

BUF Triangle

Grade: 1	Language: Spanish	Unit Number: 1 Unit Name: Patrones del sol, la luna y las estrellas
Content areas: Science and Language Arts		
Essential Question: Can patterns of the sun, moon, and stars be used to make predictions of future observations?		
Essential Understanding: We want students to understand that patterns of the sun, moon and stars can be used to make predictions of future observations (1-PS4-2, 1-ESS1-1, 1-ESS1-2).		
Storyline: In kindergarten, students made observations about the weather throughout the entire school year and recorded their data on chart paper. As the students documented their observations over time, students identified weather patterns. Students also documented and shared the local weather conditions. The year culminated with students realizing that weather conditions can be recorded to notice patterns over time allowing them to use data to predict, prepare, and respond to weather changes. Similar to kindergarten, the Science and Spanish Language Arts units will be centered around inquiry as a means to make observations, identify patterns, and describe phenomena. A phenomena is a fact or situation that is observed to exist or happen, especially one whose cause or explanation is in question. The first grade science units of the year are all related to light and patterns: observing objects and understanding that light is necessary for us to see (unit 1); the interaction of light with various materials (unit 2); how patterns relate to the relationship between parents and offspring (unit 3); the relationship between organisms and sunlight (unit 4). During this first science unit of first grade, students will learn how to make evidence-based observations of the world around them in order to predict patterns and support or refute ideas. These concepts are important to develop in this unit as they will be revisited and built upon in subsequent units. This unit will also begin to collect data around the amount of daylight observed relative to the time of the year. This strand is revisited in subsequent units, so it will be important to establish a consistent routine to gather this information on a daily basis. One way to collect this data is to add it (sunrise time and sunset time) to the morning calendar time routine and keep it as a running record on a chart to note differences in time across the year (1-ESS1-2). After some data has been collected, students can make predictions about time changes and what the time changes mean for them. For example, in the fall, when they go to school, the days slowly get shorter. This means that when they start school, it might be daylight outside. But as it gets closer to December, it may still be dark when they eat breakfast, and the sun will set earlier in the day, making the day feel shorter.		

It is important to note that the Next Generation Science Standards (NGSS) are written as performance expectations (PEs). This means that each standard, or performance expectation, has an element of science content AND an element of performance. Therefore, in order to help students achieve the expectations inherent in these standards it is necessary for students to DO science – watching videos, reading books, and listening to lectures is not enough. Students are expected to engage in the practices, or behaviors of scientists and engineers to figure out the content. As such, the performance expectations are what students should be expected to do as a result of engaging in this unit. In other words, the expectations listed in the PEs are what students should be able to do at the end of the unit.

To launch this unit, students will make observations of objects in the sky in order to describe patterns that can be predicted (**1-ESS1-1**). This inquiry can begin by taking students outside and having them draw what they observe in the sky during the day and asking them to draw what they observe in the sky at night right before they go to bed. As students continue to collect their data on graphic displays (or pictures), they can sort and distinguish the objects: some objects (such as the sun) are only visible during the day, other objects (such as the stars) are only visible at night, and yet other objects (such as the moon) are visible both during the day and at night (with varying intensity). By taking students to observe (and graphically display their collected data of) objects in the sky at different times of day, students can observe how the sun and moon appear to change position in the sky. Sufficient data collection will provide students with the evidence that they need to predict future appearances of these objects in the sky (**1-ESS1-1; 1-ESS1-2**).

While students collect and interpret data of the objects that move across the sky, students will also make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated (**1-PS4-2**). For example, when in a completely dark room, objects are still there, but we can only see them if some light is shining on them, or the objects in a cave are still there, but are only seen when the light of the cave diver's head lamp reaches them. Students can experiment with light and how changing the amount of light allowed in a space also changes the visibility of an object – for example, when there is plenty of light, things are easier to see whereas when the light is dim, things are more difficult to see. Students can then use the information they gained from their experimentation to connect their evidence and rationalize the phenomena: objects can only be seen when they are illuminated (whether light is placed on them or they make their own light). This understanding is important to establish in this unit as it will be built upon in the next unit when students discover that light can only travel in a straight line and that some objects block light while other allow light to go through them.

As the first unit of the instructional year, it will be important to establish the behaviors and routines necessary for literacy so that they can be revisited efficiently in subsequent units across the year. Important balanced literacy routines to establish include (but are not limited to) minilessons and teacher modeling, guided reading and small group instruction, partner reading, read alouds, and shared reading and writing. Beginning with this unit, and with all subsequent units, the material to be used within these literacy routines should be directly related to the content so as to create a meaningful context for comprehension. Additionally, the structure of the unit allows students to build oracy and content knowledge prior to engaging in reading that focuses on concepts from the content area. The texts that students read and analyze during reading instruction serve as mentorship for the kind of writing that students will be expected to produce. Explicit writing instruction follows reading instruction as that is where students put the knowledge they have gained from the content as well as through reading instruction into their own creation.

While both literary and informational texts can be used during this unit to learn more about the patterns in the sky, formal and explicit reading instruction in this unit will focus on understanding how to approach and better comprehend grade-level **informational texts (RI.1.10)**. The use of grade-level informational texts **(RI.1.10)** that explain how the presence of light allows objects to be seen **(1-PS4-2)**, how the moon, stars, and sun are objects in the sky that are predictable **(1-ESS1-1)**, and about how the relative length of day will be determined **(1-ESS1-2)** establish a meaningful context for the young reader. Additionally, the use of a variety of balanced literacy routines (such as minilessons, guided reading/small group instruction, partner reading and read alouds) allow students to explore these specific reading concepts in multiple settings and texts. At first, the teacher will model how to ask and answer questions about key details in a text **(R.I.1.1)**, specifically focusing on describing the connection between two ideas or pieces of information **(R.I.1.3)**, asking and answering questions to help determine or clarify the meaning of words and phrases in texts **(R.I.1.4)**, and using various text structures and text features to locate key facts or information in the text **(R.I.1.5)**. Through the use of various grouping configurations (such as whole group, small groups, partnerships, and individually), the teacher will gradually release the responsibility of the workload to the students (I do, we do, you do). It is important for students to develop an understanding of these reading skills in grade-level texts as they will be expected to include them in their writing pieces.

Writing instruction will capitalize on the information students gained through the inquiry process of the science content **(W1.8)** and their deepened understanding of how informational texts work **(W1.8)** as they write an **explanatory text** in the form of a **fact sheet (W1.2)**. Similar to reading, writing instruction will also follow a gradual release of responsibility where the teacher first models each phase of the writing process **(W.1.10)** including brainstorming, drafting, and revising where students write authentically and do not copy. The fact sheet **(W1.2)** will identify objects that can be seen in our sky and explain when (and why) they can be seen **(1-ESS1-1; 1-PS4-2; W.1.4)** utilizing the information they gained from the inquiry process and reading instruction **(W1.7)**. The fact sheet will name the topic they are writing about, supply some facts about the topic, and provide some sense of closure. Additionally, the fact sheet will include specific scientific vocabulary from the content area **(RI1.4)**, and text features (such as headings, diagrams, and captions; **RI.1.5**) to provide additional information and clarify information for the reader. As a result, students will then publish their fact sheets **(W1.2)** digitally **(W.1.6)**.

Standards:

Content Area Standards: 1-PS4-2. Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated. 1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.	Writing: W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. W.1.4. (Begins in 2nd grade) With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade specific	Reading: R.I.1.1. Ask and answer questions about key details in a text. R.I.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.
--	--	--

1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.	expectations for writing types are defined in standards 1–3 above.) W.1.6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. W.1.7. Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). W.1.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. W.1.10. (Begins in 2nd grade) Write routinely over extended time frames (time for research, 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.	R.1.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. R.1.1.5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text. R.1.1.10. With prompting and support, read informational texts appropriately complex for grade 1. a. Activate prior knowledge related to the information and events in text. b. Confirm predictions about what will happen next in a text.
Foundational Skills: NOTE: These standards will be added at the learning plan level – Step III	Listening and Speaking: NOTE: These standards will be added at the learning plan level – Step III	Language: NOTE: These standards will be added at the learning plan level – Step III
Language Development Standards NOTE: These standards will be added at the learning plan level – Step III		

Big Ideas:

Science Big Idea (NGSS):

Science Content Big Ideas:

- 1) I want my students to understand that patterns of the motion of the sun, moon, and stars in the sky can be observed, described and predicted (**1-ESS1-1**).
 - a) For example, stars are not seen in the sky during the day, but they are seen in the sky during the night.
 - b) For example, the sun is at different positions in the sky at different times of the day, appearing to rise in one part of the sky in the morning and appearing to set in another part of the sky in the evening
 - c) For example, the moon is at different positions in the sky at different times of the day or night, appearing to rise in one part of the sky and appearing to set in another part of the sky
 - d) For example, the moon can be seen during the day and at night, but the sun can only be seen during the day
- 2) I want my students to understand that seasonal patterns of sunrise and sunset can be observed, described, and predicted (**1-ESS1-2**).
 - a) For example, seasonal patterns of sunrise and sunset can be collected to make generalizations about the length of each of the days in a season. In the summer, the sun rises earlier in the morning and sets later in the evening than in the winter, making the length of summer days longer. In the winter, the sun rises later in the morning and sets earlier in the evening than in the summer, making the length of winter days shorter.
 - b) For example, seasonal patterns of sunrise and sunset can be observed and described to make predictions. Since the sun rises earlier in the summer, when I eat breakfast it is light outside. But in the winter, the sun rises later so when I eat breakfast, it will be darker.
- 3) I want my students to understand that objects can be seen if light is available to illuminate them or if they give off their own light (**1-PS4-2**).
 - a) For example, the presence of light in a space causes objects to be able to be seen in that space, such as the ability to see items in a covered shoe box when the lid is lifted.
 - b) For example, objects cannot be seen if there is no light to illuminate them, but the same object in the same space can be seen if a light source is introduced, such as when objects in a shoe box cannot be seen when the lid is on because it is completely dark, but they can be seen when light is introduced through another hole or when the lid is lifted.
 - c) For example, the ability of an object to give off its own light causes the object to be seen in a space where there is no other light - such as the case of a glow stick in a covered shoe box.

Science Inquiry Big Ideas:

1. I want my students to understand that natural events happen today as they happened in the past. These events can be observed, analyzed, and used to describe phenomena.

- a) For example, patterns in the natural world, such as the motion of the sun, moon, and the stars in the sky, can be observed and described. The data collected can be analyzed to note patterns and make predictions about natural phenomena (**1-ESS1-1, 1-ESS1-2**).
- b) For example, simple tests can be designed to determine cause and effect relationships, such as determining how and when objects in darkness can be seen. The data collected from the simple tests can be analyzed to support or refute ideas about causes and effects of natural phenomena (**1-PS4-2**).

Language Arts Big Ideas:

I want my students to learn that, when reading an informative text (**RI.1.10**), it is important to:

- Ask and answer questions about the key details of a text. (**RI.1.1**)
- Describe the relationship between two people, events, ideas, or elements of information in a text. (**RI.1.3**)
- Ask and answer questions to determine or clarify the meaning of words and phrases in a text. (**RI.1.4**)
- Know and use various text structures and text features to locate key data or information in a text. (**RI.1.5**)
- With suggestions and support, read informational texts appropriate complex for the first grade. (**RI.1.10**)

...in order to write a fact sheet (**W.1.2**) about the sun, the moon and the stars, using digital tools (**W.1.6**), participating in research (**W.1.7**) and recalling information learned from provided sources or experiences (**W.1.8**).

Standards	Outcomes	Formative Assessments
1-PS4-2. Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.	Students will be able to... - Describe when an object is visible (e.g., day versus night; in light vs in the dark). - Identify objects that can only be seen when illuminated	Initial Oracy Task 1: During the initial oracy activity where students engage in dynamic experiences using oracy building strategies such as Adapted Readers' Theater, Concept Attainment, Fishbowl and others, the teacher will use visual, graphic and interactive supports to introduce the big ideas of the unit and the academic language they will need for literacy. As students engage in these experiences, the teacher will observe students and take anecdotal notes on the participation of each student using the checklist in the Assessment packet. Anecdotal notes will include observations on students' development of receptive (listening) and productive (speaking) academic language. This data will be used to determine which students need additional practice in building oracy prior to moving on the next phase of the unit.
1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.	Students will be able to: Observe and describe the pattern of the sun, moon and stars during the day/night.	
1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.	Students will be able to: - Identify the different times of year - Make observations throughout the school year (at different times of year) to document the amount of daylight available	
1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.	Students will be able to: - Observe and describe the pattern of the sun, moon and stars during the day/night. - Identify and describe the patterns of the moon, including noting that the moon can be seen during the day and at night, but the sun can only be seen during the day AND that the moon is at different positions in the sky at different times of the day or night, appearing to rise in one part of the sky and appearing to set in another part of the sky.	Science Task 2 checklist (Observations of the sun, moon, and stars - 1-ESS1-1): Given their own graphical displays (or illustrations) of objects in the sky, the student can sort the objects into what can be seen during the day, and what can be seen at night.
Standards	Outcomes	Formative Assessments

1-PS4-2. Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.	Students will be able to... • Describe when an object is visible (e.g., day versus night; in light vs in the dark). • Name characteristics that make these objects visible. • Identify objects that can only be seen when illuminated • Construct an account explaining that objects in darkness are only seen when illuminated	Science and Writing Task 3 Rubric (Make observations to construct an evidence-based account - 1-PS4-2): Provide the student with a shoe box that has two small holes (one at the top, and one at the side) and some small objects inside (such as a lego piece, a toy car, a pencil, and an eraser). Through the hole at the top, moderate the amount of light allowed into the shoebox. Ask the student to observe what they see inside through hole.
W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.	Students will be able to... • Identify a topic in an informational piece of writing • Identify facts and the role they play in informational texts • Provide facts about the topic they have selected • Include a sense of closure for their informational piece of writing	Part 1: Shine a flashlight through the light hole. Ask the student to describe what they see. Part 2: Remove the flashlight and partially cover the light hole. Ask students to describe what they see and describe what happened to the objects inside the box. Part 3: Cover the light hole completely. Ask students to describe what they see and what happened to the objects inside the box. Then, using their science journal, have students write a note to their parents describing the shoe box experience, including the topic (objects illuminated by light), facts and a sense of closure.

Standards	Outcomes	Formative Assessments
1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.	Students will be able to: - Identify the different times of year - Make observations throughout the school year (at different times of year) to document the amount of daylight available	Task 4 checklist (Amount of daylight related to time of year – 1-ESS1-2): Toward the end of the unit, when sufficient data has been collected on the class chart, have the student make observations of the sunrise/sunset data collected on the class chart. Prompt the student to make predictions and generalization of day and night patterns from the data the observe.
1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.	Students will be able to: - Observe and describe the pattern of the sun, moon and stars during the day/night. - Identify and describe the patterns of the moon, including noting that the moon can be seen during the day and at night, but the sun can only be seen during the day AND that the moon is at different positions in the sky at different times of the day or night, appearing to rise in one part of the sky and appearing to set in another part of the sky.	Science and Writing Task 5 Rubric (Use observations to describe patterns that can be predicted – 1-ESS1-1): Utilizing their own displays of the sun, moon, and/or stars, the student can sequence the illustrations to match how the objects move across the sky. For example, with a graphical representation of the sun rising, the sun at mid-day, the sun at late afternoon, and the sun at night, the student can accurately sequence these images. The student can utilize the images to make predictions about future appearances their selected object in the sky.
W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.	Students will be able to... - Identify a topic in an informational piece of writing - Provide facts about the topic selected - Include a sense of closure for the fact sheet	

Special note for the reading outcomes below: To ensure comprehensibility, the texts used to assess mastery of ALL of the follow outcomes must be related to the science content. The texts should be informational texts that explain how the presence of light allows objects to be seen (**1-PS4-2**), how the moon, stars, and sun are objects in the sky that are predictable (**1-ESS1-1**), and/or about how the relative length of day will determined (**1-ESS1-2**)

Standards	Outcomes	Formative Assessments
R.I.1.1. Ask and answer questions about key details in a text.	Using texts that meet the criteria in the special note above, students will be able to... • Identify a question • Identify key details • List key details • Develop questions about reading • Ask questions about key details in a text • Answer questions about key details in a text	Reading Task 6 Checklist: This checklist is to be used during small group reading instruction. The following reading behaviors will be observed for every child using the checklist with informational texts that explain how the presence of light allows objects to be seen (1-PS4-2), how the moon, stars, and sun are objects in the sky that are predictable (1-ESS1-1), and/or about how the relative length of day will be determined (1-ESS1-2): • Ask and answer questions about key details in a text. (R.I.1.1) • Describe the connection between two individuals, events, ideas, or pieces of information in a text. (R.I.1.3) • Ask and answer questions to help determine or clarify the meaning of words and phrases in a text (R.I.1.4) • Know and use various text structures and text features to locate key facts or information in a text. (R.I.1.10) Anecdotal notes will be taken on student questioning while progressing through this unit. Students will practice asking questions in whole group, small group, partnerships and during individual conferences. Students will generate text relevant questions as well as practice
R.I.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.	Using texts that meet the criteria in the special note above, students will be able to ... • Identify two individuals, ideas, events or pieces of information in a text • Identify a connection between two individuals, ideas, events or pieces of information in a text • Describe the connection between two individuals, ideas, events or pieces of information in a text	
R.I.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.	Using texts that meet the criteria in the special note above, students will be able to ... • Construct questions to determine/clarify the meaning of a word or phrase • Answer questions to determine/clarify the meaning of a word or phase	
R.I.1.5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic	Using texts that meet the criteria in the special note above, students will be able to ...	

menus, icons) to locate key facts or information in a text.	- Identify key text features in an informative text (front cover, back cover, title page, headings, subtitles, illustrations, captions, bold print, subheadings, etc.). - Use text structures to find key facts or information - Use text structures to find key information in a text.	answering them. Sentence prompts for questions should be provided to students where appropriate. Anecdotal notes will be taken on students engaging in group reading activities while progressing through this unit. Students will practice using prior knowledge to relate it to information and events in texts. They will also use illustrations and context to make predictions of the text.
R.I.1.10. With prompting and support, read informational texts appropriately complex for grade 1. a. Activate prior knowledge related to the information and events in text. b. Confirm predictions about what will happen next in a text.	Using texts that meet the criteria in the special note above, students will be able to ... - Share prior knowledge related to the information and events in texts. - Predict what will happen next in a text.	
Standards	Outcomes	Formative Assessments
W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.	Students will be able to... - Identify a topic in an informational piece of writing - Identify facts and the role they play in informational texts - Provide facts about the topic they have selected - Include a sense of closure for their informational piece of writing	Writing Task 7 Checklist: As minilessons for writing are modeled, the teacher will keep anecdotal notes on each student and will provide additional support individually, in small groups or conferring sessions where needed.
W.1.6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.	Students will be able to... - Use digital tools to brainstorm and draft their writing in collaboration with peers - Use digital tools to revise their writing in collaboration with peers - Use digital tools in collaboration with peers - Use digital tools to publish their writing	

W.1.7. Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).	Students will be able to... • Explore a number of books about sun, moon and stars • Research (take notes, create pictures) books about patterns in sun, moon and stars • Use their research to write a fact sheet about the patterns in the sun, moon and stars	
W.1.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.	Students will be able to... • Remember information from experiences about patterns in the sun, moon and stars • Find information from provided sources to answer questions about the patterns in sun, moon and stars	
Summative Assessment: (Use the district provided rubric for informational/explanatory texts for First Grade). At the end of the unit, after students have engaged in the learning described above, each student will produce their own fact sheet (informative/explanatory writing) in which the student identifies an object in the sky (sun, moon, or stars) and explains when, where, and why this object can be seen. Each student’s Fact Sheet will include: • Naming the topic (sun, moon, or stars) • Some facts about the topic • Some sense of closure NOTE: Teachers should not use a template that students copy. SAMPLE OF POSSIBLE GRADE LEVEL STUDENT PRODUCT (The following text is for sample purposes only and <u>should not</u> be provided to the student to copy). Actual student writing will include approximations and invented spelling that reflect their developmental stage of writing. <i>The sun is an object that can be found in our sky. Every morning, it rises in the east. At midday it is directly above us. Then, every evening it sets in the west. The sun is bright in our sky because it makes its own light. This allows us to see many things around us during the day!</i>		

Sample Fact Sheet Templates

The fact sheets below are a samples or template using a Google Search. Some of them are created by adults with adult content for other adults. Others illustrate student content. They are included here to demonstrate what a fact sheet is and as an example of how students to demonstrate their information while still meeting the first grade writing expectation.

Samples of fact sheets can be created with students throughout the unit on different topics (fact sheet about the sun, another one about the stars, another about the moon; a fact sheet about how to move throughout the school; a fact sheet about how to be a good friend, etc.). These fact sheets can be provided to students prior to engaging in writing their own fact sheet to serve as a mentor AND to co-construct criteria for their individual pieces.

PRODUCT FACT SHEET BackpackCP 2001

Easy Traveling
BackpackCP™ was founded to provide, advertise, and sell backpacks designed for travel from the globe. We are committed to providing our clients with the highest quality backpacks.

Our Backpacks
We offer a variety of backpacks designed for different uses. Ranging from basic, durable Packs to professional (Pro Explorer), our products cover everyone's needs.

- Starter's Pack
- Pro Traveler
- Pro Explorer

Top Products (units sold)

Product	Units Sold
Starter's Pack (2001)	1000
Pro Traveler (2001)	500
Pro Explorer (2001)	250

Customer Segments

Market Position

Milestones

- Founded: November 2001
- Launched Starter's Pack: March 2002
- Launched Pro Traveler and Explorer: December 2003
- Sold 1M Units: Q2 2015
- LA School District Partnership: October 2016
- Launched Model D (prototype): Q3 2017

Online and Retail
amazon, TARGET

Key Partners
RESPONSIBLE TRAVEL

Acquisition Channels
Social Media (Facebook, Instagram), Word of Mouth, Recommendations, Email newsletters, Direct sales

PAD-US
The National Inventory of Protected Areas

The Protected Areas Database of the U.S. (PAD-US) is the official inventory of protected open space in the United States. With over 715 million acres in thousands of holdings, the spatial data in PAD-US includes public lands held in trust by national, state and some local governments and by some non-profit conservation organizations.

View and download PAD-US data at:
<http://gapanalysis.usgs.gov/pad-us>

PAD-US is published by the USGS Gap Analysis Program (GAP). GAP produces data and tools that help meet critical national challenges such as biodiversity conservation, renewable energy development, climate change adaptation, and infrastructure investment. Learn more about GAP and other GAP data including species and land cover at <http://gapanalysis.usgs.gov>.

Key Features

- Includes fee protected lands with some other lands under various conservation ownership.
- Downloaded by aggregating data by state inventories, as well as federal, agency and national conservation organization data.
- All lands are assigned GAP conservation status codes to indicate the level of protection. GAP codes 1, 2, and 3 are lands managed for different levels of biodiversity protection. 3 designates multiple-use lands that may support extractive uses. 4 includes no known mandates for permanent protection.
- Supports International Union for the Conservation of Nature (IUCN) rankings and represents the United States' contribution to the UNCTAD-WCMC World Database on Protected Areas (WDPA).
- Spatial data are available for public download.
- Facilitates multiple protected area data summaries and analysis.

PAD-US data is crucial to a wide range of activities:

- Identification of lands that need conservation to protect and restore ecosystems.
- Managing public lands to better protect biodiversity.
- Providing improved recreational access and use to parks and open spaces.
- Ensuring effective siting for renewable energy resources.
- Developing action strategies to mitigate climate change impacts on biodiversity.

View PAD-US data online at:
<http://gapanalysis.usgs.gov/pad-us/viewer>

For more information on PAD-US, contact Brian Langley (202-616-5215, brlangley@usgs.gov) or Adam Williams (202-616-5215, awilliams@usgs.gov).

Science Facts about the country of...

Facts about this country

Square Mile:

Longest/Shortest:

Water Resources:

Peak Life:

Animal Life:

Biomes of Water:

Climate:

Famous Scientist from this country

A famous invention or discovery...

Other Fun Things About this country

Created by Jolante at <http://homeschoolsystems.blogspot.com>