

Bid 3415

INSTRUCTIONAL MATERIALS ADMINISTRATOR

Recommendation

Yes

Comments: This material utilizes all learning styles in teaching anatomy and physiology. It provides multiple opportunities for students to self assess and helps grow their knowledge of self awareness in the learning process. Teachers will have access to a wide range of additional materials that are non-biased against ethnicities and ages. There is an addition of real world application as well with a "how the health care provider views" a particular condition in every section.

Material for Review

Course: Anatomy and Physiology (2000350)

Title: Visualizing Anatomy and Physiology , Edition: 1

Copyright: 2011

Author: Freudenrich

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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To answer each item, select the appropriate rating from the following scale:

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

Upon completion of all Areas of Review, the Recommendation link will become available with a record of how you scored each section of the evaluation.

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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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

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:

Presentation

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A. Comprehensiveness of Student and Teacher Resources 1. 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:

Included student resources have learning checks at end of sections that allow student to self pace learning; student resources also allow for assignments to be completed on own time frames. Particularly like the dissection possibilities; this lets visual learners succeed where they frequently have difficulty with more straight forward text books.

B. Alignment of Instructional Components 2. 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:

C. Organization of Instructional Materials 3. 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:

Flow through the anatomic functions and correlation with physiology very appropriate for learners at this level.

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:

The addition of "how the health care provider sees" areas helps bring the section to a real life value for the student.

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:

Sections are broken into reasonable components with self paced learning assessments and "checks" that students can look at and make sure they are able to answer the questions before moving forward.

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:

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:

The material is presented in such a way to reach read/write learners, visual learners, and the accompanying student resources also reach audio learners.

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:

Many students are interested in health care professions and the addition of the "health care professionals" view point is motivating.

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:

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:

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:

Resource materials have activities that will break down concepts for students with ability for learners to utilize their strengths (i.e. dissection table).

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:

see above 4D

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:

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:

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:

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:

G. Targeted Assessment Strategies10. 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:

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:

Universal Design for Learning12. 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:

Considering the addition of the learner resources which adds hands on practice, the text itself teaches the materials with both visual and read/write fashion. The addition of the resources allows the visual and audio learners to have full utilization of their skills.

Mathematical Practice13. 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:

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:

Students will be able to use this text to both learn anatomy and physiology and apply concepts using methods taught in this text.

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.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:

2. **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:

3. **SC.912.L.14.13:** Distinguish between bones of the axial skeleton and the appendicular skeleton.

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

Justification:

4. **SC.912.L.14.14:** Identify the major bones of the axial and appendicular skeleton.

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

Justification:

5. **SC.912.L.14.16:** Describe the anatomy and histology, including ultrastructure, of muscle tissue.

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

Justification:

6. **SC.912.L.14.17:** List the steps involved in the sliding filament of muscle contraction.

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

Justification:

7. **SC.912.L.14.18:** Describe signal transmission across a myoneural junction.

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

Justification:

8. **SC.912.L.14.20:** Identify the major muscles of the human on a model or diagram.

Remarks/Examples:

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

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

Justification:

9. **SC.912.L.14.21:** Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.

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

Justification:

10. **SC.912.L.14.23:** Identify the parts of a reflex arc.

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

Justification:

11. **SC.912.L.14.24:** Identify the general parts of a synapse and describe the physiology of signal transmission across a synapse.

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

Justification:

12. **SC.912.L.14.25:** Identify the major parts of a cross section through the spinal cord.

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

Justification:

13. **SC.912.L.14.26:** Identify the major parts of the brain on diagrams or models.

Remarks/Examples:

Annually Assessed on Biology EOC.

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

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

Justification:

14. **SC.912.L.14.28:** Identify the major functions of the spinal cord.

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

Justification:

15. **SC.912.L.14.29:** Define the terms endocrine and exocrine.

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

Justification:

16. **SC.912.L.14.30:** Compare endocrine and neural controls of physiology.

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

Justification:

17. **SC.912.L.14.32:** Describe the anatomy and physiology of the endocrine system.

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

Justification:

18. **SC.912.L.14.33:** Describe the basic anatomy and physiology of the reproductive system.

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

Justification:

19. **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:

20. **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:

21. **SC.912.L.14.36:** Describe the factors affecting blood flow through the cardiovascular system.

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

Justification:

22. **SC.912.L.14.38:** Describe normal heart sounds and what they mean.

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

Justification:

23. **SC.912.L.14.39:** Describe hypertension and some of the factors that produce it.

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

Justification:

24. **SC.912.L.14.41:** Describe fetal circulation and changes that occur to the circulatory system at birth.

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

Justification:

25. **SC.912.L.14.42:** Describe the anatomy and the physiology of the lymph system.

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

Justification:

26. **SC.912.L.14.44:** Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.

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

Justification:

27. **SC.912.L.14.46:** Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.

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

Justification:

28. **SC.912.L.14.47:** Describe the physiology of urine formation by the kidney.

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

Justification:

29. **SC.912.L.14.49:** Identify the major functions associated with the sympathetic and parasympathetic nervous systems.

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

Justification:

30. **SC.912.L.14.50:** Describe the structure of vertebrate sensory organs. Relate structure to function in vertebrate sensory systems.

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

Justification:

31. **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:

32. **SC.912.L.14.52:** Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.

Remarks/Examples:

Annually Assessed on Biology EOC. Also assesses SC.912.L.14.6 HE.912.C.1.7 and HE.912.C.1.5.

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

Justification:

33. **SC.912.L.16.8:** Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.

Remarks/Examples:

Integrate HE.912.C.1.7. Analyze how heredity and family history can impact personal health.

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

Justification:

34. **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:

35. **SC.912.L.18.11:** Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.

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

Justification:

36. **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:

37. **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:

38. **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:

39. **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:

40. **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:

41. **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:

42. **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:

43. **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:

44. **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:

45. **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:

46. **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:

47. **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:

48. **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:

49. **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:

50. **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:

51. **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:

52. **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:

53. **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:

54. **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:

55. **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:

56. **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:

57. **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:

58. **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:

59. **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:

60. **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:

61. **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:

62. **MAFS.912.F-IF.2.4:** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

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

Justification:

63. **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:

64. **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:

65. **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:

66. **MAFS.912.S-ID.1.1:** Represent data with plots on the real number line (dot plots, histograms, and box plots).

Remarks/Examples:

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

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

Justification:

67. **MAFS.912.S-ID.1.2:** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Remarks/Examples:

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

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

Justification:

68. **MAFS.912.S-ID.1.3:** Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Remarks/Examples:

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

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

Justification:

69. **MAFS.912.S-ID.1.4:** Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

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

Justification:

70. **MAFS.912.S-ID.2.5:** Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

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

Justification:

71. **MAFS.912.S-ID.2.6:** Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

- a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function

- suggested by the context. Emphasize linear, and exponential models.
- b. Informally assess the fit of a function by plotting and analyzing residuals.
- c. Fit a linear function for a scatter plot that suggests a linear association.

Remarks/Examples:

Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.

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

Justification:

72. **HE.912.C.1.3:** Evaluate how environment and personal health are interrelated.

Remarks/Examples:

Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.

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

Justification:

73. **HE.912.C.1.5:** Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases.

Remarks/Examples:

Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.

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

Justification:

74. **HE.912.C.1.7:** Analyze how heredity and family history can impact personal health.

Remarks/Examples:

Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.

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

Justification:

75. **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:

76. **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: