Sept. Grade 5: Suppl. Animal Unit Part 1 Compare living things

Content Area: **Science**
Course(s):
Time Period: **September**
Length: **6-8 Weeks**
Status: **Published**

Unit Overview

Students will compare and classify animals and living things in the 6 kingdoms.

Enduring Understandings

Scientists use classification methods to identify animals and living things.

Essential Questions

How do scientists classify living things in order to understand the living world?

Instructional Strategies & Learning Activities

Day 1_____

Obj:

Students will learn how scientists classify/how they classify living things into 6 kingdoms

Act:

Disuss how and why we classify things (books, clothes, cds, etc)

Grouping worksheet

Watch brainpop on 6 kingdoms

Have students take quiz on paper, then go over results on computer

Mat:

Brainpop quiz

Computer/projector

Assess:

Answers on quiz

Day 2_____

Obj:

Students will learn about the characteristics of the 6 kingdoms

Activities:

Review the 6 kingdoms

Students take notes on characterisics of each, discussing how they differ (students share what they remember from brainpop) (use group whiteboards)

Do all kingdoms except animal kingdom

Materials:

Google slide pictures

Note-taking handouts

Assessment:

Student responses/discussion

Day 3_____

Obj:

Students will learn how scientists classify animals

Act:

Review kingdoms (ball toss)

Define vertebrate and invertebrate

Notes/discussion on animal classification (just vertebrate/invertebrate)

Vertebrate/invertebrate laminates for students to place in appropriate classification

Read p. 24-25

Mat:

Laminates

Assess:

Partner share:

What 2 groups are all animals divided into?

Give 5 examples of each

Day 3_____

Obj:

Students will learn how vertebrates are classified

Activities:

Review classification of kingdoms

Notes/laminates on vertebrate groups

Read pp. 26-27

Materials:

Worksheet 1-3

Laminates

Assess:

Student responses

Discussion

HW:

Worksheet 1-3

Day 4-5_____

Obj:

Students will learn how plants are classified

Act:

Review classification of vertebrates using chart for students to fill in

Establish classification groups using laminates on plant kingdom

Read pp. 28-33 in text (**jigsaw reading** students write bullet points on large paper)

Mat:

Laminates

Text

Large paper

Computer/projector

Study guide

Assess:

Student responses

Day 6_____

Obj:

Students will determine the processes that all living things have in common

Activities:

Students (in groups) will be given a set of pictures of living things from each of the 6 kingdoms

Students will discuss as a group what processes of life they all share

Share what groups come up with and make a list of 6 life processes

Materials:

Pictures of various bacteria, fungi, amoebe, plants and animals

Assessment:

Group/class discussions

Day 7 _____

Obj:

Students will review the six life processes

Activities:

Whole class discussion of life processes using visuals and note-taking

Read text p. 8-10

Students choose a living thing and explain how it carries out the 6 life processes

Share with a partner

Materials:

Laminates of life processes

Note-taking handouts

Assessment:

Discussion

Exit cards for questions students still have

Day 8_____

Obj:

Students will review the six life processes

Act:

Windowpane the 6 life processes/**draw a picture to represent each process and label**

Share work with partner if time

Materials:

Plain white paper

Art boxes

Assess:

Completed windowpanes

Day 9_____

Obj:

Students will review processes of living things, cells, and classification

Activities:

Students will do mind-mapping in cooperative groups

Groups move from map to map and add any information missing

Groups review the additions to their original maps

Materials:

Large sheets for mapping

Assess:

Completed maps

Day 10_____

Obj:

Students will review processes of living things, cells, and classification

Act:

Jeopardy review game

Mat:

Game board

Assess:

Student responses

HW:

Study for test

Day 11_____

Administer test

Day 12_____

Objective:

Students will learn about energy/energy use in plants

Activities:

Using interactive smartboard lesson and brainstorming, students will discuss/learn:

Definition of energy

Forms of energy

Uses for energy in animals

Sources of energy for animals

Cellular respiration

Materials:

Smartboard lesson (Energy in Organisms)

Assessment:

Student discussions/answers to smartboard lesson

Day 13_____

Objective:

Students will learn about energy use in plants

Activities:

Using the smartboard lesson, students will learn/discuss:

How plants get energy

Photosynthesis

How plants use energy

Materials:

Smartboard lesson

Assessment:

Discussion/answers to smartboard lesson

Day 14_____

Objective:

Students will understand the connection between photosynthesis and cellular

Respiration

Students will prepare for photosynthesis and cellular respiration lab

Activities:

In groups, students discuss and complete diagram to show relationship

Review and discuss as class

Pass out lab packets/go over expectations and directions

Materials:

Smartboard lesson

Diagram copies

Lab packets

Assessment:

Completed diagrams

Day 15_____

Objective:

Students will observe the relationship between photosynthesis and cellular respiration

Activities:
photosynthesis and cellular respiration lab using bromothymol blue solution and elodea plants

Materials:

Elodea plants BTB solution

Test tubes

Test tube racks

Assessment:

Completed lab reports

Day 16_____

Objective:

Students will review for assessment on energy in animals and plants.

Activities:

Students will work in groups to complete energy flow quiz sheets as review.

Follow with ball toss review

Materials:

Quiz sheets

Assessment:

Students answers

Day 17_____

Administer energy flow assessment

Integration of Career Readiness, Life Literacies and Key Skills

Students work in cooperative groups.

Students do lab reports when completing research.

9.2.5.CAP	Career Awareness and Planning
9.4.8.CI	Creativity and Innovation
	Gathering and evaluating knowledge and information from a variety of sources, including global perspectives, fosters creativity and innovative thinking.
9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
9.2.5.CAP.2	Identify how you might like to earn an income.
9.4.8.CI.3	Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).
9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and

	occupations.
9.4.8.CI.4	Explore the role of creativity and innovation in career pathways and industries.
9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.8.CT	Critical Thinking and Problem-solving
9.4.8.CT.2	Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1).
	An essential aspect of problem solving is being able to self-reflect on why possible solutions for solving problems were or were not successful.
9.4.8.DC.1	Analyze the resource citations in online materials for proper use.
9.4.8.DC.2	Provide appropriate citation and attribution elements when creating media products (e.g., W.6.8).
9.4.8.DC.5	Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure.
9.4.8.GCA	Global and Cultural Awareness
	Awareness of and appreciation for cultural differences is critical to avoid barriers to productive and positive interaction.
CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Technology Integration

Flipquiz

Brainpop

Interdisciplinary Connections

Students will use art to make windowpanes of life processes to reinforce.

LA.RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
LA.RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
LA.RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
LA.RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
LA.RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.

LA.RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
LA.RI.2.7	Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
LA.RI.2.8	Describe and identify the logical connections of how reasons support specific points the author makes in a text.
LA.RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.
LA.RI.2.10	Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.
LA.RF.2.3	Know and apply grade-level phonics and word analysis skills in decoding words.
LA.RF.2.4	Read with sufficient accuracy and fluency to support comprehension.
LA.W.2.2	Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.
LA.W.2.7	Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
LA.SL.2.1.A	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
LA.SL.2.1.B	Build on others' talk in conversations by linking their explicit comments to the remarks of others.
LA.SL.2.1.C	Ask for clarification and further explanation as needed about the topics and texts under discussion.
LA.L.2.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Differentiation

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

- **Definitions of Differentiation Components**:

    - Content – the specific information that is to be taught in the lesson/unit/course of instruction.
    - Process – how the student will acquire the content information.
    - Product – how the student will demonstrate understanding of the content.
    - Learning Environment – the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:

Students will be offered differentiated assignments based on interest and skill. Accelerated students will be encouraged to do more indepth study and research to move them to a higher level of understanding, struggling students will be offered differentiated requirements to show mastery of key concepts.

Modifications & Accommodations

Refer to QSAC EXCEL SMALL SPED ACCOMMOCATIONS spreadsheet in this discipline.

Modifications and Accommodations used in this unit:

IEP and 504 accommodations will be utilized.

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

DRA

Additional Benchmarks used in this unit:

lab

unit test

Formative Assessments

Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when

they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

Discussion

Teacher conferences

online quizzes

Summative Assessments

Summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

Teacher made assessments (see lesson plans above.)

Instructional Materials

See materials required in lesson plans above.

Standards

LS1.C	Organization for Matter and Energy Flow in Organisms
	Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion.

	Engaging in Argument from Evidence
LS1.C	Organization for Matter and Energy Flow in Organisms
	Plants acquire their material for growth chiefly from air and water.
	Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.
	Assessment does not include molecular explanations.
	Developing and Using Models
	Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.
	Develop a model to describe phenomena.
LS2.B	Cycles of Matter and Energy Transfer in Ecosystems
	Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment.
	Systems and System Models
	A system can be described in terms of its components and their interactions.