of the content at a level appropriate to the students' abilities.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

I feel the visuals and narratives are very engaging but I would like to see some video clips for each chapter so students could also listen and see what they are learning.

E. Pacing of Content5. E. The amount of content presented at one time or the pace at which it is presented must be of a size or rate that allows students to perceive and understand it.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The Time Charts for pacing are a good addition but I feel they should be listed in minutes instead of periods.

Accessibility6. The material contains presentation, navigation, study tool and assistive supports that aid students, including those with disabilities, to access and interact with the material. (For assistance refer to the answers on the UDL questionnaire).

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Student aids and study tools are minimal. Checkpoint questions are found within the chapter but there are no additional study materials provided. The student online edition is not interactive enough for students with disabilities. Some ideas could be a "read aloud" option or the ability to highlight or translate into other languages.

7. In general, how well does the submission satisfy PRESENTATION requirements? (The comments should support your responses to the questions in the Presentation section).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Overall a good resource for teachers and students.

Learning

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A. Motivational Strategies1. A. Instructional materials include features to maintain learner motivation.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The case studies, pictures and diagrams, do a great job of this.

B. Teaching a Few "Big Ideas"2. B. Instructional materials thoroughly teach a few important ideas, concepts, or themes.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Based on the description, I believe the Murder at Old Fields materials would teach the Big Ideas by tying together all of the learned topics. A description is provided but I would have liked to see it in action.

C. Explicit Instruction3. C. The materials contain clear statements of information and outcomes.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

I feel many of the assessment materials could be written at a higher level. Many are currently written at the recall level.

D. Guidance and Support4. D. The materials provide guidance and support to help students safely and successfully become more independent learners and thinkers.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

I think the information is strong but the student support is lacking independence. An improvement would be an online learning system with guided questions and links to text for reteaching.

5. D. Guidance and support must be adaptable to developmental differences and various learning styles.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

According to the UDL and the online text that is being reviewed, there little to support student differences or styles.

E. Active Participation of Students6. E. The materials engage the physical and mental activity of students during the learning process.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Many of the labs are strong activities and I think the Old Fields activity could be an awesome addition but I wish I could have seen more of how it works.

7. E. Rate how well the materials include organized activities that are logical extensions of content, goals, and objectives.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

.Case studies and the Murder at Old Fields activities are great examples

F. Targeted Instructional Strategies8. F. Instructional materials include the strategies known to be successful for teaching the learning outcomes targeted in the curriculum requirements.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

While the checkpoint questions in each chapter are high quality, some material like crosswords and many of the assessment bank questions are rather weak and lower level.

9. F. The instructional strategies incorporated in the materials are effective in teaching the targeted outcomes.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

There are some good strategies being used through out the book especially in the checkpoint questions and case study options, but there

are a few things that could be added to make it better.

G. Targeted Assessment Strategies 10. G. The materials correlate assessment strategies to the desired learning outcomes.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The assessment Resources are very weak. Most of the questions I viewed were lower level recall questions. The CAS is much better because it includes some great questions with diagrams or scenarios which require student to apply their learning. But even in the CAS the multiple choice questions are very low level.

11. G. the assessment strategies incorporated in the materials are effective in assessing the learners' performance with regard to the targeted outcomes.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

The assessment Resources are very weak. Most of the questions I viewed were lower level recall questions. The CAS is much better because it includes some great questions with diagrams or scenarios which require student to apply their learning. But even in the CAS the multiple choice questions are very low level.

Universal Design for Learning 12. This submission incorporates strategies, materials, activities, etc., that consider the needs of all students.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

According to the UDL and the online text that is being reviewed, there is little to support student differences or styles.

Mathematical Practice 13. Do you observe the appropriate application of Mathematical Practices (MP) as applicable?

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

There are a few chapters that lend themselves best to mathematical principals for data collection and interpretation.

14. In general, does the submission satisfy LEARNING requirements? (The comments should support your responses to the questions in the Learning section.)

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Overall a good resource for teachers and students.

Standards

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When looking at standards alignment reviewers should consider not only the robustness of the standard coverage but also the content complexity (depth of knowledge level) if appropriate. More information on content complexity as it relates to Florida standards can be found at: http://www.cpalms.org/Uploads/docs/CPALMS/initiatives/contentcomplexity/CPALMS_ccdefinitions_140711.pdf

For example, if the standard is marked as a level 3 (strategic reasoning and complex thinking) then the materials coverage should reflect this. If the materials coverage is only sufficient to allow for recall (level 1) then this should be reflected in the points assigned.

1. **SC.912.E.5.8:** Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.

Remarks/Examples:

Describe how frequency is related to the characteristics of electromagnetic radiation and recognize how spectroscopy is used to detect and interpret information from electromagnetic radiation sources.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 7 Drugs-Confirmatory Tests p 201-203

2. **SC.912.L.14.1:** Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.

Remarks/Examples:

Describe how continuous investigations and/or new scientific information influenced the development of the cell theory. Recognize the contributions of scientists in the development of the cell theory.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 7 Fingerprints

3. **SC.912.L.14.2:** Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 8 Toxicology and Ch 12 DNA Analysis

4. **SC.912.L.14.4:** Compare and contrast structure and function of various types of microscopes.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 1 Intro and Ch 5 Hair

5. **SC.912.L.14.6:** Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 8 Toxicology

6. **SC.912.L.14.11:** Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 7 Fingerprints

7. **SC.912.L.14.12:** Describe the anatomy and histology of bone tissue.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 14 Human Remains

8. **SC.912.L.14.34:** Describe the composition and physiology of blood, including that of the plasma and the formed elements.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 11 Blood

9. **SC.912.L.14.35:** Describe the steps in hemostasis, including the mechanism of coagulation. Include the basis for blood typing and transfusion reactions.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT **VERY POOR/NO ALIGNMENT**

Justification:

Addressed in Ch 11 Blood

10. **SC.912.L.14.51:** Describe the function of the vertebrate integumentary system.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 14 Fingerprints and Ch 9 Trace Evidence

11. **SC.912.L.15.15:** Describe how mutation and genetic recombination increase genetic variation.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 11 Blood

12. **SC.912.L.16.2:** Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 11 Blood

13. **SC.912.L.16.9:** Explain how and why the genetic code is universal and is common to almost all organisms.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 12 DNA Analysis

14. **SC.912.L.16.10:** Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.

Remarks/Examples:

Annually assessed on Biology EOC.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 12 DNA Analysis

15. **SC.912.L.16.11:** Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 12 DNA Analysis

16. **SC.912.L.16.12:** Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Ch 12 DNA Analysis

17. **SC.912.L.17.1:** Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.

Remarks/Examples:

Florida Standards Connections: MAFS.K12.MP.7: Look for and make use of structure.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT **VERY POOR/NO ALIGNMENT**

Justification:

Addressed in Ch 14 human remains

18. **SC.912.L.18.1:** Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.

Remarks/Examples:

Annually assessed on Biology EOC. Also assesses SC.912.L.18.11.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Addressed in Chapter 4 Fingerprints-The Anatomy of Fingerprints p82; Chapter 6 Fibers-The Chemical Structure of Fibers p144-146; Chapter 12 DNA Analysis-

19. **SC.912.N.1.1:** Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts).
2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines).
3. Examine books and other sources of information to see what is already known,
4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models).

5. Plan investigations, (Design and evaluate a scientific investigation).
6. Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).
7. Pose answers, explanations, or descriptions of events,
8. Generate explanations that explicate or describe natural phenomena (inferences),
9. Use appropriate evidence and reasoning to justify these explanations to others,
10. Communicate results of scientific investigations, and
11. Evaluate the merits of the explanations produced by others.

Remarks/Examples:

Florida Standards Connections for 6-12 Literacy in Science

For Students in Grades 9-10

LAFS.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LAFS.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LAFS.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LAFS.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LAFS.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LAFS.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LAFS.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks analyze the specific results based on explanations in the text.

LAFS.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LAFS.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LAFS.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

Florida Standards Connections for Mathematical Practices

MAFS.K12.MP.1: Make sense of problems and persevere in solving them.

MAFS.K12.MP.2: Reason abstractly and quantitatively.

MAFS.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.]

MAFS.K12.MP.4: Model with mathematics.

MAFS.K12.MP.5: Use appropriate tools strategically.

MAFS.K12.MP.6: Attend to precision.

MAFS.K12.MP.7: Look for and make use of structure.

MAFS.K12.MP.8: Look for and express regularity in repeated reasoning.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 16 Document and Handwriting Analysis

20. **SC.912.N.1.2:** Describe and explain what characterizes science and its methods.

Remarks/Examples:

Science is characterized by empirical observations, testable questions, formation of hypotheses, and experimentation that results in stable and replicable results, logical reasoning, and coherent theoretical constructs.

Florida Standards Connections: MAFS.K12.MP.3: Construct viable arguments and critique the reasoning of others.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 1 Introduction to Forensic Science & the Law- Methodology p.18

21. **SC.912.N.1.3:** Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

Remarks/Examples:

Assess the reliability of data and identify reasons for inconsistent results, such as sources of error or uncontrolled conditions.

Florida Standards Connections: MAFS.K12.MP.2: Reason abstractly and quantitatively MAFS.K12.MP.3: Construct viable arguments and critique the reasoning of others

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 2 Types of Evidence- Additional Projects #1 p. 57

22. **SC.912.N.1.4:** Identify sources of information and assess their reliability according to the strict standards of scientific investigation.

Remarks/Examples:

Read, interpret, and examine the credibility and validity of scientific claims in different sources of information, such as scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.

Florida Standards Connections: LAFS.910.RST.1.1 / LAFS.1112.RST.1.1.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 1 Introduction to Forensic Science & the Law- Methodology p.18

23. **SC.912.N.1.6:** Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

Remarks/Examples:

Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data.

Florida Standards Connections: MAFS.K12.MP.1: Make sense of problems and persevere in solving them.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 10 Soil and Glass Analysis-What is Soil? Lab Activity 10.3: Where Is Alice Springs?

24. **SC.912.N.2.1:** Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).

Remarks/Examples:

Science is the systematic and organized inquiry that is derived from observations and experimentation that can be verified or tested by further investigation to explain natural phenomena (e.g. Science is testable, pseudo-science is not science seeks falsifications, pseudo-science seeks confirmations.)

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 1 Introduction to Forensic Science and the Law- p4

25. **SC.912.N.2.4:** Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.

Remarks/Examples:

Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.

Florida Standards Connections: MAFS.K12.MP.1: Make sense of problems and persevere in solving them MAFS.K12.MP.3: Construct viable arguments and critique the reasoning of others.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 4 Fingerprints-Other Methods p99

26. **SC.912.N.3.1:** Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.

Remarks/Examples:

Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.

Florida Standards Connections: MAFS.K12.MP.1: Make sense of problems and persevere in solving them and, MAFS.K12.MP.3: Construct viable arguments and critique the reasoning of others.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 12 DNA Analysis-Forensic Uses of DNA p 349-350

27. **SC.912.N.3.2:** Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.

Remarks/Examples:

Recognize that scientific argument, disagreement, discourse, and discussion create a broader and more accurate understanding of natural processes and events.

Florida Standards Connections: MAFS.K12.MP.3: Construct viable arguments and critique the reasoning of others.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 13 Entomology- Taxonomy p385

28. **SC.912.N.3.5:** Describe the function of models in science, and identify the wide range of models used in science.

Remarks/Examples:

Describe how models are used by scientists to explain observations of nature.

Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 15 Firearms, Toolmarks and impressions-Lab Activity 15.6: Casting Shoeprints pp471- 473; Lab Activity 15.8: Comparing Bite Marks pp476-479

29. **SC.912.N.4.1:** Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.

Remarks/Examples:

Recognize that no single universal step-by-step scientific method captures the complexity of doing science. A number of shared values and perspectives characterize a scientific approach.

MAFS.K12.MP.1: Make sense of problems and persevere in solving them, and MAFS.K12.MP.2: Reason abstractly and quantitatively.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 1 Introduction to Forensics Science and the Law-What Is Forensic Science? pp 4-7

30. **SC.912.N.4.2:** Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.

Remarks/Examples:

Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of medicine and medical practices).

Florida Standards Connections: MAFS.K12.MP.1: Make sense of problems and persevere in solving them, and MAFS.K12.MP.2: Reason abstractly and quantitatively.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 17 Cybercrimes-How to Protect Yourself from Cybercrime, Tech Activity 17.6:Public Service Video p536

31. **SC.912.P.8.1:** Differentiate among the four states of matter.

Remarks/Examples:

Differentiate among the four states of matter (solid, liquid, gas and plasma) in terms of energy, particle motion, and phase transitions. (Note: Currently five states of matter have been identified.)

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 2 Types of Evidence-Physical Evidence pp41-45;

32. **SC.912.P.8.2:** Differentiate between physical and chemical properties and physical and chemical changes of matter.

Remarks/Examples:

Discuss volume, compressibility, density, conductivity, malleability, reactivity, molecular composition, freezing, melting and boiling points. Describe simple laboratory techniques that can be used to separate homogeneous and heterogeneous mixtures (e.g. filtration, distillation, chromatography, evaporation).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 9 Trace Evidence-Qualitative Analysis of Powders pp 253-257

33. **SC.912.P.8.7:** Interpret formula representations of molecules and compounds in terms of composition and structure.

Remarks/Examples:

Write chemical formulas for simple covalent (HCl, SO₂, CO₂, and CH₄), ionic (Na⁺ + Cl⁻ +NaCl) and molecular (O₂, H₂O) compounds. Predict the formulas of ionic compounds based on the number of valence electrons and the charges on the ions.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 6 Fibers-Sources and Types of Fibers pp 139-151

34. **SC.912.P.8.11:** Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.

Remarks/Examples:

Use experimental data to illustrate and explain the pH scale to characterize acid and base solutions. Compare and contrast the strengths of various common acids and bases.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 6 Fibers- Fiber Analysis pp 152-155; Chapter 10 Soil and Glass Analysis-What is Soil? Lab Activity 10.2: A Hit-and-Run Accident pp 282-286

35. **SC.912.P.8.12:** Describe the properties of the carbon atom that make the diversity of carbon compounds possible.

Remarks/Examples:

Explain how the bonding characteristics of carbon lead to a large variety of structures ranging from simple hydrocarbons to complex polymers and biological molecules.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 6 Fibers- Lab Activity 6.1: Fabric Observation pp139-141

36. **SC.912.P.10.1:** Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.

Remarks/Examples:

Differentiate between kinetic and potential energy. Recognize that energy cannot be created or destroyed, only transformed. Identify examples of transformation of energy: Heat to light in incandescent electric light bulbs Light to heat in laser drills Electrical to sound in radios Sound to electrical in microphones Electrical to chemical in battery rechargers Chemical to electrical in dry cells Mechanical to electrical in generators [power plants] Nuclear to heat in nuclear reactors Gravitational potential energy of a falling object is converted to kinetic energy then to heat and sound energy when the object hits the ground.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 9 Trace Evidence-Additional Projects #4 p274

37. **SC.912.P.10.18:** Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.

Remarks/Examples:

Describe the electromagnetic spectrum (i.e., radio waves, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays) in terms of frequency, wavelength and energy. Solve problems involving wavelength, frequency, and energy.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 7 Drugs-Confirmatory Tests p 201-203

38. **SC.912.P.10.20:** Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.

Remarks/Examples:

Describe the measurable properties of waves (velocity, frequency, wavelength, amplitude, period, reflection and refraction) and explain the relationships among them. Recognize that the source of all waves is a vibration and waves carry energy from one place to another. Distinguish between transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves). Describe sound as a longitudinal wave whose speed depends on the properties of the medium in which it propagates.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 7 Drugs- Confirmatory Tests p 201-203; Chapter 10 Soil and Glass Analysis- Lab Activity 10.7: Refractive Index pp302-304

39. **SC.912.P.10.21:** Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.

Remarks/Examples:

Describe the apparent change in frequency of waves due to the motion of a source or a receiver (the Doppler effect).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 7 Drugs- Confirmatory Tests p 201-203

40. **SC.912.P.12.1:** Distinguish between scalar and vector quantities and assess which should be used to describe an event.

Remarks/Examples:

Distinguish between vector quantities (e.g., displacement, velocity, acceleration, force, and linear momentum) and scalar quantities (e.g., distance, speed, energy, mass, work).

MAFS.912.N-VM.1.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 11 Blood-Blood Spatter Evidence Lab /activity 11.4: Blood Pattern Analysis pp 332-337

41. **SC.912.P.12.2:** Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.

Remarks/Examples:

Solve problems involving distance, velocity, speed, and acceleration. Create and interpret graphs of 1-dimensional motion, such as position versus time, distance versus time, speed versus time, velocity versus time, and acceleration versus time where acceleration is constant.

Florida Standards Connections: MAFS.912.N-VM.1.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 11 Blood-Blood Spatter Evidence pp 329-338

42. **SC.912.P.12.3:** Interpret and apply Newton's three laws of motion.

Remarks/Examples:

Explain that when the net force on an object is zero, no acceleration occurs thus, a moving object continues to move at a constant speed in

the same direction, or, if at rest, it remains at rest (Newton's first law). Explain that when a net force is applied to an object its motion will change, or accelerate (according to Newton's second law, $F = ma$). Predict and explain how when one object exerts a force on a second object, the second object always exerts a force of equal magnitude but of opposite direction and force back on the first: $F_1 \text{ on } 2 = -F_1 \text{ on } 1$ (Newton's third law).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 11 Blood-Blood Spatter Evidence pp 329-338

43. **SC.912.P.12.5:** Apply the law of conservation of linear momentum to interactions, such as collisions between objects.

Remarks/Examples:

(e.g. elastic and completely inelastic collisions).

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

**Standards correlation list Chapter 8 Toxicology: Poisons and Alcohol-Alcohol pp232-234 but this is more of a physics standards. should be addressed in CH 15 with ballistics

44. **SC.912.P.12.7:** Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.

Remarks/Examples:

Recognize that regardless of the speed of an observer or source, in a vacuum the speed of light is always c .

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 10 Soil and Glass Analysis- Lab Activity 10.6: Determining Refractive Index p300-302

45. **SC.912.P.12.9:** Recognize that time, length, and energy depend on the frame of reference.

Remarks/Examples:

The energy E and the momentum p depend on the frame of reference in which they are measured (e.g. Lorentz contraction).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 2 Types of Evidence-Testimonial or Direct Evidence p39

46. **SC.912.P.12.12:** Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.

Remarks/Examples:

Various factors could include: temperature, pressure, solvent and/or solute concentration, sterics, surface area, and catalysts. The rate of reaction is determined by the activation energy, and the pathway of the reaction can be shorter in the presence of enzymes or catalysts. Examples may include: decomposition of hydrogen peroxide using manganese (IV) oxide nitration of benzene using concentrated sulfuric acid hydrogenation of a $C=C$ double bond using nickel.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 13 Entomology-The Insects of Death/Case Study 13.2: Body in the Basement and Lab Activity 13.2:The Effects of Temperature on Rearing of Maggots pp 389-401

47. **LAFS.1112.RST.1.1:** Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 2 Types of Evidence- Physical Evidence Case Study 2.2 Robert Nelson pp43-44

48. **LAFS.1112.RST.1.2:** Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 15 Firearms, Toolmarks, and Impressions-Firearms pp450-458

49. **LAFS.1112.RST.1.3:** Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 10 Soil and Glass Analysis-Lab Activity 10:5: Characterization of Glass pp297-299

50. **LAFS.1112.RST.2.4:** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 4 Fingerprints-Ridge Classification (Individualization) pp 89-91

51. **LAFS.1112.RST.2.5:** Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Preface; p XVI

52. **LAFS.1112.RST.2.6:** Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 13 Entomology-New Developments in Forensic Entomology pp406-7

53. **LAFS.1112.RST.3.7:** Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 15 Firearms, Toolmarks and Impressions- Lab Activity 15.5: Matching Toolmarks Analysis pp468-470

54. **LAFS.1112.RST.3.8:** Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 5 Hair-The Crime Scene pp113-116

55. **LAFS.1112.RST.3.9:** Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 15 Firearms, Toolmarks, and Impressions-Lab Activity 15.4-The Corpse in the Closet p462-463

56. **LAFS.1112.RST.4.10:** By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 16 Document and Handwriting Analysis-Additional Projects p 514

57. **LAFS.1112.SL.1.1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
- b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.
- c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
- d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 17 Cybercrime- Tech Activity 17.1 Class Discussion Questions pp518-519

58. **LAFS.1112.SL.1.2:** Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 11 Blood- Additional Projects #1 p.341

59. **LAFS.1112.SL.1.3:** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 7 Drugs- Lab Activity 7.1: Spot Test Lab p184-186

60. **LAFS.1112.SL.2.4:** Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 9 Trace Evidence-Paint Lab Activity 9.8:Paint Chip Analysis

61. **LAFS.1112.SL.2.5:** Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 17 Cybercrime- Types of Cybercrime Tech Activity 17.3:Podcast

62. **LAFS.1112.WHST.1.1:** Write arguments focused on discipline-specific content.

- a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
- b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.
- c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
- d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- e. Provide a concluding statement or section that follows from or supports the argument presented.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT **POOR ALIGNMENT** VERY POOR/NO ALIGNMENT

Justification:

This standard could easily be added into the Murder at Old Fields activity

63. **LAFS.1112.WHST.1.2:** Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.
- e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT **POOR ALIGNMENT** VERY POOR/NO ALIGNMENT

Justification:

This standard could easily be added into the Murder at Old Fields activity

64. **LAFS.1112.WHST.2.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 15 Firearms, Toolmarks, and Impressions-Lab Activity 15.5: Matching Toolmarks pp468-470

65. **LAFS.1112.WHST.2.5:** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 16 Documents and Handwriting Analysis-Counterfeiting Case Study 16.2 The Printer pp508-511

66. **LAFS.1112.WHST.2.6:** Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

VERY GOOD ALIGNMENT GOOD ALIGNMENT FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 2 Types of Evidence- Project: Both Sides of the Issue: Public Information on Registered Sex Offenders p 54 ; Chapter 8 Toxicology: Poisons and Alcohol- Current Breath-Testing Technology/ Chechpoint Questions #14 pp236-237

67. **LAFS.1112.WHST.3.7:** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 17 Cybercrime-Tech Activity 17.2: Digital Story p520

68. **LAFS.1112.WHST.3.8:** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 8 Toxicology:Poisons and Alcohol-Case Study 8.2: Robert Ferrante p230

69. **LAFS.1112.WHST.3.9:** Draw evidence from informational texts to support analysis, reflection, and research.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 8 Toxicology:Poisons and Alcohol-Lab Activity 8.2: The Investigation of a Sudden Death p. 229

70. **LAFS.1112.WHST.4.10:** Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 16 Document and Handwriting Analysis-Additional Projects p 514

71. **LAFS.910.RST.1.1:** Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 1 Introduction to Forensic Science and the Law-Criminal Justice and the Law pp19-21

72. **LAFS.910.RST.1.3:** Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 10 Soil and Glass Analysis-Lab Activity 10:5: Characterization of Glass pp297-299

73. **LAFS.910.RST.2.4:** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 17 Cybercrime- The Language of Cybercrime p521

74. **LAFS.910.RST.2.5:** Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 14 Human Remains-Physical Methods of Determining Time of Death pp414-420

75. LAFS.910.RST.3.7: Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 15 Firearms, Toolmarks and Impressions- Lab Activity 15.5: Matching Toolmarks Analysis pp468-470

76. LAFS.910.RST.4.10: By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 16 Document and Handwriting Analysis-Additional Projects p 514

77. LAFS.910.WHST.1.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.
- d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.
- e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 3 The Crime Scene-Additional Projects

78. LAFS.910.WHST.3.9: Draw evidence from informational texts to support analysis, reflection, and research.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 6 Fibers-Additional Projects p173

79. MAFS.912.F-IF.3.7: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

- a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
- b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
- c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
- d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.
- e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 12 DNA- Activity 12.3 Simulation of DNA Replication Using PCR (#14) p363-364

80. MAFS.912.N-Q.1.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 5 Hair-The Form and Structure of Hair, Lab Activities 5.2: Microscopic Examination and 5.3: Optional Method for measuring diameter pp122-124

81. MAFS.912.N-Q.1.3: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 8 Toxicology and Alcohol-Alcohol pp232-234

82. MAFS.912.N-VM.1.3: Solve problems involving velocity and other quantities that can be represented by vectors.

VERY GOOD ALIGNMENT **GOOD ALIGNMENT** FAIR ALIGNMENT POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 11 Blood-Blood Spatter Evidence pp 329-338

83. **ELD.K12.ELL.SC.1:** English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 3 The Crime Scene-At the Crime Scene (Preserving & Isolating the Crime Scene; Observing & Documenting the Scene; Notes; Photographs & Videotape; Sketches; Searching the Scene for Evidence; Collecting & Packaging Evidence; Maintaining the Chain of Custody; Crime Scene Investigation pp60-66

84. **ELD.K12.ELL.SI.1:** English language learners communicate for social and instructional purposes within the school setting.

VERY GOOD ALIGNMENT GOOD ALIGNMENT **FAIR ALIGNMENT** POOR ALIGNMENT VERY POOR/NO ALIGNMENT

Justification:

Chapter 16 Document and Handwriting Analysis-Activity 16.1 Analyze Your Own Handwriting p489