

Diocese of Wheeling-Charleston

CASE Unit Planner

Name of Teacher: Holly Moore	Grade Level: 4th Grade
Subject Area: Science	Cross Curricular Opportunities: Math, Reading and Writing
Unit Title: Place Value in the Wild (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Estimated Duration of Unit (between 2-9 week): 7 weeks
Overview of Unit: Students engage in a Project-Based Learning experience by applying to be an expedition scout for Wildlife International. The application process requires them to complete and submit a detailed field guide focused on one habitat and the animals that live there. As a final step, students must be interviewed for the positions.	
Forms of Text (non fiction/fiction): non fiction	Teaching Strategies: Whole group, collaborative groups, cooperative learning/protocols, science research

Catholic Identity Connections: Students research one of God's creation, animals and the habitat in which they live. Student discuss how God created animals so that they can live inand help the environment around them.

Assessment (authentic/published - summative/formative): Students will submit a detailed field guide as well as participate in an interview for the job for which they are applying.

Standard Number	Standards	Description of Activity	Resources	Date of Completion
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals recieve different types of information through their senses, process the information in their brains and respond to the information in different ways	Project-Based Learning experience: Place Value in the Wild	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals recieve different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Launch: Introduce the project to students by reading the job posting released by Wildlife International searching for expedition scouts. Outline the requirements for applying for the job and set expectations for students. Distribute file folders to students to use as their workfolder for this project. Provide each of them with a job posting as well as the steps that must be met in order to complete thsi project. Allow students some time to decorate their folder, glue the steps for the project on the inside cover the folder and organize any other information needed to launch the project. Note: Provide students with the guidelines needed to complete each step of the project prior to beginning that step. The job postingj, steps and guidelines to completing the field guide can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Day 1
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals recieve different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Exploration (Steps 1 & 2): My Favorite Habitat - Using think-pair-share, allow students some time to brainstorm different habitats. Record their responses. Distribute the "My Favorite Habitat" worksheets and review with students the habitats listed adding any habitats that they have named that are not included on the worksheet. Students will then break into pairs and will be assigned to research one of the habitat and record findings on a post board. Each pair will present the habitat they researched to the class. Each student will then decide which of these habitats they would be interested in researching for their field guide. They will use the "My Favorite Habitat" worksheet to record the habitat that they are choosing for their field guide along with an explanation of why they chose this habitat. The worksheet will be submitted to the teacher for approval for their research. Steps 1 & 2 guidelines and "My Favorite Habitat" worksheet can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Day 2-4

S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Mini-Lesson: Vertebrates vs. Invertebrates - Before beginning research of habitats and the animals that live in these habitats, students will be introduced to classes of animals, specifically vertebrates and invertebrates. Students will read an article comparing and contrasting the classes of animals and specifically outlining the characteristics of vertebrates. Students will work in pairs to complete a chart that organizes the characteristic of each class of vertebrates as an amphibian, bird, mammal, reptile or bony fish. Students and teacher will then work as a whole group comparing charts completed by students to make one class chart to highlight the characteristics of invertebrates.	Nancy Larson Science Curriculum, 4th Grade	Days 5-6
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Exploration (Step 3 & 4): Animals That Live Here - Students begin researching their habitat by making a list of 20 animals that live in the habitat that they chose to research. Animal names are recorded on the "Animals that Live Here" worksheet. Each animal is classified as a vertebrate or invertebrate using the information gathered in the project mini-lesson. Vertebrates are classified again as an amphibian, bird, mammal, bony fish or reptile. Once a list of 20 animals has been compiled and classified, students are to pick 8 animals that they would like to research. Animals chosen are either highlighted, circled or starred. The "Animals That Live Here" worksheet is submitted to the teacher for approval. Steps 3 & 4 guidelines and the "Animals That Live Here" worksheet can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Days 7-9
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Exploration (Step 5 & 6): Outline the Field Guide and Create the Coverpage - Prepare students to begin their field guide by outlining exactly what information will be found in their field guide and how it will be organized. Have students use the information they have found thus far (8 animals that live in their habitat) to begin thinking about the layout of the guide. Explain that the illustration found on the coverpage of the guide will introduce the audience to the habitat and should include the animals that they wish to feature. Allow students some time to look at animal/habitat illustrations in books and on the internet. Encourage students to sketch their coverpage illustration on a scrap sheet of paper before drawing on the final coverpage. Steps 5 & 6 guidelines and the coverpage template can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Days 10-11
M.4.NBT.1, M.4.NBT.2, M.4.NBT.3, M.4.MD.1	recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right; read and write multi-digit numbers based on meanings of the digits in each place using >, =, < symbols to record the results of comparisons; use place value understanding to round multi-digit whole numbers to any place; know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec within a single system of measurement express measurements in a larger unit in terms of a smaller unit, record measurement equivalents in a two column table.	Project Exploration (Step 7): Creature Size-Up - Students will begin researching each of the 8 animals by finding out, on average, how much the animals weigh. Students will use the "Creature Size-Up" worksheet to organize their work. Students must list the name of the animal along with the weight of the animal (using the correct unit of measure). The weight must be written in standard, expanded and word form. The weight must also be rounded and modeled using base ten blocks. "Creature Size-Up" worksheets must be submitted and reviewed with teacher before moving to step 8. Step 7 guidelines and the "Creature Size-Up" worksheet can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Days 12-15
M.4.NBT.1, M.4.NBT.2, M.4.NBT.3, M.4.MD.1	recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right; read and write multi-digit numbers based on meanings of the digits in each place using >, =, < symbols to record the results of comparisons; use place value understanding to round multi-digit whole numbers to any place; know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec within a single system of measurement express measurements in a larger unit in terms of a smaller unit, record measurement equivalents in a two column table.	Project Exploration (Step 8): Different Shapes and Sizes - Once the teacher approves the "Creature Size-Up" research, students must then complete the "Different Shapes and Sizes" worksheet. This will be the first page of their field guide. Students are to compare the weight of their animals and put them in order from smallest to largest. <i>Note: If weight measurements are in different units of measure, students will have to convert all units so that they are the same and easy to compare.</i> Students will place the animals in order using their "Creature Size-Up" worksheet. They will work with a partner to help one another complete the task and to make sure that they both agree that animals are placed in the correct order. Students will then use the "Different Shapes and Sizes" worksheet to record the animals from smallest to largest including the animal name, weight (along with unit of measure) and an illustration (created by the student). Step 8 guidelines and the "Different Shapes and Sizes" worksheet can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Days 16-18

S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Exploration (Step 9): Animal Profiles - Students begin creating a profile for each of the 8 animals by researching species, location, diet and interesting facts about the animal. Students will record their information on the "Animal Profile" templates. These 8 animal profiles will be included in the field guide. Step 9 guidelines and the "Animal Profile" template can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Days 19-28
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Exploration (Step 10): Personal Profile - Students will use the "Personal Profile" template to create a profile about themselves. The profile will include interesting information about themselves including why they would make the ideal expedition scout. This will serve as the last page of the field guide. Step 10 guidelines and the "Personal Profile" template can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Days 29-30
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Closure (Step 11): Creating the Field Guide - Students will edit the profiles that will be included in the field guide. Once edited, students will organize the field guides and submit as the final project. The teacher will use a rubric to grade each field guide.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Day 31-32
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Closure (Step 12): Interview - Students will be interviewed by the teacher (or other teachers in the school that would be willing to help) for the job. Students will receive a list of questions in advance to study for the interview. Students will participate in an one-on-one interview and the interviewer will use a rubric to rate each answer.	Adapted from Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Day 33
S.4.GS.9; S.4.GS.10	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction; use a model to describe that animals receive different types of information through their senses, process the information in their brains and respond to the information in different ways	Project Closure: Who Got the Job? - The teacher will post the candidates who got the job as expedition scouts. Each student who receives a passing grade on the overall project will receive the job. Students getting the job will be organized into habitat teams and displayed in the hallway.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Day 34
Differentiated Instruction Opportunities/Overview: During this project, students are to apply their knowledge of place value as well as measurement and measurement conversion to complete portions of the field guide.				
Cross Curricular Opportunities:				

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M.4.NBT.1, M.4.NBT.2, M.4.NBT.3, M.4.MD.1	recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right; read and write multi-digit numbers based on meanings of the digits in each place using >, =, < symbols to record the results of comparisons; use place blue understanding to round multi-digit whole numbers to any place; know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec within a single sytem of measurement express measurements in a lardger unit in terms of a smaller unit, record measurement equivalents in a two column table.	Project Exploration (Step 8): Different Shapes and Sizes - Once the teacher approves the "Creature Size-Up" research, students must then complete the "Different Shapes and Sizes" worksheet. This will be the first page of their field guide. Students are to compare the weight of their animals and put them in order from smallest to largest. <i>Note: If weight measurements are in different units of measure, students will have to convert all units so that they are the same and easy to compare.</i> Students will place the animals in order using their "Creature Size-Up" worksheet. They will work with a partner to help one another complete the task and to make sure that they both agree that animals are place in the correct order. Students will then use the "Different Shapes and Sizes" worksheet to record the animals from smallest to largest including the animal name, weight (along with unit of measure) and an illustration (created by the student). Step 8 guidelines and the "Different Shapes and Sizes" worksheet can be found by purchasing the Place Value in the Wild project from Teachers Pay Teachers.	Teachers Pay Teachers Website (https://www.teacherspayteachers.com/Product/Place-Value-In-The-Wild-Place-Value-Project-Based-Learning-PBL-1984528)	Days 16-18

Teaching Strategies Checklist

Writing				
X	Paragraph			
X	Essay (narratives, fairy tales, realistic fiction)			
X	Summary			
X	Research			
X	Detailed answers (text supported)			
X	Notes (note taking skills, outlines)			
X	Complete sentences			
Reading				
X	Informational text			
	Lexile			
	Complex literature			
X	Speaking			
X	Listening			
X	Varied strategies and instructional methods			
X	Critical thinking in whole class discussion			
X	Student led activities			

	common core standards (literature circles)
Technology	
X	Smartboard
X	Computers
	iPads
X	Powerpoint, Elmo etc.
Differentiated Instruction	
X	Used multiple resources
X	Domain Vocabulary
X	Cross-Curricular
X	Collaborative engagement (meaningful feedback)
X	Higher level learning and teaching
Assessment	
X	Project based
X	Writing prompt
X	Portfolio
X	Observation
	Quiz
X	Technology based
	Test
	Student created test
X	Presentation
X	Journal
X	Think, pair, share
X	Summary
X	Oral questioning
	Analogy
	Powerpoint, or movie maker
Authenticity	
X	Various activities
X	Inquiry, research and evidence
X	Evidence of time management and planning
X	Problem solving strategies
Summary of Unit after Completion:	