

INSTRUCTIONAL MATERIALS ADMINISTRATOR

BID 3296

Recommendation

Yes

Comments: This material follows the 5 E model, has multiple inquiry opportunities, virtual labs and mini labs in each chapter, multiple foldables, to correct misconceptions, graphic organizers, PBL labs.

Overall this program would be HIGHLY effective as a teaching and learning tool. Beginner teachers and veteran teachers will be able to utilize this fluidly and easily. Science would not be boring as Advanced kids can be pushed and lower kids can be given multiple avenues of differentiation.

The only weakness I find is specific strategies for ELL students in the Teacher Edition. The program does have multiple languages of content available which is superior to other publishers,

Material for Review

Course: M/J Comprehensive Science 3 (2002100)

Title: Florida Science Comprehensive Course 3 , Edition: 1

Copyright: 2019

Author: McGraw-Hill Education, LLC

Grade Level: 6 - 8

Content

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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

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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 content contained in this publisher aligns with the state standards and benchmarks,

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 for 8th graders.

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 online application works well with I pads (Apple) and desk top computers (Microsoft/Windows)

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:

Details are given in each topic which help foster deeper understanding.

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 complexity does match the standards.

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:

All levels of abilities are supported with this program. Advanced students are well supported and so are low performing students.

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:

This program offers so many avenues of curriculum presentation that teachers will be able to adjust their specific pacing guides easily.

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:

Good sources cited.

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:

Many NASA (.gov) sites contribute to the high quality of the presentation of materials.

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:

I did not find any errors.

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 material was presented factually and nothing defamatory was found.

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:

All content included current theories and up to date models.

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:

I could not find any inconsistencies.

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:

Content supports standards of practice for Science, Math and ELA. Historical content is pertinent to Science.

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:

The content stays on course withing the standards and benchmarks for 8th grade science.

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 8th graders will be able to keep up with the context of this program.

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 program does a good job of giving real life connections and information.

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:

Math, ELA, and History subjects are embedded through out the program.

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:

I could not find any bias, portrayals are appropriate.

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:

Nothing inappropriate was found.

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:

This program covers the correct NGSSS benchmarks and standards extremely well

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:

Not much if any additional supplemental resources needed, this program has all the bells and whistles (bag of best management teaching practices) to utilize.

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:

All of the contents align with the correct 8th grade curriculum standards.

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:

The scope and sequence of the materials flows nicely, not much jumping around in the units will be necessary.

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:

Visuals are crisp and clear, narratives are well versed and contain deep content of information.

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 pacing is appropriate, the teacher can modify lessons to fit different learning styles easily.

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:

Students with disabilities will be able to navigate this program easily. The audio tools are top notch.

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:

This program supports the "brand new to teaching" teacher and the veteran teacher very well. Students will be engaged and inquisitive, not bored at all with this program.

Learning

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A. Motivational Strategies 1. A. Instructional materials include features to maintain learner motivation.

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

Justification:

The materials have current pictures which are relative to the 8th grade benchmarks. The features included will keep learners motivated and engaged.

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:

Many of the big ideas are encompassed in this program.

C. Explicit Instruction 3. C. The materials contain clear statements of information and outcomes.

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

Justification:

The passages offer some deeper information not just "skim the topic". The outcomes are clearly indicated.

D. Guidance and Support 4. 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:

The Learn Smart reading passages unique to this program helps students become independent learners, the virtual labs and hands on labs can be modified to fit all levels of learners.

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:

All forms are adaptable and downloadable. The virtual lab, hands on labs, reading passages, mini assessments support all levels of learner, the multiple languages available are exemplary.

E. Active Participation of Students 6. 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:

Physical labs and activities will keep students engaged. Wonderful use of graphic organizers & Foldables. The Probes will help dispel misconceptions before lessons.

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:

Goals are evident and clearly stated, activities are organized in a logical manner, this program will be quickly understood by any level of teacher (1st year or veteran who is not computer savvy).

F. Targeted Instructional Strategies 8. 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:

Foldables and Graphic organizer suggestions are in every unit in multiple formats, the reading support exemplary. Assessments are spot on but can also be modified.

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:

The instructional strategies included are effective in teaching the targeted outcomes, veteran teachers will learn new strategies from this program.

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:

There are a variety of assessment strategies included which teachers can choose for the desired learning outcome.

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:

Many assessment strategies (virtual, paper, short written responses, multiple choice, etc) are included which are all modifiable.

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:

All levels of students are addressed in this program, the ELL students have multiple languages available.

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:

Math strategies are included in most units and as an extra resource.

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:

This program satisfies learning requirements extremely well and with high standards of presentation.

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.8.E.5.1:** Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.

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

Justification:

The program talks about how fast light travels and the distances objects are away from the sun in the unit on Earth in Space and time.

2. **SC.8.E.5.2:** Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.

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

Justification:

Lesson 4.4 in Stars and Galaxies gives very good description of galaxies and how galaxies are grouped and types of galaxies. Foldable example is given.

3. **SC.8.E.5.3:** Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.

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

Justification:

Chapter 4: Distances of objects given in diagrams, Hertzsprung diagrams given, different galaxies discussed,

4. **SC.8.E.5.4:** Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.

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

Justification:

Includes how the Moon was formed as well as each planet and star formation.

5. **SC.8.E.5.5:** Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).

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

Justification:

Information on all of these topics is in Unit 1 lesson on Stars and Galaxies.

6. **SC.8.E.5.6:** Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.

Remarks/Examples:

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

Includes different choices of virtual labs to model structure of the sun, HR Diagram, Main sequences, Stars,

7. **SC.8.E.5.7:** Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.

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

Justification:

Chart on distances from the sun each planet is. Also includes how bigger objects have more gravitational pull on smaller objects. Rotation and orbit speeds. Surface temperatures, and atmospheric conditions included.

8. **SC.8.E.5.8:** Compare various historical models of the Solar System, including geocentric and heliocentric.

Remarks/Examples:

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

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

Justification:

Does not list good visuals of the different models, only gives written explanation.

9. **SC.8.E.5.9:** Explain the impact of objects in space on each other including:

1. the Sun on the Earth including seasons and gravitational attraction
2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.

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

Justification:

Nice color diagram given to model seasons and tides. solar and lunar eclipses.

10. **SC.8.E.5.10:** Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.

Remarks/Examples:

Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; and, MAFS.K12.MP.6: Attend to precision.

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

Justification:

Chapter on exploring space gives information on technological advances in space exploration. Virtual lab which investigates artificial satellites.

11. **SC.8.E.5.11:** Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.

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

Justification:

Discusses the different types of earth based telescopes, gives nice pictures of the EM spectrum in multiple units.

12. **SC.8.E.5.12:** Summarize the effects of space exploration on the economy and culture of Florida.

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

Justification:

Includes a 3 page article on the space exploration and its impact on Florida.

13. **SC.8.L.18.1:** Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.

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

Justification:

Multiple pages designated to photosynthesis, compares cellular respiration and photosynthesis, nice diagrams and photos,

14. **SC.8.L.18.2:** Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.

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

Justification:

Lots of details and diagrams explaining cellular respiration.

15. **SC.8.L.18.3:** Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.

Remarks/Examples:

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

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

Justification:

Page 607 has a diagram of the carbon cycle. Lab on the carbon cycle included.

16. **SC.8.L.18.4:** Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.

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

Justification:

Opportunities to journal from demonstration labs and hands on labs with balloons and digital scales modeling the Law of Conservation of Mass and Energy.

17. **SC.8.N.1.1:** Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

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

Justification:

This program has multiple avenues for laboratory investigations. Each unit has multiple labs to chose from. Demo labs, virtual labs, hands on labs. All with worksheets that are editable.

18. **SC.8.N.1.2:** Design and conduct a study using repeated trials and replication.

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

Justification:

Each unit has explore labs, mini labs and virtual labs where students collect data and conduct multiple trials. Nature of Science is not just 1 unit in this program.

19. **SC.8.N.1.3:** Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed.

20. **SC.8.N.1.4:** Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed. Discussion of supporting data is also discussed in this handbook.

21. **SC.8.N.1.5:** Analyze the methods used to develop a scientific explanation as seen in different fields of science.

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific explanations and different fields of science are explained.

22. **SC.8.N.1.6:** Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.

Remarks/Examples:

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

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed.

23. **SC.8.N.2.1:** Distinguish between scientific and pseudoscientific ideas.

Remarks/Examples:

Science is testable, pseudo-science is not science seeks falsifications, pseudo-science seeks confirmations (e.g. astrology is pseudoscience).

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed. Page NH12 specifically.

24. **SC.8.N.2.2:** Discuss what characterizes science and its methods.

Remarks/Examples:

Science is the systematic, organized inquiry that is derived from observations and experimentation that can be verified through testing to explain natural phenomena.

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed.

25. **SC.8.N.3.1:** Select models useful in relating the results of their own investigations.

Remarks/Examples:

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

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed. Page NH10 specifically talks about "Prototypes" and models

26. **SC.8.N.3.2:** Explain why theories may be modified but are rarely discarded.

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed. Page NH6 specifically discusses theories.

27. **SC.8.N.4.1:** Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific thinking and processes are discussed. Page NH4 specifically

28. **SC.8.N.4.2:** Explain how political, social, and economic concerns can affect science, and vice versa.

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

Justification:

There is a reference called "The Nature of Science Handbook" where scientific can be affected is mentioned on Pages NH5 & NH7.

29. **SC.8.P.8.1:** Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.

Remarks/Examples:

Recognize that matter is composed of discrete units called atoms and atoms are composed of sub-atomic particles called protons, neutrons, and electrons. Solid is the state in which intermolecular attractions keep the molecules in fixed spatial relationships. Liquid is the state in which intermolecular attractions keep molecules in proximity, but not in fixed relationships. Gas is the state in which molecules are comparatively separated and intermolecular attractions have relatively little effect on their respective motions.

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 5 gives information on the States of matter. Chapter 6 gives information on Subatomic particles

30. **SC.8.P.8.2:** Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.

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

Justification:

Chapter 5 page 263 discusses the difference between mass and weight. Chapter 2 discusses the moons pull on Earth for tides.

31. **SC.8.P.8.3:** Explore and describe the densities of various materials through measurement of their masses and volumes.

Remarks/Examples:

Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically and, MAFS.K12.MP.6: Attend to precision.

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

Justification:

Math practice on page 265 using the density equation. Lab Manager "How can you calculate density?"

32. **SC.8.P.8.4:** Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.

Remarks/Examples:

Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically and, MAFS.K12.MP.6: Attend to precision.

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

Justification:

Chapter 5 Page 267 has a table to fill in comparing substances.

33. **SC.8.P.8.5:** Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.

Remarks/Examples:

Demonstrate with atomic models how atoms can combine in many ways. Explain why there are many, but limited, combinations. Use models to demonstrate the conservation of mass in modeled chemical reactions.

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

Justification:

Chapter 7 has many pages discussing the periodic table. Chapter 10 has a lab on Conservation of Mass, page 513 has some practice balancing equations.

34. **SC.8.P.8.6:** Recognize that elements are grouped in the periodic table according to similarities of their properties.

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

Justification:

Chapter 7 has many pages discussing the periodic table.

35. **SC.8.P.8.7:** Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).

Remarks/Examples:

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 6 gives information on Subatomic particles, pages 331, 407

36. **SC.8.P.8.8:** Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.

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

Justification:

Lesson 9.3 contains examples of acids, bases and salts

37. **SC.8.P.8.9:** Distinguish among mixtures (including solutions) and pure substances.

Remarks/Examples:

Pure substances include elements and compounds. Mixtures are classified as heterogeneous (mixtures) or homogeneous (solutions). Methods for separating mixtures include: distillation, chromatography, reverse osmosis, diffusion through semi-permeable membranes.

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

Justification:

Lesson 6.1 Types of matter addresses mixtures, heterogeneous/ homogeneous, page 458 specifically discusses chromatography

38. **SC.8.P.9.1:** Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.

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

Justification:

Lesson 10.1 pages 509-511 give demonstrations on conservation of mass

39. **SC.8.P.9.2:** Differentiate between physical changes and chemical changes.

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

Justification:

Page 295 Lab manager: "Is mass conserved in a chemical change?" PBL: A tale of 2 changes.

40. **SC.8.P.9.3:** Investigate and describe how temperature influences chemical changes.

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

Justification:

Lesson 5.4 discusses how temperature influences chemical changes. PBL: A tale of 2 changes.

41. **LAFS.68.RST.1.1:** Cite specific textual evidence to support analysis of science and technical texts.

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

Justification:

Page: 461,

42. **LAFS.68.RST.1.2:** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

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

Justification:

Electrons and energy levels,

43. **LAFS.68.RST.1.3:** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

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

Justification:

Designing and exhibit for a science museum, Early history of space exploration, How can you construct a simple telescope?, how does lack of friction in space affect simple tasks, Observing the Universe, Physical changes, Chemical changes, Ionic and Metallic bonds,

44. **LAFS.68.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 6–8 texts and topics.

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

Justification:

Key terms defined throughout and used throughout.

45. **LAFS.68.RST.2.5:** Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

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

Justification:

The text is written so the major sections contribute to understanding the topic.

46. **LAFS.68.RST.2.6:** Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

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

Justification:

Many experiments and procedures throughout the contents.

47. **LAFS.68.RST.3.7:** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

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

Justification:

Observing the Universe, Early history of space exploration, Contains many tables, graphs, models throughout each chapter.

48. **LAFS.68.RST.3.8:** Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

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

Justification:

Chemical changes

49. **LAFS.68.RST.3.9:** Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

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

Justification:

Many virtual labs, mini labs, videos, and experiments included with this content.

50. **LAFS.68.RST.4.10:** By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

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

Justification:

Early history of space exploration, Physical changes, Electrons and energy levels, Energy processing in plants,

51. **LAFS.68.WHST.1.1:** Write arguments focused on discipline-specific content.

- Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
- Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.
- Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from and supports the argument presented.

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

Justification:

Pages: 87, 141, 235, 325, 415, Observing the Universe, Chemical changes, Electrons and energy levels

52. **LAFS.68.WHST.1.2:** Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
- Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Establish and maintain a formal style and objective tone.
- Provide a concluding statement or section that follows from and supports the information or explanation presented.

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

Justification:

Page:207, 285, Classifying properties, Identifying unknown materials, Physical changes,

53. **LAFS.68.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:

Page:101, There are multiple writing opportunities in every lesson.

54. **LAFS.68.WHST.2.5:** With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

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

Justification:

I could not find specific link to this benchmark in the content. But there are multiple writing opportunities in every lesson.

55. **LAFS.68.WHST.2.6:** Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

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

Justification:

Early history of space exploration, Recent and future missions

56. **LAFS.68.WHST.3.7:** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

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

Justification:

Page:207, Early history of space exploration, Recent and future missions.

57. **LAFS.68.WHST.3.8:** Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

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

Justification:

Designing and exhibit for a science museum, Observing the Universe, Early history of space exploration, Recent and future missions, Physical changes

58. **LAFS.68.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:

Designing and exhibit for a science museum. Page:297, 427, Observing the Universe, Electrons and energy levels, Compounds, Chemical formulas and Covalent bonds,

59. **LAFS.68.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:

Page 51, 125, 141, Observing the Universe, Early history of space exploration, Recent and future missions There are multiple writing opportunities in every lesson

60. **LAFS.8.SL.1.1:** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.

a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.

c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.

d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.

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

Justification:

Designing and exhibit for a science museum, Observing the Universe, Recent and future missions, Classifying properties, Identifying unknown materials

61. **LAFS.8.SL.1.2:** Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.

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

Justification:

Chemical changes

62. **LAFS.8.SL.1.3:** Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.

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

Justification:

Classifying properties, Chemical changes

63. **LAFS.8.SL.2.4:** Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

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

Justification:

Designing and exhibit for a science museum, Observing the Universe

64. **LAFS.8.SL.2.5:** Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

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

Justification:

Designing and exhibit for a science museum, Observing the Universe, Energy processing in plants

65. **MAFS.8.F.2.5:** Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

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

Justification:

Multiple opportunities to create graphs and compare data.

66. **MAFS.8.G.3.9:** Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Remarks/Examples:

Fluency Expectations or Examples of Culminating Standards

When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.

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

Justification:

Formulas for volumes are found in the Math handbook

67. **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:

Multiple languages available besides Spanish.

68. **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:

Multiple languages available besides Spanish.