Profile Sheet

PBL Lesson Plan for Diverse Learners

Original Title: Aiding in the Survival of the Giraffes in Africa
Primary Subject Area: Science
Outside Subject Area: Language Arts

Description of student roles and problem situation: The students will work in groups of three or four, with one student acting as the lead scientist and the other students working as his or her research assistants. The students will work as a task force, which has been assigned by the Protection of Wildlife Advisory Board to evaluate the constant threats that are being made to the survival of the giraffes in Africa. After evaluating these threats, the task force must then decide whether it would be more humane to keep the giraffes in their natural habitats, where they will be able to maintain their quality of life, or to relocate them to zoos or wildlife sanctuaries, where they will be watched and protected. The task force must come to a decision, which they will then present to the Protection of Wildlife Advisory Board on February 1st, 2010.

Teacher: Brie Boulanger
Grade level: 1st Grade

Adaptations for Student from Non-Western culture:
1. Research the student’s culture and make sure to align the instructional techniques and activities to their culture.
2. Bring in an audience member from their specific culture (parent or relative of student) to watch the presentations given by the students.

Adaptations for ESOL Student:
1. Allow the ESOL student to present their decision to the board in their native language.
2. Bring in an interpreter if available to translate their presentation to the board and translate my instruction of the lesson to the ESOL student.
3. Place the ESOL student in a group with a higher-learning student who may act as their guide during the lesson.
Title, Learner Characteristics, and Sunshine State Standards Sample Component

Teacher:  Brie Boulanger
Title:  Aiding in the survival of Giraffes in Africa
Primary Subject Area:  Science
Outside Subject Area:  Language Arts
Class and Level:  Science – Regular Ed
Grade Level:  5th grade

Primary Sunshine State Standards:
SC.5.L.15.1:  Describe how when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.

LO#1:  After watching the video “Tall Blondes”, about the survival of giraffes in Africa, working in groups, students will create a chart listing characteristics of

SC.5.L.17.1:  Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.

Outside Subject Area Sunshine State Standards from Language Arts:
LA.5.4.3.1:  The student will write persuasive text (e.g., essay, written communication) that establish and develop a controlling idea and supportive arguments for the validity of the proposed idea with detailed evidence.

Learner Characteristics of Elementary Grade Students:
Physical:  Although small in magnitude, gender differences in motor skill performance are apparent.
Justification:  By working in diverse groups in this project, both girls and boys will be able to use their motor skill performance to benefit the group in different ways.

Social:  The peer group becomes powerful and begins to replace adults as the major source of behavior standards and recognition of achievement.
Justification:  This characteristic will need to be considered when deciding what groups to place the students in. Due to the fact that a student with a behavior problem may lead a group astray, I will need to be sure to place behaviorally challenged students, with others who I feel can handle that type of distraction.

Emotional:  During this period, children develop a more global, integrated, and complex self-image.
Justification:  Because the students begin to develop their self-concept, whether negative or positive, at this time, I will need to take this into consideration while forming the groups. A student with a negative self-concept in regards to social interactions or academic performance may need to be placed with a student that has more of a positive attitude and can guide them through the assignment without losing focus on their own performance.
Cognitive: On tasks that call for simple memory skills, elementary grade children often perform about as well as adolescents or adults. But on tasks that require more complex memory skills, their performance is more limited. Justification: This project will require the students to use background information on the life cycle of animals and adaptation to environments, which includes more complex memory skills. Because their performance may be more limited in that area, I will make sure and do a thorough review of these topics prior to the students beginning their assignments.

Cognitive: The elementary grade child can think logically, although such thinking is constrained and inconsistent. Justification: Children at this age tend to use illogical thinking patterns and at times can exaggerate or simply make up facts in order to prove a point. Because of this characteristics, I will need to make sure and reiterate the fact that in order to come to a conclusion, on whether the giraffes should be kept in their home environment or moved to a zoo facility, they need to use facts that they have found through the reputable sources given to them (textbook, internet resources, library books) to prove their point.
Learner Outcomes, Student Role & Problem Situation, Meet the Problem Method

Teacher: Brie Boulanger
Title: Aiding in the survival of Giraffes in Africa
Primary Subject Area: Science
Outside Subject Area: Language Arts
Class and Level: Science – Regular Ed
Grade Level: 5th grade

Primary Sunshine State Standards:
SC.5.L.15.1: Describe how when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.
LO#1: After watching the video “Tall Blondes”, about the survival of giraffes in Africa, working in groups, students will create a chart with one column including characteristics of a giraffes environment and the other column including characteristics of a giraffe that allow them to adapt to that particular environmental characteristic, with at least 80% accuracy. Analysis
SC.5.L.17.1: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.
LO#2: Using the chart created above students will work in groups to compare and contrast the physical characteristics of giraffes that would allow them to live in captivity and allow them to live in their current environment with at least 80% accuracy.

Evaluation

Outside Subject Area Sunshine State Standards from Language Arts:
LA.5.4.3.1: The student will write persuasive text (e.g., essay, written communication) that establish and develop a controlling idea and supportive arguments for the validity of the proposed idea with detailed evidence.
LO#3: After reading the meet the problem document and using the assignments created above, the students will work in groups to write a persuasive essay over whether they believe the giraffes would be better off living in their current environment, which is currently a danger to their survival, or if they should be moved into captivity such as a zoo or wildlife sanctuary, scoring at least a 23 on the rubric. Synthesis

Learner Characteristics of Elementary Grade Students:
Physical: Although small in magnitude, gender differences in motor skill performance are apparent.
Justification: By working in diverse groups in this project, both girls and boys will be able to use their motor skill performance to benefit the group in different ways.

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Justification: This characteristic will need to be considered when deciding what groups to place the students in. Due to the fact that a student with a behavior problem may lead a group astray, I will need to be sure to place behaviorally challenged students, with others who I feel can handle that type of distraction.

_Emotional:_ During this period, children develop a more global, integrated, and complex self-image.

Justification: Because the students begin to develop their self-concept, whether negative or positive, at this time, I will need to take this into consideration while forming the groups. A student with a negative self-concept in regards to social interactions or academic performance may need to be placed with a student that has more of a positive attitude and can guide them through the assignment without losing focus on their own performance.

_Cognitive:_ On tasks that call for simple memory skills, elementary grade children often perform about as well as adolescents or adults. But on tasks that require more complex memory skills, their performance is more limited.

Justification: This project will require the students to use background information on the life cycle of animals and adaptation to environments, which includes more complex memory skills. Because their performance may be more limited in that area, I will make sure and do a thorough review of these topics prior to the students beginning their assignments.

_Cognitive:_ The elementary grade child can think logically, although such thinking is constrained and inconsistent.

Justification: Children at this age tend to use illogical thinking patterns and at times can exaggerate or simply make up facts in order to prove a point. Because of this characteristics, I will need to make sure and reiterate the fact that in order to come to a conclusion, on whether the giraffes should be kept in their home environment or moved to a zoo facility, they need to use facts that they have found through the reputable sources given to them (textbook, internet resources, library books) to prove their point.

**Student Roles and Problem Situation:**

The students will work in groups of three or four, with one student acting as the lead scientist and the other students working as his or her research assistants. The students will work as a task force, which has been assigned by the Protection of Wildlife Advisory Board to evaluate the constant threats that are being made to the survival of the giraffes in Africa. After evaluating these threats, the task force must then decide whether it would be more humane to keep the giraffes in their natural habitats, where they will be able to maintain their quality of life, or to relocate them to zoos or wildlife sanctuaries, where they will be watched and protected. The task force must come to a decision, which they will then present to the Protection of Wildlife Advisory Board on February 1st, 2010.
Meet the Problem Documents:

Memorandum

To: Giraffe Task Force
From: Wildlife Protection Services
Date: 7/31/2018
Re: Survival of the giraffes in Africa

Dear Task Force,

It has been brought to our immediate attention that the giraffes in Africa are now in immediate danger. Unfortunately it is our fellow man that is bringing so much danger to the giraffes. Not only is man clearing the giraffe habitat of trees to make room for a growing human population; man is also responsible for poaching giraffes for their pelt, meat, and tail. This problem needs to be dealt with before it is too late.

We are asking you, as our giraffe task force, to decide which is more humane: to keep the giraffes in their natural habitats, where they can maintain their current quality of life, or to relocate them to zoos or wildlife sanctuaries where they can be watched and protected.

We understand that this is going to take a lot of time and effort on your part; therefore we are willing to pay you at a rate of $50 per hour. As we mentioned earlier, this needs to be done in a timely manner, so we are asking for you to present your recommendations to us on February 1st, 2010 at 10a.m.

Thank you in advance,

Wildlife Protection Services
STATUS: Vulnerable.

DESCRIPTION:
Giraffes are one of the world's tallest mammals. They are well known for their long necks, long legs, and spotted patterns. Giraffes have small "horns" or knobs on top of their heads that grow to be about five inches long. These knobs are used to protect the head in fights.

SIZE:
Male giraffes are larger than females. Males weigh between 2,400 and 3,000 pounds and stand up to 19 feet tall! Female giraffes weigh between 1,600 and 2,600 pounds and grow to be 16 feet tall.

POPULATION:
Giraffe populations are relatively stable.

LIFESPAN:
Healthy giraffes live about 25 years in the wild.

RANGE:
Giraffes can be found in central, eastern and southern Africa.

HABITAT:
Giraffes live in the savannas of Africa, where they roam freely among the tall trees, arid land, dense forests and open plains.

FOOD:
Their long necks help giraffes eat leaves from tall trees, typically acacia trees. If they need to, giraffes can go for several days without water. Instead of drinking, giraffes stay hydrated by the moisture from leaves.

BEHAVIOR:
Giraffes are non-territorial, social animals. They travel in large herds that are not organized in any way. Herds may consist of any combination of sexes or ages.

OFFSPRING:
Female giraffes typically give birth to one calf after a fifteen-month gestation period. During the first week of its life, the mother carefully guards her calf. Young giraffes are very vulnerable and cannot defend themselves. While mothers feed, the young are kept in small nursery groups.

THREATS:
Giraffes are hunted for their meat, coat and tails. The tail is prized for good luck bracelets, fly whisks and string for sewing beads. The coat is used for shield coverings. Habitat destruction and fragmentation are also threats to giraffe populations.

PROTECTION:
Problem Statement, Student Role & Problem Situation, Possible Resources

Teacher: Brie Boulanger
Title: Aiding in the survival of Giraffes in Africa
Primary Subject Area: Science
Outside Subject Area: Language Arts
Class and Level: Science – Regular Ed
Grade Level: 5th grade

Primary Sunshine State Standards:
SC.5.L.15.1: Describe how when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.
LO#1: After watching the video “Tall Blondes”, about the survival of giraffes in Africa, working in groups, students will create a chart with one column including characteristics of a giraffes environment and the other column including characteristics of a giraffe that allow them to adapt to that particular environmental characteristic, with at least 80% accuracy. Analysis
SC.5.L.17.1: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.
LO#2: Using the chart created above students will work in groups to compare and contrast the physical characteristics of giraffes that would allow them to live in captivity and allow them to live in their current environment with at least 80% accuracy. Evaluation

Outside Subject Area Sunshine State Standards from Language Arts:
LA.5.4.3.1: The student will write persuasive text (e.g., essay, written communication) that establish and develop a controlling idea and supportive arguments for the validity of the proposed idea with detailed evidence.
LO#3: After reading the meet the problem document and using the assignments created above, the students will work in groups to write a persuasive essay over whether they believe the giraffes would be better off living in their current environment, which is currently a danger to their survival, or if they should be moved into captivity such as a zoo or wildlife sanctuary, scoring at least a 23 on the rubric. Synthesis

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**Student Roles and Problem Situation:**

The students will work in groups of three or four, with one student acting as the lead scientist and the other students working as his or her research assistants. The students will work as a task force, which has been assigned by the Protection of Wildlife Advisory Board to evaluate the constant threats that are being made to the survival of the giraffes in Africa. After evaluating these threats, the task force must then decide whether it would be more humane to keep the giraffes in their natural habitats, where they will be able to maintain their quality of life, or to relocate them to zoos or wildlife sanctuaries, where they will be watched and protected. The task force must come to a decision, which they will then present to the Protection of Wildlife Advisory Board on February 1st, 2010.
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We are asking you, as our giraffe task force, to decide which is more humane: to keep the giraffes in their natural habitats, where they can maintain their current quality of life, or to relocate them to zoos or wildlife sanctuaries where they can be watched and protected. When making your decision, please keep in mind that we would also like to prevent this problem from happening in the future.

We understand that this is going to take a lot of time and effort on your part; therefore we are willing to pay you at a rate of $50 per hour. As we mentioned earlier, this needs to be done in a timely manner, so we are asking for you to present your recommendations to us on February 1st, 2019 at 10a.m.

Thank you in advance,

Wildlife Protection Services
STATUS:
Vulnerable.

DESCRIPTION:
Giraffes are one of the world's tallest mammals. They are well known for their long necks, long legs, and spotted patterns. Giraffes have small "horns" or knobs on top of their heads that grow to be about five inches long. These knobs are used to protect the head in fights.

SIZE:
Male giraffes are larger than females. Males weigh between 2,400 and 3,000 pounds and stand up to 19 feet tall! Female giraffes weigh between 1,600 and 2,600 pounds and grow to be 16 feet tall.

POPULATION:
Giraffe populations are relatively stable.

LIFESPAN:
Healthy giraffes live about 25 years in the wild.

RANGE:
Giraffes can be found in central, eastern and southern Africa.

HABITAT:
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FOOD:
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BEHAVIOR:
Giraffes are non-territorial, social animals. They travel in large herds that are not organized in any way. Herds may consist of any combination of sexes or ages.

OFFSPRING:
Female giraffes typically give birth to one calf after a fifteen-month gestation period. During the first week of its life, the mother carefully guards her calf. Young giraffes are very vulnerable and cannot defend themselves. While mothers feed, the young are kept in small nursery groups.

THREATS:
Giraffes are hunted for their meat, coat and tails. The tail is prized for good luck bracelets, fly whisks and string for sewing beads. The coat is used for shield coverings. Habitat destruction and fragmentation are also threats to giraffe populations.

PROTECTION:
Problem Statement:
How can we, as the Giraffe Task Force, decide whether it is more humane to keep the giraffes in their natural environment or remove them to a wildlife sanctuary or zoo in such a way that:

- We have a decision by February 1st, 2010 at 10a.m.
- We keep the giraffes best interest in mind
- We make sure that our decision can safely be carried out
- We try to prevent this problem from happening in the future

Know/Need to Know Sample Board

Know Board:
1. Must have a decision by February 1st, 2010 at 10a.m.
2. Giraffes in Africa are in immediate danger.
3. Man is responsible for bringing danger to the giraffes.
4. Man is clearing the giraffe’s habitat of trees to make room for the human population.
5. Men are poaching giraffes for their pelt, meat, and tail.
6. Must decide whether it is more humane to keep the giraffes in their natural environment or remove them to a wildlife sanctuary or zoo.
7. Giraffe populations are relatively stable.
8. Healthy giraffes live to be about 25 years in the wild.
10. Giraffes eat leaves from small trees.

Need to Know Board:
1. What is the giraffe population in Africa?
2. How many giraffes are being poached in Africa every year?
3. How many giraffes die due to habitat destruction in Africa every year?
4. What is a giraffe’s life expectancy in captivity?
5. Can a Wildlife Preserve or Zoo provide a big enough area for giraffes to roam?
6. What are the laws against poaching giraffes in Africa?
7. How can giraffes be transported to a Zoo or Wildlife Preserve?
8. Is it safe to transport giraffes?
9. Do giraffes behave differently in captivity?
10. What type of food would be available to giraffes in captivity?

Resources
7. African Wildlife Foundation  
Britak Centre  
Mara Ragati Road  
P.O. Box 48177, 00100  
NAIROBI, KENYA  
Tel: +254 20 2710367 +254 20 2710367  
Fax: +254 20 2710372  
africanwildlife@awfke.org

Capstone Performance

Teacher: Brie Boulanger
Title: Aiding in the survival of Giraffes in Africa
Primary Subject Area: Science
Outside Subject Area: Language Arts
Class and Level: Science – Regular Ed
Grade Level: 5th grade

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Evaluation

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LA.5.4.3.1: The student will write persuasive text (e.g., essay, written communication) that establish and develop a controlling idea and supportive arguments for the validity of the proposed idea with detailed evidence.
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Meet the Problem Documents:

Memorandum

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From: Wildlife Protection Services

Date: 7/31/2018

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Thank you in advance,

Wildlife Protection Services
**STATUS:**
Vulnerable.

**DESCRIPTION:**
Giraffes are one of the world's tallest mammals. They are well known for their long necks, long legs, and spotted patterns. Giraffes have small "horns" or knobs on top of their heads that grow to be about five inches long. These knobs are used to protect the head in fights.

**SIZE:**
Male giraffes are larger than females. Males weigh between 2,400 and 3,000 pounds and stand up to 19 feet tall! Female giraffes weigh between 1,600 and 2,600 pounds and grow to be 16 feet tall.

**POPULATION:**
Giraffe populations are relatively stable.

**LIFESPAN:**
Healthy giraffes live about 25 years in the wild.

**RANGE:**
Giraffes can be found in central, eastern and southern Africa.

**HABITAT:**
Giraffes live in the savannas of Africa, where they roam freely among the tall trees, arid land, dense forests and open plains.

**FOOD:**
Their long necks help giraffes eat leaves from tall trees, typically acacia trees. If they need to, giraffes can go for several days without water. Instead of drinking, giraffes stay hydrated by the moisture from leaves.

**BEHAVIOR:**
Giraffes are non-territorial, social animals. They travel in large herds that are not organized in any way. Herds may consist of any combination of sexes or ages.

**OFFSPRING:**
Female giraffes typically give birth to one calf after a fifteen-month gestation period. During the first week of its life, the mother carefully guards her calf. Young giraffes are very vulnerable and cannot defend themselves. While mothers feed, the young are kept in small nursery groups.

**THREATS:**
Giraffes are hunted for their meat, coat and tails. The tail is prized for good luck bracelets, fly whisks and string for sewing beads. The coat is used for shield coverings. Habitat destruction and fragmentation are also threats to giraffe populations.

**PROTECTION:**
Problem Statement:
How can we, as the Giraffe Task Force, decide whether it is more humane to keep the
giraffes in their natural environment or remove them to a wildlife sanctuary or zoo in
such a way that:
□ We have a decision by February 1st, 2010 at 10a.m.
□ We keep the giraffes best interest in mind
□ We make sure that our decision can safely be carried out
□ We try to prevent this problem from happening in the future

Know/Need to Know Sample Board

Know Board:
11. Must have a decision by February 1st, 2010 at 10a.m.
12. Giraffes in Africa are in immediate danger.
13. Man is responsible for bringing danger to the giraffes.
14. Man is clearing the giraffe’s habitat of trees to make room for the human
    population.
15. Men are poaching giraffes for their pelt, meat, and tail.
16. Must decide whether it is more humane to keep the giraffes in their natural
    environment or remove them to a wildlife sanctuary or zoo.
17. Giraffe populations are relatively stable.
18. Healthy giraffes live to be about 25 years in the wild.
19. In Africa, giraffes roam freely among tall trees, arid land, dense forests and open
    plains.
20. Giraffes eat leaves from small trees.

Need to Know Board:
11. What is the giraffe population in Africa?
12. How many giraffes are being poached in Africa every year?
13. How many giraffes die due to habitat destruction in Africa every year?
14. What is a giraffe’s life expectancy in captivity?
15. Can a Wildlife Preserve or Zoo provide a big enough area for giraffes to roam?
16. What are the laws against poaching giraffes in Africa?
17. How can giraffes be transported to a Zoo or Wildlife Preserve?
18. Is it safe to transport giraffes?
19. Do giraffes behave differently in captivity?
20. What type of food would be available to giraffes in captivity?

Resources
Capstone Performance Description

The capstone performance for this problem will contain 2 parts: each student will write a one page persuasive essay and the also give a performance as a group. Both parts of the problem will be graded using one rubric.

In the persuasive essay students will be take on the role of a member of the Giraffe Task Force, who have been asked to decide whether it is more humane to keep the giraffes in their current habitat or to move them to captivity. The students will describe both of these solutions within their essay and then persuade their audience as to which solution they feel is the most humane, using at least 4 arguments to support their decision.

As a team of four, the students will review all of their persuasive essays and using the essays, decide which one seems to be the best solution. They may also take a few arguments from each essay and combine them to come up with the “best” solution.

In the oral presentation, one student will take on the role of the lead scientist and the other 3 students will be the research assistants. The group will present their solution to 3 parents who will act as the Wildlife Protection Services board members (see room arrangement below). The lead scientist will present the decision that the group has come up to, followed by 2 of the research assistants each stating 2 arguments or justifications for their decision, and concluding with the third research assistant summarizing the solution and justifications. After the presentation has been made the Wildlife Protection Services board members will ask a few questions about how the team members came to their decision (questions will be given to the board members by the teacher, prior to the presentations).

Student autonomy is incorporated into this capstone performance by allowing the students to choose their roles (lead scientists, research assistants), and also by allowing the students to decide which is the “best” solution to the problem by reading all of the persuasive essays. Meta-cognition is encouraged in this presentation by requiring the students to complete a questionnaire regarding their performance as a member or their group after the presentation is complete.
Room Arrangement

Giraffe Task Force

Wildlife Protection Service Board Members

Students
Rubric for Assessing the Capstone Performance

Teacher: Brie Boulanger
Title: Aiding in the survival of Giraffes in Africa
Primary Subject Area: Science
Outside Subject Area: Language Arts
Class and Level: Science – Regular Ed
Grade Level: 5th grade

Primary Sunshine State Standards:
SC.5.L.15.1: Describe how when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.
LO#1: After watching the video “Tall Blondes”, about the survival of giraffes in Africa, working in groups, students will create a chart with one column including characteristics of a giraffes environment and the other column including characteristics of a giraffe that allow them to adapt to that particular environmental characteristic, with at least 80% accuracy. Analysis
SC.5.L.17.1: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.
LO#2: Using the chart created above students will work in groups to compare and contrast the physical characteristics of giraffes that would allow them to live in captivity and allow them to live in their current environment with at least 80% accuracy.
Evaluation

Outside Subject Area Sunshine State Standards from Language Arts:
LA.5.4.3.1: The student will write persuasive text (e.g., essay, written communication) that establish and develop a controlling idea and supportive arguments for the validity of the proposed idea with detailed evidence.
LO#3: After reading the meet the problem document and using the assignments created above, the students will work in groups to write a persuasive essay over whether they believe the giraffes would be better off living in their current environment, which is currently a danger to their survival, or if they should be moved into captivity such as a zoo or wildlife sanctuary, scoring at least a 23 on the rubric. Synthesis

Learner Characteristics of Elementary Grade Students:
Physical: Although small in magnitude, gender differences in motor skill performance are apparent.
Justification: By working in diverse groups in this project, both girls and boys will be able to use their motor skill performance to benefit the group in different ways.

Social: The peer group becomes powerful and begins to replace adults as the major source of behavior standards and recognition of achievement.
Justification: This characteristic will need to be considered when deciding what groups to place the students in. Due to the fact that a student with a behavior problem may lead a group astray, I will need to be sure to place behaviorally challenged students, with others who I feel can handle that type of distraction.

**Emotional:** During this period, children develop a more global, integrated, and complex self-image. Justification: Because the students begin to develop their self-concept, whether negative or positive, at this time, I will need to take this into consideration while forming the groups. A student with a negative self-concept in regards to social interactions or academic performance may need to be placed with a student that has more of a positive attitude and can guide them through the assignment without losing focus on their own performance.

**Cognitive:** On tasks that call for simple memory skills, elementary grade children often perform about as well as adolescents or adults. But on tasks that require more complex memory skills, their performance is more limited. Justification: This project will require the students to use background information on the life cycle of animals and adaptation to environments, which includes more complex memory skills. Because their performance may be more limited in that area, I will make sure and do a thorough review of these topics prior to the students beginning their assignments.

**Cognitive:** The elementary grade child can think logically, although such thinking is constrained and inconsistent. Justification: Children at this age tend to use illogical thinking patterns and at times can exaggerate or simply make up facts in order to prove a point. Because of this characteristics, I will need to make sure and reiterate the fact that in order to come to a conclusion, on whether the giraffes should be kept in their home environment or moved to a zoo facility, they need to use facts that they have found through the reputable sources given to them (textbook, internet resources, library books) to prove their point.

**Student Roles and Problem Situation:**

The students will work in groups of three or four, with one student acting as the lead scientist and the other students working as his or her research assistants. The students will work as a task force, which has been assigned by the Protection of Wildlife Advisory Board to evaluate the constant threats that are being made to the survival of the giraffes in Africa. After evaluating these threats, the task force must then decide whether it would be more humane to keep the giraffes in their natural habitats, where they will be able to maintain their quality of life, or to relocate them to zoos or wildlife sanctuaries, where they will be watched and protected. The task force must come to a decision, which they will then present to the Protection of Wildlife Advisory Board on February 1st, 2010.
Meet the Problem Documents:

Memorandum

To: Giraffe Task Force
From: Wildlife Protection Services
Date: 7/31/2018
Re: Survival of the giraffes in Africa

Dear Task Force,

It has been brought to our immediate attention that the giraffes in Africa are now in immediate danger. Unfortunately it is our fellow man that is bringing so much danger to the giraffes. Not only is man clearing the giraffe habitat of trees to make room for a growing human population; man is also responsible for poaching giraffes for their pelt, meat, and tail. This problem needs to be dealt with before it is too late.

We are asking you, as our giraffe task force, to decide which is more humane: to keep the giraffes in their natural habitats, where they can maintain their current quality of life, or to relocate them to zoos or wildlife sanctuaries where they can be watched and protected. When making your decision, please keep in mind that we would also like to prevent this problem from happening in the future.

We understand that this is going to take a lot of time and effort on your part; therefore we are willing to pay you at a rate of $50 per hour. As we mentioned earlier, this needs to be done in a timely manner, so we are asking for you to present your recommendations to us on February 1st, 2010 at 10a.m.

Thank you in advance,

Wildlife Protection Services
STATUS: Vulnerable.

DESCRIPTION:

Giraffes are one of the world's tallest mammals. They are well known for their long necks, long legs, and spotted patterns. Giraffes have small "horns" or knobs on top of their heads that grow to be about five inches long. These knobs are used to protect the head in fights.

SIZE:

Male giraffes are larger than females. Males weigh between 2,400 and 3,000 pounds and stand up to 19 feet tall! Female giraffes weigh between 1,600 and 2,600 pounds and grow to be 16 feet tall.

POPULATION:

Giraffe populations are relatively stable.

LIFESPAN:

Healthy giraffes live about 25 years in the wild.

RANGE:

Giraffes can be found in central, eastern and southern Africa.

HABITAT:

Giraffes live in the savannas of Africa, where they roam freely among the tall trees, arid land, dense forests and open plains.

FOOD:

Their long necks help giraffes eat leaves from tall trees, typically acacia trees. If they need to, giraffes can go for several days without water. Instead of drinking, giraffes stay hydrated by the moisture from leaves.

BEHAVIOR:

Giraffes are non-territorial, social animals. They travel in large herds that are not organized in any way. Herds may consist of any combination of sexes or ages.

OFFSPRING:

Female giraffes typically give birth to one calf after a fifteen-month gestation period. During the first week of its life, the mother carefully guards her calf. Young giraffes are very vulnerable and cannot defend themselves. While mothers feed, the young are kept in small nursery groups.

THREATS:

Giraffes are hunted for their meat, coat and tails. The tail is prized for good luck bracelets, fly whisks and string for sewing beads. The coat is used for shield coverings. Habitat destruction and fragmentation are also threats to giraffe populations.

PROTECTION:
Problem Statement:
How can we, as the Giraffe Task Force, decide whether it is more humane to keep the giraffes in their natural environment or remove them to a wildlife sanctuary or zoo in such a way that:

- We have a decision by February 1st, 2010 at 10a.m.
- We keep the giraffes best interest in mind
- We make sure that our decision can safely be carried out
- We try to prevent this problem from happening in the future

Know/Need to Know Sample Board

Know Board:
21. Must have a decision by February 1st, 2010 at 10a.m.
22. Giraffes in Africa are in immediate danger.
23. Man is responsible for bringing danger to the giraffes.
24. Man is clearing the giraffe’s habitat of trees to make room for the human population.
25. Men are poaching giraffes for their pelt, meat, and tail.
26. Must decide whether it is more humane to keep the giraffes in their natural environment or remove them to a wildlife sanctuary or zoo.
27. Giraffe populations are relatively stable.
28. Healthy giraffes live to be about 25 years in the wild.
29. In Africa, giraffes roam freely among tall trees, arid land, dense forests and open plains.
30. Giraffes eat leaves from small trees.

Need to Know Board:
21. What is the giraffe population in Africa?
22. How many giraffes are being poached in Africa every year?
23. How many giraffes die due to habitat destruction in Africa every year?
24. What is a giraffe’s life expectancy in captivity?
25. Can a Wildlife Preserve or Zoo provide a big enough area for giraffes to roam?
26. What are the laws against poaching giraffes in Africa?
27. How can giraffes be transported to a Zoo or Wildlife Preserve?
28. Is it safe to transport giraffes?
29. Do giraffes behave differently in captivity?
30. What type of food would be available to giraffes in captivity?

Resources
17. http://www.zoo.org/animal-facts/giraffe
22. DVD – “Tall Blondes” (http://www.shopthirteen.org/product/show/29523)
Capstone Performance Description

The capstone performance for this problem will contain 2 parts: each student will write a one page persuasive essay and the also give a performance as a group. Both parts of the problem will be graded using one rubric.

In the persuasive essay students will be take on the role of a member of the Giraffe Task Force, who have been asked to decide whether it is more humane to keep the giraffes in their current habitat or to move them to captivity. The students will describe both of these solutions within their essay and then persuade their audience as to which solution they feel is the most humane, using at least 4 arguments to support their decision.

As a team of four, the students will review all of their persuasive essays and using the essays, decide which one seems to be the best solution. They may also take a few arguments from each essay and combine them to come up with the “best” solution.

In the oral presentation, one student will take on the role of the lead scientist and the other 3 students will be the research assistants. The group will present their solution to 3 parents who will act as the Wildlife Protection Services board members (see room arrangement below). The lead scientist will present the decision that the group has come up to, followed by 2 of the research assistants each stating 2 arguments or justifications for their decision, and concluding with the third research assistant summarizing the solution and justifications. After the presentation has been made the Wildlife Protection Services board members will ask a few questions about how the team members came to their decision (questions will be given to the board members by the teacher, prior to the presentations).

Student autonomy is incorporated into this capstone performance by allowing the students to choose their roles (lead scientists, research assistants), and also by allowing the students to decide which is the “best” solution to the problem by reading all of the persuasive essays. Meta-cognition is encouraged in this presentation by requiring the students to complete a questionnaire regarding their performance as a member or their group after the presentation is complete.
Room Arrangement

Giraffe Task Force

Wildlife Protection Service Board Members

Students
<table>
<thead>
<tr>
<th>Required Components</th>
<th>Superior 50 Points</th>
<th>Adequate 40 Points</th>
<th>Unacceptable 30 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The persuasive essay contains at least 1 fact about giraffes from ALL of the areas listed below:</td>
<td>The persuasive essay contains at least 1 fact about giraffes from 4-5 of the areas listed below:</td>
<td>The persuasive essay contains at least 1 fact about giraffes from 3 or less of the areas listed below:</td>
</tr>
<tr>
<td></td>
<td>• Physical Characteristics</td>
<td>• Physical Characteristics</td>
<td>• Physical Characteristics</td>
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<tr>
<td></td>
<td>• Life Cycle</td>
<td>• Life Cycle</td>
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<td></td>
<td>• Behavior in the wild</td>
<td>• Behavior in the wild</td>
<td>• Behavior in the wild</td>
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<td></td>
<td>• Behavior in captivity</td>
<td>• Behavior in captivity</td>
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<tr>
<td></td>
<td>• Environmental characteristics in captivity</td>
<td>• Environmental characteristics in captivity</td>
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<td>• Environmental characteristics in the wild</td>
<td>• Environmental characteristics in the wild</td>
<td>• Environmental characteristics in the wild</td>
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</table>

<table>
<thead>
<tr>
<th>Accuracy of Content</th>
<th>30 Points</th>
<th>20 Points</th>
<th>10 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The science information written in the persuasive essay and stated in the oral presentation is 100% accurate</td>
<td>The science information written in the persuasive essay and stated in the oral presentation are accurate at least 90% of the time</td>
<td>The science information written in the persuasive essay and stated in the oral presentation are incorrect more than 10% of the time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization of Persuasive Essay</th>
<th>20 Points</th>
<th>15 Points</th>
<th>10 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persuasive Essay contains ALL of the 4 following components:</td>
<td>Persuasive Essay contains 3 out of the 4 following components:</td>
<td>Persuasive Essay contains 2 or less of the following 4 components:</td>
</tr>
<tr>
<td></td>
<td>• Introduction</td>
<td>• Introduction</td>
<td>• Introduction</td>
</tr>
<tr>
<td></td>
<td>• Controlling Idea (solution)</td>
<td>• Controlling Idea (solution)</td>
<td>• Controlling Idea (solution)</td>
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<tr>
<td></td>
<td>• 4 Supporting Arguments</td>
<td>• 4 Supporting Arguments</td>
<td>• 4 Supporting Arguments</td>
</tr>
<tr>
<td>Quality of Oral Presentation</td>
<td>Statement</td>
<td>• Conclusion Statement</td>
<td>• Conclusion statement</td>
</tr>
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<tr>
<td></td>
<td><strong>20 Points</strong></td>
<td>Maintains eye contact with the audience at least 90% of the time, speaks loud enough for ALL audience members to hear at least 90% of the time, and states their assigned part to the board members (i.e., “I am presenting…”) groups best solution, 2 justifications, or conclusion)</td>
<td><strong>15 Points</strong></td>
</tr>
</tbody>
</table>

| Mechanics of Persuasive Essay | **10 Points** | Persuasive Essay contains no grammatical errors, such as capitalization, verb tense, punctuation, subject / very agreement | **7 Points** | Persuasive Essay contains 2-3 grammatical errors | **5 Points** | Persuasive Essay contains more than 3 grammatical errors |

**Scoring Guide**

A = 115-130  
B = 100-114  
C = 88-99  
D = 75-87  
F = 0-74
Two Alternative Solutions and “Best” Solution Analysis

Teacher: Brie Boulanger
Title: Aiding in the survival of Giraffes in Africa
Primary Subject Area: Science
Outside Subject Area: Language Arts
Class and Level: Science – Regular Ed
Grade Level: 5th grade

Primary Sunshine State Standards:
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LO#1: After watching the video “Tall Blondes”, about the survival of giraffes in Africa, working in groups, students will create a chart with one column including characteristics of a giraffes environment and the other column including characteristics of a giraffe that allow them to adapt to that particular environmental characteristic, with at least 80% accuracy. Analysis
SC.5.L.17.1: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.

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Evaluation

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LA.5.4.3.1: The student will write persuasive text (e.g., essay, written communication) that establish and develop a controlling idea and supportive arguments for the validity of the proposed idea with detailed evidence.

LO#3: After reading the meet the problem document and using the assignments created above, the students will work in groups to write a persuasive essay over whether they believe the giraffes would be better off living in their current environment, which is currently a danger to their survival, or if they should be moved into captivity such as a zoo or wildlife sanctuary, scoring at least a 23 on the rubric. Synthesis

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**Student Roles and Problem Situation:**

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Meet the Problem Documents:

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From: Wildlife Protection Services
Date: 7/31/2018
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Thank you in advance,

Wildlife Protection Services
STATUS:
Vulnerable.

DESCRIPTION:
Giraffes are one of the world's tallest mammals. They are well known for their long necks, long legs, and spotted patterns. Giraffes have small "horns" or knobs on top of their heads that grow to be about five inches long. These knobs are used to protect the head in fights.

SIZE:
Male giraffes are larger than females. Males weigh between 2,400 and 3,000 pounds and stand up to 19 feet tall! Female giraffes weigh between 1,600 and 2,600 pounds and grow to be 16 feet tall.

POPULATION:
Giraffe populations are relatively stable.

LIFESPAN:
Healthy giraffes live about 25 years in the wild.

RANGE:
Giraffes can be found in central, eastern and southern Africa.

HABITAT:
Giraffes live in the savannas of Africa, where they roam freely among the tall trees, arid land, dense forests and open plains.

FOOD:
Their long necks help giraffes eat leaves from tall trees, typically acacia trees. If they need to, giraffes can go for several days without water. Instead of drinking, giraffes stay hydrated by the moisture from leaves.

BEHAVIOR:
Giraffes are non-territorial, social animals. They travel in large herds that are not organized in any way. Herds may consist of any combination of sexes or ages.

OFFSPRING:
Female giraffes typically give birth to one calf after a fifteen-month gestation period. During the first week of its life, the mother carefully guards her calf. Young giraffes are very vulnerable and cannot defend themselves. While mothers feed, the young are kept in small nursery groups.

THREATS:
Giraffes are hunted for their meat, coat and tails. The tail is prized for good luck bracelets, fly whisks and string for sewing beads. The coat is used for shield coverings. Habitat destruction and fragmentation are also threats to giraffe populations.

PROTECTION:
Problem Statement:
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Know/Need to Know Sample Board

Know Board:
31. Must have a decision by February 1st, 2010 at 10a.m.
32. Giraffes in Africa are in immediate danger.
33. Man is responsible for bringing danger to the giraffes.
34. Man is clearing the giraffe’s habitat of trees to make room for the human population.
35. Men are poaching giraffes for their pelt, meat, and tail.
36. Must decide whether it is more humane to keep the giraffes in their natural environment or remove them to a wildlife sanctuary or zoo.
37. Giraffe populations are relatively stable.
38. Healthy giraffes live to be about 25 years in the wild.
40. Giraffes eat leaves from small trees.

Need to Know Board:
31. What is the giraffe population in Africa?
32. How many giraffes are being poached in Africa every year?
33. How many giraffes die due to habitat destruction in Africa every year?
34. What is a giraffe’s life expectancy in captivity?
35. Can a Wildlife Preserve or Zoo provide a big enough area for giraffes to roam?
36. What are the laws against poaching giraffes in Africa?
37. How can giraffes be transported to a Zoo or Wildlife Preserve?
38. Is it safe to transport giraffes?
39. Do giraffes behave differently in captivity?
40. What type of food would be available to giraffes in captivity?

Resources
30. DVD – “Tall Blondes” (http://www.shopthirteen.org/product/show/29523)
Capstone Performance Description

The capstone performance for this problem will contain 2 parts: each student will write a one page persuasive essay and the also give a performance as a group. Both parts of the problem will be graded using one rubric.

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Two Alternatives and “Best” Solution

Solution #1

The Giraffe Task Force will recommend that the Wildlife Protection Services keep the giraffes in their natural habitat in Africa. The Task Force will state their case by giving information about the giraffe’s current habitat, such as: diet, life span, mating habits and try to convince the Wildlife Protection Services that these things would drastically change in captivity, providing a lesser quality of life for the giraffes. They will also argue that the transportation of the giraffes could put them in danger. Because the preventing this problem in the future is a concern to the Wildlife Protection Services, the Task Force would argue that protecting the giraffes from poachers would take a lot of time and money and may not be feasible.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giraffes will remain in their current habitat</td>
<td>More giraffes may end up dying</td>
</tr>
<tr>
<td>Not having to remove the giraffes from their current habitat will cost a lot less money to the Wildlife Protection Services</td>
<td>If more giraffes end up in danger an intervention at that point could end up costing even more than if they intervened at this point</td>
</tr>
<tr>
<td>The giraffes mating will not be interrupted</td>
<td>More giraffe population could put the</td>
</tr>
</tbody>
</table>
The giraffes will have a better quality of life in the comfort of the only environment they have ever known. Their quality of life may be better, but their lifespan will be shortened in the wild.  

**Consequences**

The giraffes will remain in the current danger that they are being put in by man. The Wildlife Protection Services would also run the risk that this problem will continue and grow to be a much bigger problem with more giraffes being put in danger and eventually run the risk of endangerment.

**Solution #2**

The Giraffe Task Force will recommend that the Wildlife Protection Services remove the giraffes from their current environment and place them in a zoo or wildlife sanctuary. The task force will demonstrate the current quality of life of the giraffes that are in captivity, providing the Wildlife Protection Services with information about the diet they will be fed, the lifespan of the giraffes in captivity and their mating habits in captivity. The Task Force will also stress the fact that moving the giraffes into captivity is the best way to ensure their safety from poachers and will prevent this problem from worsening in the future.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving the giraffes into captivity will keep them safe from poachers</td>
<td>Removing the giraffes from Africa may cause the poachers to target another animal in the wild</td>
</tr>
<tr>
<td>The giraffes will get the best care possible in captivity with access to animal scientists and doctors</td>
<td>Moving the giraffes into an environment that they are not used to could jeopardize their health</td>
</tr>
<tr>
<td>Mating of the giraffes could be controlled, in order to not over populate the species</td>
<td>Interrupting the normal life cycle of a giraffe could lead to other problems that can not be controlled</td>
</tr>
<tr>
<td>Removing the giraffes from their current habitat would improve their quality of life</td>
<td>Their quality of life may be better, but their lifespan will be shortened in the wild</td>
</tr>
</tbody>
</table>

**Justification**

The best solution for the Giraffe Task Force to recommend to the Wildlife Protection Services would be to keep the giraffes in their current habitat in Africa. According to current research, giraffe populations are relatively stable and not in danger of becoming extinct. It seems as though immediate attention is not needed to protect the giraffes. Also, the current environment that the giraffes live in would be extremely hard to
duplicate in captivity. They live in the savannas of Africa, where they are able to roam freely among the tall trees, dense forests and open plains. Putting them into an enclosed environment where they are not able to roam as they are in the wild would make for a lesser quality of life. Giraffes mating patterns also change drastically in captivity. They tend to reach sexual maturity much earlier at the age of 3 or 4, where as in the wild they reach sexual maturity at the age of 6 or 7. This means that by placing giraffes in captivity we run the risk of overpopulation, which creates another problem in itself. Advocates of placing giraffes in captivity will argue that the life span of giraffes is greatly increased in captivity. This is true, as a giraffe in captivity lives up to 25 years, where a giraffe in the wild lives to be about 15 years old. Then again, by keeping the giraffes in captivity, they live about 10 years longer, this leads to the problem of overpopulation. Interrupting the natural life cycle of giraffes in the wild puts them at a much greater risk than just letting nature take its course.
Debriefing Plan and Coaching Questions

The students will work as the Giraffe Task Force in groups of 4. One student will act as the Lead Scientist and the other 3 students will be the Research Assistants. Each group will come up to the front of the class and present their solution to the Wildlife Protection Services board members, who will consist of 3 parents who have volunteered their time to this project, and also to the rest of the teams in the classroom. Each team will listen to all of the presentation and the teacher will take notes on the main points of each team’s presentation.

The following day, the students will gather into their teams and the teacher will pass out a sheet to all of the teams highlighting the main points of each team’s presentation. The teams will then choose which solution they feel was the “best” possible solution, and identify at least 2 strengths of that solution. They will also identify at least 1 weakness of one of the other presentations given. After this is completed, the teacher will go around the room and have 1 student from each group tell the rest of the class which team they chose as having the “best” solution and state the 2 strengths of that solution, and then also list 1 weakness of another team’s solution. When all of the teams have stated their “best” solution, the teacher will tally which solution received the most votes, which will then be considered the “best” solution to the problem. In the case that there is a tie between 2 solutions, a class discussion will ensue about the possibility of combining the 2 solutions to create 1 “best” solution.

Five Essential Concepts

The “best” solution must address all of the following:

1. Physical characteristics of a giraffe that will allow them to live in the environment chosen.
2. How the safety of the giraffes will be considered.
3. How will this solution prevent this problem from happening in the future?
4. How the life cycle of the giraffe will be affected.
5. How the behavior of the giraffes will be affected.

Coaching questions will be asked to the team member’s throughout the lesson plan in order to ensure that all of these 5 topics are being addressed in some way (See Coaching Questions below).

Coaching Questions

C – Cognitive
M – Meta-Cognitive
E – Epistemic
Meet the Problem:
C – What are the current threats to the giraffes?
M – Do you understand the issues that the giraffes in Africa are facing?
E – Do you think that this is a problem that can be easily solved?

Know / Need to Know Board:
C – Where can we find information about giraffes in captivity and giraffes in the wild?
M – What information will be the most helpful to us in coming up with our solution?
E – Why will that information be helpful?

Problem Statement:
C – What is the deadline that you are working towards?
M – Do you think that preventing this problem in the future is important?
E – How would the consideration of the giraffe’s safety play a role in the problem?

Information Gathering and Sharing:
C – What are giraffe’s physical characteristics?
C – What is the life cycle of a giraffe?
C – What are the behaviors that giraffes exhibit in the wild?
M – Now that you know this information, would a giraffe have the best quality of life in the wild or in captivity?
E – Why are these things important to a giraffe’s survival?

Generating Possible Solutions:
C – Will this solution help in solving the problems that giraffes are facing?
M – What information did you take into consideration when coming up with your solution?
E – Why would someone disagree with your solution?