Teaching social skills through environmental education

Jacqueline Marie Lacey

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TEACHING SOCIAL SKILLS THROUGH
ENVIRONMENTAL EDUCATION

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Environmental Option

by
Jacqueline Marie Lacey
June 2000
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ENVIRONMENTAL EDUCATION

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ABSTRACT

This project was designed to address the need for a curriculum that links environmental education and social skills. All of the social skills units were created to improve the students' understanding of social skills and important environmental concepts. Through hands-on instruction students can apply learned social values to the environment, increasing their knowledge of values and environmental concepts.

By using an environmental hero as the connecting point between the social skill and the environment, lessons were created to show implementation of social skills in the lives of people working with the environment. The hero's background is explored in each lesson in an attempt to show a correlation between social skills and real life situations. In this way students can see the relevance of learning social skills that can be applied to every day living.

Theory surrounding values acquisition and the constructivist approach to teaching were studied by this author. The theory of constructivist learning was applied to the social skill units in an attempt to create a
holistic approach to teaching in which students take an active role in learning.
ACKNOWLEDGMENTS

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INTRODUCTION

The purpose of this project is to show how social values and ethics can be taught through environmental education. Using well-known environmentalists and conservationists as models, this unit describes the reasons why teaching values is important and how environmental education can integrate science concepts with social skills. By teaching environmental education and social values lessons through a constructivist approach to teaching, the learners gain knowledge and experience through hands-on learning, role-playing, and as participants in classroom discussions.

Values have become an important part of education in recent years. With the growing changes in family structure coupled with higher crime rates, schools have taken on the responsibility of teaching students values and ethics. Hernandez's (1997) research concluded that since 1990 "about two-thirds [of children] live with divorced or separated mothers and about one-third [of children] live with never-married mothers." More children spend time without parental supervision and quality time spent with the family has been reduced. Children, in some cases, may
not be receiving the kind of moral training that once occurred in the home.

In addition, our society is faced with tremendous growth in adolescent crime. Children are not taking the time to think about the repercussions of their actions; they are not differentiating between right and wrong. Although some crimes, such as robbery arrests, and car theft have seen a decline since 1994, statistics show crimes including killings by teens as doubling in the last 15 years (Cannon, 1999).

Furthermore, with public attention drawn to environmental issues such as global warming, pollution, and loss of natural resources, educating youngsters about the environment has become a topic of concern for educators. Coupled with the fact that children are coming to school without the basic skills, including social skills, they need to succeed in school, education has had to go beyond the traditional training in core subjects like mathematics, reading and writing. By using environmental education as a tool for teaching values, educators are able to show children how to apply social values on a personal level, such as respecting others, as well as a more global level, including teaching respect for all living things.
Why should we teach values and ethics to children?

"We should teach values to children because it is the most significant and effective thing we can do for their happiness" (Eyre & Eyre, 1993, p. 7). Having a good moral upbringing means that you know right from wrong, that you are concerned with the effects of your actions, and that you are aware of societal laws, both written and implied. Having values can help you lead a productive life in a society moving into the twenty-first century. As Eyre & Eyre (1993, p. 7) stated, "A true and universally acceptable "value" is one that produces behavior that is beneficial both to the practitioner and to those on whom it is practiced. It is something that helps or something that prevents hurt."

By presenting environmental heroes in conjunction with social values, environmental education can be the link between regular teaching and the teaching of social skills. Joseph Campbell (in Knapp, 1993, p. 2) wrote, "A hero is someone who has given his or her life to something bigger than oneself." Our society has always had a need for heroes, for those people who perform amazing feats for the world. Their contributions may be physical, such as setting new world records, or social, like helping the
homeless. They are people we look up to, admire, and after whom we model our own behavior. "By examining the underlying values held by the people whom we admire, we can help students develop and refine their environmental ethics" (Bailey in Knapp, 1993, p. 4), as well as their social ethics. Heroes provide teachers with examples of hard work and perseverance with which they can use to educate children on values. Environmental heroes apply these same social skills to the environment, thus linking the two subjects. By teaching values through environmental education, students have the opportunity to make ethical choices that will benefit the environment as well as their own lives.
LITERATURE REVIEW

Social values affect societies on many levels. In industry, acquired social values are used to get people to work on time, to promote the use of proper work ethics, and to decrease worker theft. In the community, social values promote responsible behavior, mutual respect, and common courtesy for all community members. And in the school setting these values encourage acceptance of diversity, responsible behavior, and cooperative learning.

According to Linda and Richard Eyre (1993, p. 15), values are "the standards of our actions and the attitude of our hearts and minds that shape who we are, how we live, and how we treat other people." Another definition for values came from Barman, Rusch, and Cooney (1981, p. 9): "A value is a collective term for what a person decides is good or bad." Values encompass such topics as responsible behavior, perseverance, and diversity. Values help raise active and responsible members of our society, and the current lack of values among societal members must be addressed if our society is to continue to flourish.

Although it has traditionally been the sole responsibility of the family to educate children concerning values and ethics, the home environment may not necessarily
be the suitable environment in which to teach these skills. Baumrind suggested that "absence from the home of a caring, monitoring adult...loss of traditional values that would counter youthful anomie; and a widening gap between biological and psychological maturity," lead to an environment today that is simply not good enough for most young people (1993, p. 1302).

This is not to say that parents no longer influence their children. On the contrary, "The family was and is the most important influence on a person's value system" (Barman, et al., 1981, p. 2). But because of the high rate of divorce, separation, and the fact that families tend to spend less time together, the family's influence on each individual's value system has decreased in some cases (Barman, et al., 1981). Hernandez (1997, p. 152) reported that "20% of children live with only their mother, occurring primarily due to the high rate of divorce and out-of-wedlock births." Eyre and Eyre theorized that children will learn certain values and belief systems with or without their parents' help: "They learn them from their friends, partly from television, but most from their family. If their parents avoid educating them regarding values, they'll learn primarily that values aren't
important" (1993, p. 22). This means that someone must take the time and effort to educate children on the importance of social values.

School officials have recognized that children are coming to school ill-prepared for the academic setting. For nearly 20 years, teachers have pointed out that a "lack of prerequisite skills (including social skills) as the main reason for poor early school performance" (Brigman, Lane, Switzer, Lane, & Lawrence, 1999, p. 324). Without the social skills required for success, students may face failure at both the academic and societal levels.

Inadvertently, communities, including schools, have taken on the job of teaching values and ethics to our children. Formal education has become a tool for which to teach many topics outside of the three R's: reading, writing and arithmetic. According to Hungerford and Volk (1990, p. 8), "The ultimate aim of education is shaping human behavior. Societies throughout the world establish educational systems in order to develop citizens who will behave in desirable ways." As Barman, et al. concluded, "Schools also have an impact on the value development of our students. These institutions have established rules
that tell students what the administration considers to be proper behavior" (1981, p. 2).

With education focusing on impacting social values development, social values should be taught across the school curriculum. Environmental education can be integrated into the regular education program and tied to social values education as well. "Environmental Education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve those problems, and motivated to work toward their solution" (Bill Stapp in Disinger, 1997, p. 35). In accordance with the California Department of Education (1990), environmental education may be useful for teaching values to students under the earth sciences portion of California's Science Framework for Grades Kindergarten through Twelfth grade. Within this section lay many examples of how values education fit into the teaching of environmental education. One example is found in Section B-4: "What are the responsibilities of humans towards natural resources?" (1990, p. 97). As students understand the value of natural resources, they also learn responsibility. Another example is evident as students study ecosystems. "The study of ecosystems has a
dual purpose: (1) to achieve a basic understanding of natural ecosystems and how they work; and (2) to apply this understanding to making practical and ethical decisions about ecosystem" (1990, p. 136). Therefore, children foster a relationship with their environment, while becoming productive citizens.

Historical Perspectives of Values Acquisition

Although the family has been the primary influence on the child's acquisition of social values, there are various views of how children actually learn these values. Kohlberg held that a person's moral development was a sequential process. His research indicated that "people in all cultures progress through the same sequence" (Barman, et al., 1981, p. 10). The steps in Kohlberg's model consist of three levels: preconventional, conventional, and postconventional. Each level contains two stages at which a person may be at one level and revert back to a lower stage or level in certain instances. Kohlberg gave no age recommendations for his levels, but stated that a person must achieve a level of moral development before advancing to the next level. An example of the preconventional level in its stage 1, is the avoidance of punishment: "A child
puts his toys away so he may go outside to play with his friends" (Barman, et al., 1981, p. 10). Children experience levels of moral development in that they may be able to avoid punishment. For example, knowing that lying may result in punishment often times keeps children from lying.

Kohlberg, also argued that in conjunction with values education, the school setting must provide a suitable learning environment: "The aim of developmental moral education has to be a change in the life of the school as well as in the development of the individual student...and how the students experiences the life of the classroom and school, will have a shaping effect on what they learn from what the teacher teaches" (in DeVries & Zan, 1994, p. 283).

Immanuel Kant discussed ways in which people develop values. According to Kant, to be moral "one must have the disposition to do what is right because it is right at all times, whatever the temptations to do otherwise" (in Frankena, 1965, p. 94). Kant did not mean for humans to deny their every desire, but to have a strong enough will that it is always functioning and distinguishing right from wrong.
Kant spent much of his time with moral education. His positive moral education included having a child "learning to act according to maxims or rules the reasonableness of which he can see for himself" (in Frankena, 1965, p. 123). These rules are universal and can be applied to any situation. This positive moral education includes practice and parental and teacher involvement. By practicing moral skills children acquire first-hand experience of the importance of a skill and how to properly use it.

Kant stressed that through practice and having sense to do what is right at all time, children form good character. By "teaching and learning what our duties are, and fostering in us the dispositions to do our duties from a sense of duty" (in Frankena, 1965, p. 123), we may become moral citizens. A strong moral character helps children to recognize right from wrong, accept responsibility, and show courtesy to others.

A third historical perspective on values acquisition, called "consequence ethics," was advocated by philosophical thinkers as John Stuart Mill and Jeremy Betham: "Pain and pleasure were the primary motivating factors of human beings and, therefore, a kind of 'moral calculus' could be derived" (in Barman, et al., 1981, p.
In other words, people can apply value to their acts according to its goodness or badness. This teaches them to apply cause and effect relationships to their actions, therefore weighing the outcomes before they act.

Each philosophical perspective views values acquisition slightly differently. The underlying message from all three is that values must be taught and practiced in order to raise a society of moral citizens. Kant concluded that "education in all countries is to promote human excellence" (in Frankena, 1965, p. 102).

**Constructivist Teaching**

In an effort to teach and practice social values in hopes of raising moral citizens, values education may be taught through a constructivist approach to teaching. "Constructivism, a philosophy of teaching that challenges the philosophy of objectivism, was described by Ernst vonGlaserfeld, and many educators have worked to apply constructivist theories to classroom instruction, especially in the fields of mathematics and science" (Klein & Merritt, 1994, p. 14). According to Klein and Merritt (1994, p. 16), a lesson that focuses on constructivist theory has four main components: "(a) introduction of a real-life problem introduced by the students or teacher for
the students to resolve, (b) student-centered instruction facilitated by the teacher, (c) productive group interaction during the learning process, and (d) authentic assessment and demonstration of student progress." By giving students a real-life problem to solve they are assuming ownership of their learning. They are also discovering how to make value judgements on their own. Small group interaction enables them to discuss their own points of view with others and to learn that a difference of opinion is acceptable. Constructivism in classroom teaching lends itself to students being actively engaged in classroom learning tasks, including experimentation, investigation, observation, and discussion.

According to DeVries and Zan (1994, p. 3), "the most desirable school atmosphere is one that optimally promotes the child's development-social, moral and affective, as well as intellectual." The socio-moral atmosphere is the first principle of constructivist educators. Because "all interactions between and among children and their caregivers/educators have an impact on children's social and moral experience and development" (p. 1), it becomes imperative that the teacher provide a classroom climate that is friendly and cooperative and conducive to a
community-like setting. Children must feel they have some ownership in their classroom. They need to make choices and have conflicts in order to more clearly see that others have choices as well. "With teacher assistance in conflicts, children's interpersonal understanding evolves from impulsive, self-centered actions to negotiations that respect the right and feelings of others" (p. 18).

In addition to classroom climate considerations, the role of the teacher plays an important part in constructivist education. The teacher should be a guide or facilitator of hands-on activities that help students reason and make judgements, and, as necessary, help students explore and invent new ways of reasoning (DeVries & Zan, 1994). This also includes modeling appropriate behavior. Teachers may model equity or fairness in order for students to see appropriate behavior in action. By viewing the teacher's behavior regarding a social value, students have a positive example by which to mold their own behavior.

Another aspect of the constructivist teacher's job is using effective communication in the classroom. "Teachers continually communicate social and moral messages as they moralize to children about rules and behavior and as they
provide sanctions for children's behavior" (DeVries & Zan, 1994, p. 25). With continual communication students feel free to question and dialogue with teachers. This helps to create the feel of a community and ownership in the classroom.

The ultimate aim for constructivist educators is to raise awareness of the feelings of others. This is best achieved when education meets the physiological, emotional, and intellectual needs of children, as well as their socio-moral needs (DeVries & Zan, 1994). Stimulating interest and presenting challenges keep children engaged and active in the learning process. DeVries and Zan concluded that "Specifically constructivist education: engages the child's interest; inspires active experimentation with all its necessary groping and error; fosters cooperation between adults and children among children themselves" (p. 62).

Interest is crucial to the constructivist approach. Piaget argued that interest is a key to actions by which children acquire knowledge, intelligence and morality (in DeVries & Zan, 1994). Without interest, children would not attempt to make sense out of experience, or learn to modify
ideas and values. Interest stimulates curiosity and a willingness to try new things (DeVries & Zan, 1994).

Experimentation also aids in constructivist teaching. A constructivist teacher promotes child experimentation in the classroom. DeVries and Zan (1994, p. 66) noted that "freedom to experiment with objects is an important part of the constructivist socio-moral atmosphere because it reflects the teacher's general attitude toward the child's interest and ways of knowing." Experimentation also allows children to observe and interact with objects in their physical world. It gives them the freedom to develop their own opinions about those objects and encourages expression of their opinions.

Additionally, cooperation is important to the socio-moral climate of the constructivist classroom. DeVries and Zan (1994, p. 69) referred to cooperation as the "relation to another's behavior, desires, feelings, ideas and other psychological states." Cooperation is important because it helps children to understand one another, and to develop an awareness of what is fair and just when relating to others. "It is important because it reflects respect for the equality of class members-equality in rights and responsibilities" (p. 70).
A constructivist approach to teaching includes ownership and empowerment variables as well. Hungerford and Volk (1990, p. 12) concluded that individuals who own the issue view it at a personal level:

It appears that, before individuals can engage in responsible citizenship behavior, they must understand the nature of the issue and its ecological and human implications. When individuals have an in-depth understanding of the issues, they appear more inclined to take on citizenship responsibility toward the issue.

Empowerment issues are shown once people have assumed ownership of the issue, and then feel as though they have the power to make changes and help resolve environmental issues (Hungerford & Volk, 1990). The same holds true for societal issues such as those concerning responsible behavior. Students are much more apt to become responsible if they can see the value, ownership and empowerment of possessing that value.

An example of a constructivist program is the Environment as the Integrating Context for Learning (EIC). EIC uses the concepts of ownership, hands-on learning, and problem solving to reinforce academic and environmental skills. EIC "breaks down the traditional barriers between disciplines; provides hands-on learning experience, often
through problem-solving and project based activities; adapts to individual students, and their unique skills and abilities; and develops knowledge, understanding, and appreciation for the environment, community, and natural surroundings" (Lieberman & Hoody, 1998, p. 7).

Research of 40 EIC schools indicated that not only did students in these programs out perform students in traditional programs on standardized tests, but 70% of educators at EIC schools noticed improved student behavior and decreased discipline problems (Lieberman & Hoody, 1998). In this type of program students learn to be responsible for their own behavior, learn to respect the rights and feelings of others, and can apply this knowledge to properly caring for the environment.

Constructivist education as a basis for implementing social values through environmental education provides teachers with a teaching model that includes interest, experimentation and hands-on learning, and cooperation. Use of constructivist-modeled lessons allows teachers to present an environmental issue and a social value, such as pollution and responsibility respectively, and teach a lesson that will build socio-moral skills as well as environmental awareness. Students learn to apply social
values to environmental topics, enhancing their relationships with others and the environment simultaneously.

The Use of Heroes/Role Models to Teach Social Values

In conjunction with a constructivist approach to teaching social values, teachers use of heroes or role models can strengthen the tie between environmental education and social values. Throughout time society has had a need for heroes. Kraehmer (1995, p. 4) concluded that "we need heroes, whether they be famous people or our next-door neighbor. They help us define ourselves and help us grow, as individuals and as a society."

The phenomenon of heroes is not new nor an isolated occurrence. Ask people young or old, male or female, and undoubtedly they have at some point had a hero. "Heroes provide a sense of wonderment, act as role models, inspire us, and perform extraordinary deeds" (Kraehmer, 1995, p. 10). The fact that heroes may act as role models or provide us with goals for ourselves shows their importance to American culture.

Heroes come in many forms and hold different occupations; they do not merely consist of movie or sport stars. "Non-celebrity heroes are everywhere but you have
to be on the lookout for them in everyday life...These everyday heroes are people who demonstrate such qualities as charity, compassion, and commitment" (Kraehmer, 1995, p. 4).

Heroes are important in our society because they help raise standards for how citizens should conduct themselves. Ralph Waldo Emerson "believed that the great men exist so that there may be greater men to come" (in Jennings, 1960, p. 85). There is a quality present in their character that sets them apart from the average citizen, a quality that people value in others. It is this quality that helps to make the person a hero and makes the average person want to imitate the hero's behavior. By holding high standards for our heroes, and by modeling these appropriate behaviors, we can expect to raise responsible and active members of society.

Heroes possess certain qualities that make them noticed by society. Such qualities may be responsibility, respect, integrity, and courage. Other more physical traits such as endurance, strength, or speed are also valued by some people. Whatever the quality, a hero should provide a moral example to people. A hero's deeds should be an example for which people may base their own actions.
As we study heroes, it is important that children are taught to keep these role models in perspective. Humans are not flawless and therefore are capable of making mistakes. Heroes are also hard-working individuals. With children, one must stress the effort put into an achievement as well as the achievement itself: "stressing these achievements to your child helps point out the end result, but also point out to them the process. Achievements are wonderful examples of hard work, perseverance, and goal setting" (Jennings, 1960, p. 153).

Using environmental heroes is a useful way to combine the concepts of environmental education and social values. Many of the heroic traits discussed previously pertain to the actions and lives of environmental heroes. For example, Aldo Leopold, an American naturalist and philosopher, practiced perseverance and used effort to help create laws to protect wildlife. George Washington Carver, a freed slave turned educator, used diversity in plant research to create new ways to protect farming soil. Jane Goodall, British ethologist, spent years observing chimpanzees in the wild. Her courageous efforts helped to create protections laws for the chimpanzees. By investigating the hard work and effort exerted by
environmental heroes, children will see how social values pertain not only to themselves, but to the world around them as well.

**Case Studies**

Studies have been conducted to test the validity of teaching environmental education and values in schools. Hungerford and Volk discussed Ramsey's three-year study of eighth graders who were introduced to material designed to instill environmentally responsible behavior in the students. The findings suggested that the students who had been involved in environmentally sensitive activities showed more environmentally responsible behaviors than those not included in the activities (1990). However, over time, the amount of responsible behavior declined, showing that continuing education is needed to continue desired behavior. Values education must also be developed over time through activities that teach sensitivity. Another study revealed similar findings in that over the course of time individuals became more environmentally sensitive by having continual contact with the outdoors. "In each of these studies, behavior changed positively as a consequence of instruction that focused on ownership and empowerment" (1990, p. 14).
Another study involved four and five year olds to evaluate the Ready to Learn (RTL) program. RTL integrates learning and social skills into the regular education curriculum using stories and strategies to teach listening comprehension skills, attending skills, and social skills (Brigman, et al., 1999). Researchers used ten randomly selected classes, five using RTL materials, and five classes using regular education curriculum for comparison. "The results of this study indicated that there was a significant and positive difference between children in classes using RTL curriculum, which focused on instruction and practice in attending, listening, and social skills, and comparison children" (p. 330). This research provides evidence that skills and behavior needed most to promote school success can be taught in the regular education classroom.

Research with older children and values education has shown the same rate of success. Peterson and Young (1999) conducted a study using seventh and eighth grade students and a program called Prevention Plus. The Prevention Plus program aimed at preventing and reducing anti-social behavior among at-risk children. Students received one classroom period of Prevention Plus training which included
direct teaching and modeling, praise, role-playing and feedback. Teachers demonstrated a desired behavior to students. Students then role-played the behavior and received feedback on their performance of the newly acquired skill.

The goal of this program and its research was to educate students in self-control and awareness of teacher expectations in settings other than the training session. Students needed to be able to take the newly acquired and practiced skills to other classrooms and apply them to the new learning environment. Findings revealed that 83% of the subjects were able to transfer skills to all of their remaining classes. Seven students had also gained ability in meeting teacher expectation without verbal or written review (Peterson & Young, 1999). This demonstrates that through proper training students are able to transfer social values learned in school to other unsupervised settings.

By using programs geared to teach and model social values to children, they are given the opportunity to learn skills they may not have received elsewhere. The environment provides a useful context for which to teach social values. Environmental education and social values
training provide children with the skills required to succeed in school and to help increase environmental sensitivity.

**Integrating Environmental Education and Social Values**

Educating children should be done within the context of the curriculum. Children learn best when the subject is interesting, hands-on, and integrated with other subject matter. Ballantyne and Packer (1996, p. 26) found that the teaching strategies introduced into the classroom should be interdependent. "The process by which learning occurs cannot meaningfully be divorced from the specific content of the subject area. In other words, teaching strategies must be considered as interdependent with conceptual content rather than as general strategies that are universally applicable." This interdependence helps students learn a skill while also learning how it applies to real-life situations. Because educational activities often mirror the values and beliefs held by society, social values should also be integrated into core subjects:

"Educational activities promoted by any society are intimately connected with what that society believes to be a valued form of life" (Pring, 1986, p. 181). If social values are taught within the context of other subject
areas, societal beliefs can be explained without making more work for the classroom teacher. This is important so that teachers and students will be motivated to teach and learn, respectively, those values that will help introduce healthy, responsible citizens into society.

For many years values education did not seem to be appropriate material for the science classroom. David Layton (1986, p. 158) reflected that, "Although science and values have been viewed as two unmixable things, the neutral position of science is often lost once real life situations are applied." In recent years educators have begun to intertwine values and science curriculum. By applying real life situations to science topics, students can get a feel for how their values can affect the outcomes of scientific processes. According to Tomlinson and Quinton (1986, p. 3), "Values education should exist across the curriculum. Values are present in art, for example, because art epitomizes social and cultural values." Art is a visual representation of the events occurring at any given time and the impact those events had on the artist. In the same manner, values can be present in science by showing students how science is related to their lives and how it can affect the ways in which they live.
By integrating science and values, environmental education becomes a useful tool for teaching social values. While environmental education is still considered a cutting edge topic in school, "now it is considered a tool for creating responsible citizens" (Rasmussen, 2000, p.1). Since humans are in constant interaction with their environment, education becomes more relevant when presented to students in an integrated way. Education needs to address society's growing concern about crime, drop-out rates, and environmental issues. Environmental education has changed in recent years to address these types of concerns: "The most significant change in environmental education has been an emphasis on citizenship, problem solving, and issues identification" (p. 1).

Through environmental education, educators not only help to increase environmental awareness, but help to raise responsible citizens. According to Disinger (1997, p. 35), "The bottom-line purpose of environmental education, in the view of its supporters and many of its practitioners, is the promotion of responsible individual and societal environmental behavior." Environmental education's concern for raising environmentally responsible citizens is evident in its focus also. The focuses include fostering a
cognizance of and the concern for the connectedness of societal and ecological issues, as well as providing learning opportunities that provide knowledge and skills, values and attitudes in ways to protect our environment. Environmental education also helps to change behavior patterns, or create new ones, towards the environment (Disinger, 1997). Because environmental education focuses on environmental issues and responsible citizenry, it should be used to teach other social values as well.

When teaching social values through environmental education, it is important to present learners with a factual basis, in addition to addressing values already possessed by children. "To address environmental knowledge without reference to the attitudes and values held by students will limit the extent to which knowledge is translated into action. Equally, to address environmental attitudes and values without providing an accurate and relevant knowledge base will limit the power and effectiveness with which attitudes/values are applied" (Ballantyne & Packer, 1996, p. 29). Environmental education lessons taught holistically incorporate both facts and values, promote environmental awareness, and help the learner develop responsible citizenship.
This link between environmental education and social values shows its importance in the classroom. Through a constructivist approach to teaching, teachers can devise lessons on environmental education topics and social values within the context of the regular education curriculum. An example of this integration came from Komachin Middle School in Lacey, Washington. When it opened, the administrators and educators wanted to instill a community-based theme throughout the school. Their "Building a Sustainable Community" focused on presenting environmental concepts through the regular education curriculum. All of the information revolved around the community's dependence on the salmon industry. "For example, in science, students visit three local ecosystems to test water quality, observe and sketch native species, and record human influences. In language arts, they study literature of social harmony, and they investigate how basic needs are met" (Rasmussen, 2000, p.). Students also participate in math and community service projects concentrating on salmon. Teaching in this way focuses on problem solving, changing environmental behavior, and creating responsible citizens.
Conclusion

The California Science Framework (1990, p. 19) for schools suggested that "education does not compel belief; the goal is to encourage understanding. Students do not have to accept everything that is taught in school. But they do need to understand the major strands of scientific thought because this thought is the backbone of our intellectual heritage and the basis for the construction of future knowledge." The literature reviewed has shown how integrating environmental education through the use of heroes and a constructivist approach to teaching can help students to understand environmental concepts while gaining the social values necessary for success in the world today.

Heroes act as role models for which people can model their own behavior. Environmental heroes show how developing social values apply to protecting and caring for the environment. By providing this information in a constructivist manner, using experimentation, role-playing, and interest, students learn valuable skills through the regular education curriculum.

Education needs to address common social values that students may not be receiving in the home. Since children "construct their morality out of daily life experiences"
(DeVries & Zan, 1994, p. 28), the education they receive at school should reflect the types of experiences that will raise citizens concerned with others and the environment. Environmental education can do both by presenting real-life situations that make students think about their own actions toward people and their surroundings. By connecting social values to environmental education, the educator provides a context for which skills can be applied.
DESIGN OF PROJECT

This project was developed in order to promote the learning of social skills in connection with environmental education. By researching information on character traits of environmental heroes and heroines, this author was able to assign a particular social skill to these heroes based on their life's achievements.

This work also included reading literature on each environmental hero or heroine. The majority of information on the heroes was obtained from reading Twenty-first Century Books' Earth Keepers series. Each book describes the life accomplishments of one environmental hero.

Social skill selection was based on the types of skills needed to succeed in school and in the community. Such skills include responsibility, respect, and accepting diversity. This author wrote a list of social skills and then read through the environmental heroes information. When it appeared evident that a particular social skill was intertwined into one of the hero's lives, the skill was chosen and lessons were written based around these findings.
IMPLICATIONS FOR EDUCATORS

The social skills units included in this project reflect important values students will need to become active citizens in their communities. All of the activities are focused towards raising student awareness of the need for certain social skills and how these skills can be applied to the environment. Using a constructivist approach, as discussed by this author, helps create lessons that fit a more holistic approach to teaching. By involving students in the planning and action parts of each lesson, they will assume ownership and have a more meaningful experience.

In order for the social skills units to be completed most effectively, teachers will need to receive training on the Project WILD (Western Regional Environmental Education Council, 1983), Project WILD Aquatic (Council for Environmental Education, 1992), and Project Learning Tree (American Forest Foundation, 1993) activity guides. These guides offer creative projects, games, and activities that fit with values training. Each guide focuses its attention on various aspects of the environment, and many of the activities can be directly linked to the social skill lessons.
By using these activities the teacher is able to connect a social skill to an aspect of the environment through creative lessons and projects.

The use of reflection is also consistent throughout the social skills units. According to Knapp (1992, p. 17), "The aim of reflection, simply put, is to promote meaningful experience." Students need time to think about the activity in which they have participated, how it applies to their lives, and why it is important. By reflecting upon an experience, students can develop their thoughts and feelings about a given subject. The ultimate goals of reflection are "new understandings or appreciations, commitments, the learning of meaningful and conceptually coherent information, or action (Knapp, p. 17, 1992).

Having the students keep a journal will provide a way for reflection. After each activity have students respond to teacher or student generated questions to bring about a more meaningful experience. The reflections process is important in helping students "become [aware, transform, analyze, recapture, relive, explore, or link] parts of an experience" (Knapp, 1992, p. 17). By keeping written
record, students are able to read, review, and revise their opinions, thoughts and feelings.
APPENDIX A

George Washington Carver

Accepting diversity is promoted throughout Appendix A

"Man is simply nature's agent or employee to assist her in her work."
Hero/Heroine Profile: George Washington Carver

Spring of 1865  George was born. He was the son of a slave, and was owned by Moses and Susan Carver. He lived in Diamond Grove, Missouri.

1865  When he was just a baby, George and his mom were kidnapped. Although the Carvers were able to locate George, they never found his mom. So George moved into the Carvers' cabin and they treated him like family.

1865- When he spent much of his free time outdoors. He loved to collect rocks, flowers, and other things. He even had a secret garden where he grew flowers. The discovery of his garden earned him the nickname of the "Plant Doctor."

1877  George tried to enroll in the local school, but was turned away because he was black. He left Diamond Grove to attend a school for black children in Neosho, Missouri.

1885  George applied to Highland College in Kansas, but was denied enrollment because of the color of his skin.

1890  He applied to Simpson College in Indianola, Iowa and was accepted. He was the only African American in the entire school! His favorite subject was art, but he studied botany, the study of plants, instead.

1891  George went on to Ames, Iowa where he entered Iowa State College of Agriculture and Mechanic Arts.

1892  George continued drawing for fun. He entered a painting called "Yucca and Cactus" in a statewide art contest, and won first prize. At school he began studying farming practices.
1894 George graduated from college. He became a teaching assistant at the college and ran the school's greenhouse. He also worked his master's degree in mycology, the study of fungi and plant diseases.

1896 With his master's degree in tow, George accepted a job at Alabama's Tuskegee Institute. He wanted to do something to help other African Americans who were still not being treated fairly in the south.

1896 George had many responsibilities at the school. He taught classes, landscaped the campus, took care of school animals and the school farm. Since he did not receive much money from the school, he searched the campus dump for useful items to use in his school laboratory.

1897 He experimented with organic fertilizers, crop rotation, and planting soil enriching crops in an effort to help local farmers. To prove his methods would work, he took an acre of poor farmland and planted legumes. He lost $2.40 the first year.

1897 George also began organizing monthly meetings with local farmers to help them with new farming techniques.

1903 By 1903, George's acre had earned $94.65! He was also writing articles about farming in hopes of educating the local farmers.

1904 Because of George's hard work, Tuskegee Institute began offering free winter classes on agriculture. He also began traveling to other towns to educate farmers.

1916 George became a member of the National Agricultural Society.
1918 George became the only African American member of the Royal Society for the Arts in Great Britain. He also became a consultant for the US Department of Agriculture.

1920's By the 1920's, George had become famous for his experiments with peanuts and sweet potatoes. He called it "creative chemistry." He created more than 280 products from peanuts, and 150 products from sweet potatoes.

1918 George became the only African American member of the Royal Society for the Arts in Great Britain. He also became a consultant for the US Department of Agriculture.

1921 He went to Washington, DC to discuss his research on peanuts and sweet potatoes with the House Ways and Means Committee. The committee found him so interesting that his allotted five minutes became "indefinite," meaning he could speak as long as he needed.

Late 1920's George was well-known and traveled around giving speeches about his work. He was admired by many people.

January 5, 1943 George Washington Carver died. He was buried at the Tuskegee Institute.

Lesson One: Introducing Diversity
Objective: Students will be introduced to the concept of diversity and play a game that notes the diversity of the students.

Time: 1 hour

Materials: Chart paper
Markers

Opening:

Begin by telling students that they will be learning about diversity and accepting others. Ask students to predict what diversity means, and then have a student use a dictionary to find its meaning.

Draw a T-chart on the chart paper to access students' prior knowledge of diversity. Use the following as an example:

<table>
<thead>
<tr>
<th>Diversity: difference, unlikeness.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOOKS LIKE</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SOUNDS LIKE</td>
</tr>
</tbody>
</table>

Ask students to describe what diversity looks like, or how they see students practicing and accepting diversity. Repeat for sounds like, what they think diversity sounds like.

Activity:

Take the class outside to play the game "Interest Circle."

Directions: With everyone in a large circle, encourage players to step forward one at a time into the circle and identify a unique interest, hobby, or event in their life. They then continue walking across the circle and assume a
place on the other side. If anyone else shares this "uncommon commonality," they too can walk across to the other side of the circle. If no one shares it, that individual receives a standing ovation.

-from Teaching Social Interaction Skills by Kerby, Mercier, Flanagan and Thompson, 1995

Follow-up:
Instruct students to write about their experience in their learning journal (see section on learning journals). They can respond to questions such as the following:
- What did I do?
- What did I learn?
- What do I think?
- What was my favorite part?
- What did I not understand?

Lesson Two: George Washington Carver
Objective: The students will review information about George Washington Carver and discover a relationship between diversity/acceptance and him.

Time: 1-2 hours

Materials: Duplicate Hero profile, (student pages 1-3)
Books on George Washington Carver, such as George Washington Carver: Nature's Trailblazer By T. Rogers (optional)
Paper
Pencils
Outside area

Opening:
Review lesson one concepts and the definition of diversity. Why is diversity an important concept to understand? How does accepting others benefit our own lives?

Introduce George Washington Carver. If possible, obtain an autobiography to read to the class. Hand out copies of the hero profile, read aloud, or display on an overhead projector. Discuss with students:
How does George fit into a study of diversity?
In what ways do you see diversity in his work with plants?
How did George help others?
What is diversity mean when we discuss plants and animals?
How can studying the diversity of plants and animals help humans?

Activity: Found Poem
Divide the class into groups of four or five.
Instruct students to go out onto the school grounds and find one natural object to observe. Each group member sits quietly and observes the same object. It may be a plant or animal; however, plants work best. As students are observing, they are to write down detailed descriptions of the object, using descriptive phrases, similes, and colorful adjectives. This will work better if they skip lines between descriptions. Allow about fifteen minutes for observation.
After students have gathered their information, they should share with their group, noticing the differences in observation of the same object. Back in the classroom, students cut each description into strips, choosing their favorite four descriptions to be included in the poem. When all are cut, groups put them into a pile and drop them onto the floor. The order in which the strips are picked up is the order of sentences in the poem. Each group writes out the poem and presents it the class. If desired, recopy poems to display in the room.

Follow-up:
Students will write in their learning journals about the experience.
What did I do?
What did I learn?
How does this relate to diversity and accepting others?
What was challenging or easy for me?

Extensions:

Project Learning Tree

"Environmental Exchange Box": This activity provides a good example for how living things differ in different regions. Allow four weeks for a "match." See Project Learning Tree for directions.

"Poet-Tree": Students observe nature and write poems. This activity examines each individual's differing view of nature as expressed through poetry.

"Picture This!": Students learn diversity concepts by looking at animals and plants from around the world.

Project WILD

"Color Crazy": Students examine wildlife and its variety of color.

Lesson Three: George Washington Carver and Diversity in Plants
Objective: For activity one, students will compare and contrast their lives with George Washington Carver's childhood. In activity two, students will plants three different plants in an attempt to chart the diverse growth in each plant.

Time: Two one-hour periods

Materials: Copy of a Venn Diagram for each student (see sample at end of lesson)
- Ziplock baggies
- Potting soil
- Lima bean seeds
- Small jars
- Toothpicks
- Small milk cartons (ask the cafeteria workers for some)
- Marigold seeds
- Sweet potatoes

Opening:
Review the concepts learned in lesson two on George Washington Carver. How was George's childhood similar to yours? How was it different? What do you think his classroom looked liked?

Activity One:
Instruct students to complete a Venn diagram comparing and contrasting their lives to George's childhood. Students may work individually or in pairs on this activity. Remind students that commonalties are written in the intersecting area. Allow ten minutes. Discuss as a group the similarities and differences.

Activity Two:
Have students look around the room at all of the other faces. Do any two students look alike? What differences do they see? Write answers on the board. Explain that being different is normal because no two people are alike. There are also noticeable differences in our natural world. What examples can they think of? (Examples may include deserts, mountains, plants and animal types, etc.) Tell students that they will be planting different types of
seeds in order to observe the differences in growth and type.

This activity will work in groups of three or individually. For the lima beans, give each student or group of students a ziplock baggie. Fill it half full of potting soil. Using a finger, students dig three holes half way into the soil, put a seed in each, and cover with soil. Sprinkle with water. Only water as the soil becomes dry. The baggies can be stapled, leaving one side open, to a bulletin board, or taped directly to a window. Students should be able to see roots and sprouts within a few days.

For the sweet potatoes, fill a jar half full of water. Instruct students to stick toothpicks into the potato so that it can be submerged half way into the water, and supported by the lip of the jar.

The marigold seeds will be planted in the milk cartons. Cut the top off of each container and rinse thoroughly. Fill container half full of soil. Poke small holes and drop a few seeds into each hole. Cover with soil and sprinkle with water. Place the carton and/or jars in school plastic trays for easier handling. If possible, place trays outside in the sun daily.

Each student will observe and record the growth and variations of the plants in their journals or on a growth chart. See example.

Follow-up:

For homework, instruct students to get an address of a family member or friend who lives in another region of the United States or in another country. You will use these in activity one of lesson four.

Have students respond to the activities in their learning journals.

What did you do?
How does this relate to diversity?
What do you expect to find out?

Extensions:
Project Learning Tree

"How Plants Grow": This activity explores how a plant's basic needs are met.

"Have Seeds Will Travel": This activity looks closely at seeds.

Project WILD

"What Bear Grows There?": This extends the idea of plant diversity to animals when students study three bear species.

Example of Venn Diagram

![Venn Diagram](image)
Lesson Four: Letters About Leaves

Objective: Using addresses of family or friends, the students will write a personal letter requesting a picture of a leaf from that region. Letters should demonstrate accurate letter writing skills.

Time: One hour period

Materials: Addresses
Paper/envelopes
Pencils
Stamps

Opening:
Review with students the similarities and differences they share with George Washington Carver. Remind them that noticing and accepting differences helps us accept others. Ask students what their favorite food is. Write the food on the board and ask if any other students like this food. Ask for other foods. What do they notice? (Acceptable answer: different people like the same things.)

Activity:
Instruct students to write a one-page letter to their family member or friend. Their letter should include:
-a description of their study on diversity and George Washington Carver
-why this study is important
-a request for a picture or photocopy of a leaf from the region in which the person lives

After students have written a draft of the letter, make sure to proof read, or peer edit, checking for proper form, correct punctuation, grammar, and spelling. Mail the letters and wait for responses.
NOTE: Do not request an actual leaf specimen because it may carry an insect not indigenous to your area.
Follow-up:
In their learning journals have students respond the activity.
What did they do?
What do they expect to find out?
Was the activity too challenging/easy?

Extensions:
If time allows, this may be the perfect time to go outside and observe your natural surroundings. An appropriate activity would be "The Camera." Divide students into pairs in which they will take turns being the photographer and the camera. The photographer's job is to guide the camera around the school grounds while the camera's eyes are closed. With his hands on the camera's shoulders, the photographer will instruct the camera by gently squeezing the camera's shoulders. The camera will quickly open his shutters (eyes) and take a picture of the object. Each photographer should take 2-3 pictures. Students then try to draw a detailed picture of the mental picture they have taken.

Project Learning Tree

"Habitat Pen Pals": Students study different habitats and write letters from one of the habitat's animals' perspectives.

Project WILD

"Graphananimal": Students identify life forms in different regions.
Lesson Five: Letters About Leaves Part Two

Objective: Using field guides and leaf books, the students will identify their leaf pictures and use them to make a classroom leaf scrapbook.

Time: One one-hour period, once the response letters have arrived.

Materials: Tree field guides books/leaf books
Construction Paper
Glue
Access to a laminating machine

Opening:
Before opening the letters, ask students what they expect to find inside. Open letters and examine the leaf pictures. If any students did not receive response letters and pictures, pair them up with other students. Using the information sheet, as well as the tree books and field guides, students should identify from what type of tree the leaf came. They should examine the leaf's size, shape, edges, color and stem.

Next, have each student or pairs of students complete a leaf page for the class book. Their pages should include the leaf picture, or a colored drawing of their own, the name of the tree, a description of the leaf, its native region, and the region from which the leaf came. Laminate each page and assemble into a book.

Mulberry Tree
The mulberry tree is native to_____.
The leaf is broad, dark green,
With squiggly edges. I received this from San Bernardino, California.

Follow-up:
Students respond in their learning journals.
What did I do?
How does this relate to diversity?
What do I think?
Extensions:

Project Learning Tree

"Looking at Leaves": This activity includes looking at more leaf samples as well as doing leaf art activities.

Project WILD

"Urban Nature Search": In this activity students learn that each habitat has different forms of life.
Lesson Six: "Planet of Plenty"

Objective: Students will investigate the diversity of plants and animals on a small plot of land and explain the value of a diversity of life forms in a particular ecosystem.

Time: Two one-hour periods

Materials: Paper and pencils
Clipboards
Field tools such as yarn, measuring tape, magnifying glasses, small containers, Tweezers, etc.

Opening:
Discuss with students how sometimes different plants grow in different areas, as was witnessed in their leaf samples. The idea of plant diversity can also be seen in George Washington Carver's work with uses for peanuts and sweet potatoes. Discuss some of the things we can do with peanuts and sweet potatoes. Now that students are aware of diverse plant life, extend this concept to animals. Are there differences in the types of animals that live in different regions? How does this relate to our study of diversity?

Activity:
Use Project Learning Tree's activity entitled "Planet of Plenty" on pages 24-26 of the guide. This activity encourages students to look closely at the various animal and plant life forms on Earth. As scientists from a different planet, they will need to describe all of the living things they observe in detail, as though they were seeing them for the first time.

Follow-up:
In their learning journals, students should describe their experiences:
What did I do?
What did I learn?
How does this relate to our study of diversity?
Extensions:

Project Learning Tree

"Charting Diversity": This activity is a good follow-up to lesson six. Students research animals from different biomes.

Project WILD

"Adaptation Artistry": This activity examines bird adaptations and allows students to draw their own bird creations.
Lesson Seven: "Creative Chemistry"

Objective: The students will examine the variety of uses for living things while making peanut butter cookies.

Time: One-Two hours

Materials: Ingredients for peanut butter cookies.
Mixing bowls, measuring spoons, cookie sheets, mixing utensils
Oven
Peanut/sweet potatoes product sheet (Student page 4)

Opening:
Remind students that just like them, wildlife come in different shapes, sizes, textures, and colors. George Washington Carver also found different ways of using plants. He discovered 280 ways to use peanut plants and 150 ways to use sweet potato plants. Ask students for some examples of uses for each plant and record on the board, or refer to the list of peanut and sweet potato products.

Activity:
Making the cookies works best if students are broken into four groups with two adults to monitor the groups. Each group will make one batch of cookies.

Ingredients

Peanut Butter Cookies

In a large bowl combine--
1/2 cup shortening 1/2 cup brown sugar
1/2 cup granulated sugar 1 egg
1 teaspoon water 1/2 cup peanut butter

Sift together--
1 cup flour 1/4 teaspoon salt
1/2 teaspoon baking soda

Mix first ingredients until creamy. Add sifted ingredients and mix until blended. Drop by teaspoonfuls onto a cookie sheet. Flatten each cookie lightly with a fork.
Bake at 325°F for 15 to 20 minutes. Makes approximately 3 1/2 dozen cookies.

While waiting for the cookies to bake, have students clean up the room, washing off table and dishes, as well as their hands.

Suggestions: Talk to the cafeteria staff to schedule a day for baking that is most convenient for both of you. Have the dry ingredients already in bowls for each group. This cuts down on time and mess. Get parents to volunteer the ingredients to keep the cost low. Don't forget the milk!

Follow-up:

Allow students to eat their cookies and milk while writing in their learning journals.

What did I do?
What did I learn?
What did I think?
How does this reflect diversity in our community and in nature?
What would I change?

Extensions:

Project WILD

"What's for Dinner?": This activity describes how all animals, including humans, need plants for survival.

Potato Printing: Cut raw potatoes in half. On the uncut end, notch out a handle. On the cut end, trace a simple shape, like a heart, rain drop, etc., and cut around the shape, making a stamp. Students create designs and pictures by dipping the potato stencil into tempura paint and applying to black or white construction paper.
### Products Created from Peanuts

<table>
<thead>
<tr>
<th>Beverages</th>
<th>Cosmetics</th>
<th>Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackberry punch</td>
<td>Antiseptic soap</td>
<td>Bar candy</td>
</tr>
<tr>
<td>Peanut punch</td>
<td>Glycerine</td>
<td>Breakfast food</td>
</tr>
<tr>
<td>Cherry punch</td>
<td>Hand lotion</td>
<td>Cheese cream</td>
</tr>
<tr>
<td></td>
<td>Shampoo</td>
<td>Caramel</td>
</tr>
<tr>
<td></td>
<td>Shaving cream</td>
<td>Chocolate-coated Peanuts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medicines</th>
<th>General</th>
<th>Chop suey sauce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron tonic</td>
<td>Axle grease</td>
<td>Cocoa</td>
</tr>
<tr>
<td>Quinine</td>
<td>Charcoal</td>
<td>Instant Coffee</td>
</tr>
<tr>
<td></td>
<td>Gasoline</td>
<td>Mayonnaise</td>
</tr>
<tr>
<td></td>
<td>Glue</td>
<td>Pancake flour</td>
</tr>
<tr>
<td></td>
<td>Insecticide</td>
<td>Peanut brittle</td>
</tr>
<tr>
<td></td>
<td>Linoleum</td>
<td>Peanut cakes</td>
</tr>
<tr>
<td></td>
<td>Paper</td>
<td>Vinegar</td>
</tr>
<tr>
<td></td>
<td>Plastics</td>
<td>Worcestershire Sauce</td>
</tr>
</tbody>
</table>

### Products Created from Sweet Potatoes

<table>
<thead>
<tr>
<th>Foods</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>After dinner mints</td>
<td>Alcohol</td>
</tr>
<tr>
<td>Candies</td>
<td>Fillers for wood</td>
</tr>
<tr>
<td>Chocolate</td>
<td>Library paste</td>
</tr>
<tr>
<td>Flour</td>
<td>Medicine</td>
</tr>
<tr>
<td>Instant coffee</td>
<td>Paints and dyes</td>
</tr>
<tr>
<td>Lemon drops</td>
<td>Paper (from vines)</td>
</tr>
<tr>
<td>Molasses</td>
<td>Rubber compound</td>
</tr>
<tr>
<td>Spiced vinegar</td>
<td>Synthetic cotton</td>
</tr>
<tr>
<td></td>
<td>and Silk</td>
</tr>
<tr>
<td>Starch</td>
<td>Writing Ink</td>
</tr>
<tr>
<td>Sugar</td>
<td></td>
</tr>
</tbody>
</table>

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This list is adapted from [George Washington Carver: Nature's Trailblazer](https://example.com) by Teresa Rogers. Twenty-first Century Book, 1992
Lesson Eight: Accepting Others

Objective: The students will create magazine collages depicting their various interests.

Time: One or two one-hour periods

Materials: 9x12 sheets of construction paper
Old magazines
Glue sticks
Scissors

Opening:
Review with students how George Washington Carver was not allowed to go to certain schools because of the color of his skin. This is a form of prejudice, or a feeling you have about something even if you don't know anything about the person or object. Prejudice includes not accepting people just the way they are. What might happen if you could not attend our school because you look different than the principal, for example? When we accept others, we accept not only their appearance, but also their likes and dislikes, opinions, etc. Extend this idea to wildlife. What might happen if humans did not accept snakes, for example?

Activity:
Have students think of their favorite animal, activity, toy, etc. for their magazine collages, students will need to choose one favorite only. Instruct them to find one large picture that will be their main focus. Cut it out (all pictures should be cut out so that only the object and no background remains) and glue to the center of the page. This works best if students apply glue to the centers of pictures since they will be arranging and overlapping the pictures. They will glue down edges at the end. All of the smaller pictures should relate to the center picture, and be arranges in a way that covers all of the construction paper. If any tiny areas of paper remain unfilled, use scrap of magazine cuttings to cover the paper. Glue down the edges.

Students share their finished collages with the class. Encourage students to applaud the differences in each collage. Laughing or making fun of another student's work does not show acceptance.
Hints:
  - Do not completely glue down pictures until the project is complete.
  - No pictures should be hanging over the edges of the construction paper.

Follow-up:
  - Students respond to the activity in their learning journals.
    - What did I do?
    - How do I feel?
    - How do the collages show diversity and accepting others?

Extensions:

Project Learning Tree

"A Few of My Favorite Things": This looks at students' favorite toys and identifies the materials used to construct it, and whether they are renewable or nonrenewable resources.

"Can It Be Real?": The activity studies animals with strange adaptations. Can students accept these odd adaptations?
Lesson Nine: Accepting Different Opinions

Objective: For activity one, the students will develop solutions to land-use problems involving urban open space and simulate a city council meeting to discuss and decide on a land-use issue. For activity two, students will research an environmental issue from which they will present an argument in debate fashion.

Time: Four or five one-hour periods

Materials: Copies of page 196 in Project Learning Tree guide
Copies of issues for debate
Local newspaper article

Opening:
Remind students of George Washington Carver's struggle to be accepted in schools. Read this quote from George:
"When our thoughts-which bring-actions-are filled with hate against others, we are in a living hell. Holding good thoughts brings us happiness, success, and peace."

What does this quote mean? Discuss with students.
Read to students a current newspaper article relating to a hate-related crime. A drive-by shooting is one example. Ask students why they think this happened. Why would one person want to hurt or kill another person? (Acceptable answers might be over arguments, differing opinions, etc.)

Explain that when we accept others, we must also accept their opinions or points of view. Make sure that students understand the difference between accepting and agreeing with someone's opinion.

Activity One:
Use Project Learning Tree's activity "We Can Work It Out," on pages 193-196 of the guide. This activity deals with a land-use issue and differing opinions. By simulating an argument over land use, students will see the importance of disagreeing in a positive manner, and accepting that others may not hold the same opinions.

Activity Two:
For the classroom debates, break the class into groups of four. Give each team an issue and the pro or con argument. Some teams may face the challenge of arguing in a way opposite of their own opinions. Each team must present the issue, their beliefs about the issue, and any other relevant information. Students may need time to research the issue. See attached information on components of an environmental issue.
COMPONENTS OF AN ENVIRONMENTAL ISSUE

PROBLEM - A condition is which something is at risk. Environmental problems involve the interaction of humans and the environment, and the threat or risk associated with that involvement. A problem might include what to do in the aftermath of a natural disaster such as flood or earthquake, or it might include what to do with the refuse of large metropolitan areas.

ISSUE - A problem, or its solution, for which differing beliefs and values exist, usually involving two or more parties who don't agree. In many cases, environmental problems remain unsolved because those involved are unable to agree on how to solve the problem. It is important that students understand the different beliefs and values of the disagreeing parties; if they don't, they won't understand the concept of an environmental issue.

PLAYERS & POSITIONS - Individuals and/or groups that are involved, and where they stand on an issue.

BELIEFS - The ideas about an issue which are held to be true by the players. They do not have to be true; the players just need to believe that they are. A belief is strongly tied to the player's values.

VALUES - The relative worth a player places on something. Values are often drawn from personal experiences. Examples of values include: aesthetic, ecological, economic, cultural, egocentric, political, scientific, religious, recreational, and social.

SOLUTIONS - The various strategies proposed to resolve an issue. A solution is acceptable when: the public is involved in the decision-making process; the interested public sectors reach a compromise; the compromise meets objectives for managing the resource; and the compromise conforms to law.

Prepared by Dr. Darleen K. Stoner
California State University, San Bernardino
Follow-up:

How does arguing in a positive manner show acceptance of different opinions? Why is this important? Note that by accepting other viewpoints and by listening to both sides of an issue, we are able to accept others' views. How does this relate to crime?

In their learning journals, have students respond to the following questions:

- What did I learn from this activity?
- Why is this important?
- What was challenging/easy for me to understand?
- How can accepting others' opinions help reduce crime?

Extensions:

Project Learning Tree

"Life on the Edge": Students examine the state of endangered species and create campaigns on behalf of the animals.

"Values on the Line": Students explore all sides of an environmental issue.

Project WILD

"Changing Attitudes": This activity relates to changing attitudes about wild animals and their environments.
Lesson Ten: Assessment

Objective: To assess the students' understanding of the diversity/accepting others unit.

Time: One one-hour period. This activity can be performed outdoors.

Materials: Paper/pencils
Learning journals

Opening:
Discuss with students the various activities they completed in their study of diversity and accepting others. What did they like most? Least? Why is it important to study diversity? Acceptance? How can this help other people? How can knowing about diversity help plants and animals?

Assessment:
Instruct students to use their learning journals to answer the following questions:

Acceptance is ____________________.
Diversity is ____________________.
I can practice diversity and acceptance at home, at school, or in the community by ____________________.
George Washington Carver showed acceptance and diversity by ____________________.
George Washington Carver was an environmental hero because ____________________.

Students should provide five examples of the first two questions, and one example for each additional question. Their answers should reflect the diversity course of study.

Have students find a quiet area outside where they can work independently. Students who finish early should sketch an interesting plant or animal located in their area.
Assessing student work:

Collect journals and assessment questions. Use the following matrix to help assess each student. Students are experts, apprentices, or novices.

<table>
<thead>
<tr>
<th>Expert</th>
<th>Apprentice</th>
<th>Novice</th>
</tr>
</thead>
<tbody>
<tr>
<td>The expert shows clear understanding of the concept by giving the meaning of diversity in own words. Examples of diversity show acquired knowledge.</td>
<td>May not give a meaning in own words. Missing some examples of diversity but has an overall understanding of the concept.</td>
<td>Can not tell what diversity is. Missing information related to each question. Journal may be missing important information.</td>
</tr>
</tbody>
</table>
Active listening skills are promoted throughout Appendix B

"I just wanted to be outdoors, watching and learning."
from Jane Goodall: Living with the Chimps, by J. Fromer, 1192, p. 10
Hero/Heroine Profile: Jane Goodall

April 3, 1934  Jane was born in London, England.

1939- Jane and her family moved to Bournemouth. Jane loved
1940  to watch the oceanic
animals along the shore.

1941 Jane read Dr. Doolittle and decided to pay close
1942 attention to animals. She began to
keep a wildlife journal in which to record her
observations.

1943 She dreamed of some day going to Africa.

1944 Jane’s parents divorced. She stayed with her mother
and they developed a closeness with one another.

1952- At the age of 18, Jane moved to London to go to a
1953 secretarial school. She figured that secretaries
could get jobs anywhere, and maybe she could find
her way to Africa.

1957 Jane went to Mombasa, on the coast of Africa. Later
she moved to Nairobi.

1958 Jane began working for Dr. Leakey, an anthropologist.
She helped him dig up fossils.

1959 Jane returned to England to study chimpanzees.

1960 She returned to Africa to study the chimps in
Stream Chimpanzee Reserve. Her mom didn’t want her
traveling alone, so she went with Jane as her
assistant. They lived in tents without electricity or
TV.

1960 There were 10,000 chimps at the Gombe Reserve, but it
took Jane months before she was able to get close
enough to observe them.
1964 Jane married Hugo vanLawich, a photographer for the National Geographic Society. He had been sent to Africa to photograph Jane and her chimps.

1964 Jane was the first human to see a newborn chimp in the wild!

1967 Jane had a son named Hugo, but she called him “Grub.” Grub went with her to observe the chimps.

1971 Jane published a book called In The Shadow of Man. It was about her observations on the Gombe Reserve.

1976 Jane’s son was sent to a boarding school to get a more formal education.

1980’s Throughout this decade, Jane was actively involved in protecting the forest habitats of chimpanzees.

1987 Jane founded the Jane Goodall Institute. It was a place to research wildlife and conservation.

1990 By this year the Tanzanian (another place in Africa) chimpanzee population had dropped to 2,500. Jane worked on ways to increase the population.
Lesson One: Introducing Active Listening

Objective: Students will learn about active listening and play a game which will require active listening skills.

Time: 1 hour

Materials: Chart paper
Markers

Opening:
This month's social skill is active listening. Throughout the unit students will participate in activities that will help them become better listeners and observers. Ask students why it is important to listen carefully to others. Have they ever felt like someone was not listening to them? When do you use listening skills?

Present a T-chart on the chart paper to access students' prior knowledge of active listening:

<table>
<thead>
<tr>
<th>Active Listening: to give active attention, listening.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOOKS LIKE</td>
</tr>
</tbody>
</table>

Inform students that active listeners focus on the speaker by using their eyes to see, their ears to listen, and a still body for paying attention.

Activity:
The game begins by with the teacher whispering a sentence or phrase into one child's ear. This child must then whisper the phrase to the next child until everyone has heard it. The last child repeats the phrase aloud. If the phrase has remained unchanged, then the group has effectively used listening skills. If it has been altered, discuss with the group ways to keep the phrase from
changing such as speaking slower or listening more carefully. Repeat several times until each group or the whole group has achieved success.

Suggestions: If you have second language learners in your class, begin with simple phrases with which they are familiar. This ensures success before increasing the challenge.

Follow-up:

Students will write about their experience in their learning journals.

What did I do?
What did I learn?
Why is listening important?
What was challenging or easy?

Extension Activities:

Project Learning Tree

"Sounds Around": In this activity students use their listening skills to identify sounds in nature and noise pollution.
Lesson Two: Jane Goodall and Active Listening

Objective: The students will read about Jane Goodall and describe ways in which she uses active listening skills and observation. Students will then demonstrate their listening and observing skills by participating in the "Microtrek Scavenger Hunt."

Time: 1 hour

Materials: Duplicate Hero profile (Student Pages 1-2)
Books on Jane Goodall and/or chimpanzees such as Jane Goodall: Living with the Chimps by J. Fromer (optional)
Map of Africa
Outside area
"Wildlife Scavenger Hunt" cards from Project WILD

Opening:
Review with students the activity in lesson one. Why is it important to be an active listener? How can improving your listening skills also improve your noticing skills? Emphasize that listening clues us in to everything that is going on around us.

Introduce Jane Goodall. Explain that by being a good listener and observer she was able to obtain her dream job: working and observing chimpanzees in Africa. Locate Africa on the map. Point out the region where Jane worked.

Read the hero profile. Use in conjunction with other books about Jane Goodall, Africa, and chimpanzees. Discuss with students:
How does being a good noticer help you in school and out of school?
How is noticing related to listening?
In what ways do you think Jane Goodall was an active listener?
Why is listening important?

Activity:
Use Project WILD's activity called "Microtrek Scavenger Hunt" on pages 21-22 of the guide. In this activity students go outside to hunt for wildlife on the school grounds.
Remind students to use active listening with their eyes and ears while their mouths are still. They should follow the instructions on the "Wildlife Scavenger Hunt" cards.

Allow about 15 minutes for observations. As a group, discuss what students observed. If students did not find any signs of wildlife, review the ways active listeners listen and look to see if listening was the problem.

Follow-up:
In their learning journals, students reflect upon their experience.
What did I do?
What did I see?
How did active listening play a part in this activity?
What would I do differently next time?

Extensions:

Project WILD

"Learning to Look, Looking to See": This activity explores the differences between casual and detailed observations.

Project Learning Tree

"School Yard Safari": Students explore the school yard looking for signs of wildlife.

Obtain a copy of Jane's favorite childhood story, Dr. Doolittle, by Hugh Lofting. Read aloud to the class.
Lesson Three: An African Adventure

Objective: Students will research and report on an African country.

Time: Several days

Materials: Books on Africa
Computers
Encyclopedias
Tagboard or poster board
Markers, crayons, etc.
Magazines
Duplicate The African Adventure
(Student Page 3)
Duplicate Rubric (Student Page 4)

Opening:
What do active listeners do? How can it help them in school? How does active listening help Jane Goodall in her job? Explain to student that Jane dreamed of visiting Africa after reading about it in her favorite book, Dr. Doolittle. What places have they dreamed of visiting?

Activity:
In this activity students will research an African country. Break the class into groups of three or four. Provide students with a list of African countries. In their groups they should decide upon one country to research. Once they have chosen a country, they will design a poster in the shape of the country, and place the following information on the poster. Use the attached information sheet and rubric as guidelines for grading.

Remind students that working in groups requires effort and active listening from all members. Students should decide who is responsible for what information. If possible, send one or two groups at a time to work with the librarian on their research.

After all posters are complete and students have "returned" from their adventures, encourage them to share their posters with the class. The class should model appropriate listening skills.
Follow-up:

Students respond to the activity in their learning journals.

What did I do?
What was the most interesting thing I learned?
What would I do differently?
How can studying about a place relate to observation and listening skills?
How are African countries alike and different?

Extensions:

You may want to intersperse these activities between researching.

Project WILD

"Habitat Lap Sit": This activity looks at the elements of a habitat. The idea can be extended to African habitats.

"Habitat Rummy": Students play a card game based on the components of a habitat.

Project Learning Tree

"People of the Forest": Students learn about the lifestyles of different forest-dwelling people.

"Picture This!": In this activity students look at animals from around the world.
The African Adventure

Congratulations! You are about to embark upon an African Adventure! With a little research and imagination you are sure to have an exciting time. Here's what you do:

- Choose an African country to visit.
- Cut your poster board in the shape of your country.
- Write the name of the country in big, colorful letters in the middle of your poster.

Now research your country to find information to put on your poster. You can write, draw, or find pictures or objects to represent each item. Try to include all of the following on your poster:

- climate (weather)
- location (desert, mountains, etc.)
- native animal species (at least 3)
- native plant species (at least 3)
- country flag
- foods
- major industry
- clothing

Your poster should be neat, creative, and colorful. It should also show that you worked together as a group on your adventure. When you are finished, complete an African Adventure Rubric as a group. The rubric will give you guidelines of what I expect, and will help you self-grade your poster.

Have Fun!
## African Poster

<table>
<thead>
<tr>
<th>Name of Country</th>
<th>E</th>
<th>G</th>
<th>S</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The name of your country is written in large letters in the center of the poster. Letters are colorful and creative.</td>
<td>The name is written in large letters in the center of the poster.</td>
<td>The name is written, but not in large or neat letters.</td>
<td>The name is not written on the poster.</td>
</tr>
<tr>
<td>Native Animals and Plants</td>
<td>There are more than 3 native animals and 3 native plants on the poster. All are named, colored and show creativity.</td>
<td>The are 3 native animals and plants on the poster. Color and creativity are displayed.</td>
<td>There are at least 3 native plants and animals on the poster. Some names or illustrations are missing.</td>
<td>There are not 3 animal or 3 plants on the poster. Names are missing. No color is used.</td>
</tr>
<tr>
<td>Climate and Geography</td>
<td>The climate and geography are creatively illustrated and discussed on the poster.</td>
<td>The climate and geography are located on the poster. Neatness and some creativity are evident.</td>
<td>The climate and geography are present on the poster, but may be missing some parts or not colorful.</td>
<td>The climate, geography, or both are missing from the poster, or essential parts are missing.</td>
</tr>
<tr>
<td>Industry, flag, foods, clothing</td>
<td>All components are present on the poster. Thought, creativity, and neatness can be seen.</td>
<td>All four poster parts are shown on poster. Some thought and creativity are evident.</td>
<td>All parts are present on the poster, but may not be illustrated or colorful.</td>
<td>Some or all four parts are missing. Neatness and illustrations are missing also.</td>
</tr>
<tr>
<td>Bibliography</td>
<td>Title, author, illustrator, publisher, state, and copyright date are on poster in a colorful or creative way.</td>
<td>All data is on poster.</td>
<td>Data is not on the poster, but is turned in separately.</td>
<td>There is no bibliography.</td>
</tr>
</tbody>
</table>
Objective: The students will practice active listening skills while preparing an African recipe.

Time: 1 or 2 hours

Materials: Ingredients for sweet couscous
Duplicate Jane Goodall word search (Student Page 5)
Hot plate
Measuring and stirring utensils
Pot holders

Opening:
From their African adventures students should have seen how different and similar the African countries are. What made the countries alike? What made them different? What types of food did people eat in your country? Explain that in the next lesson students will prepare a dish they might eat on a trip to North Africa.

Activity:
For best results, break the class into small groups of six to eight. Each group will make one recipe of sweet couscous with raisins.

Sweet Couscous with Raisins

Ingredients

1 pound couscous (found in the grain section of the grocery store)
1 cup raisins
2 tablespoons butter, softened
1/2 cup granulated sugar
1/4 teaspoon vanilla
1 1/2 cups hot milk

Prepare couscous according to package directions. Spoon hot couscous into a bowl and stir in raisins, butter, sugar, and vanilla. Spoon into each child's bowl and top with hot milk. Makes approximately 16 small servings.

While students are waiting to heat their milk, have them complete the Jane Goodall word search.
Suggestions: Prepare the couscous earlier in the day to reduce time and eliminate the cooking stage with the children. Make sure to discuss with students safety issues regarding hot plates and hot foods.

Follow-up:
Students may wish to write down the recipe. In their learning journals, have your class reflect upon the cooking activity.

What did I do?
I liked/disliked the activity because_____________
How did I use active listening?

Extensions:
Prepare plantain chips, a Tanzanian snack food, with your class. If plantains are not available, use slightly green bananas.
Jane Goodall Word Search

Y M S A G N A K A P E V U Y X
E L H G S E F T D L Y N C T Z
S N E A N T H R O P O L O G Y
U N V Z B N N E I I E Y W H L
O O R I D I G A T N T Z I O I
R H E C R R T A D I E U L M S
O F S H O O V A V J X Q D I S
V E B G K R N I T G T J L N O
I U O D E G T M N T I P I F
N H N S E P G N E K N B F D O
M E N R A U X Y I N C N E E B
O O E C Q N A I R A T E G E V
C D H A N N A V A S I B K Y M
S A N C T U A R Y O O O I H F C
S P E C I E S P B S N O U C X

ANTHROPOLOGY APE CAPITIVITY
CONSERVATION ENDANGERED ENVIRONMENT
EXTINCTION FOSSIL GORGE
HABITAT HOMINID KANGAS
OBSERVE OMNIVOROUS SANCTUARY
WILDLIFE SPECIES VEGETARIAN
Jane Goodall Word Search
Solution

ANTHROPOLOGY  APE  CAPITIVITY
CONSERVATION  ENDANGERED  ENVIRONMENT
EXTINCTION  FOSSIL  GORGE
HABITAT  HOMINID  KANGAS
OBSERVE  OMNIVOROUS  SANCTUARY
WILDLIFE  SPECIES  VEGETARIAN
Lesson Five: Observing Animals

Objective: Students will observe animals to gain understanding of how animals work, eat, and sleep.

Time: 1 hour

Materials: Hand lenses
Pencils and paper
Field or small animals in clear containers

Opening:
Ask students what they enjoyed most or least about the cooking activity. How did they use active listening skills during the cooking? Why is listening important when you cook? Remind students that Jane Goodall spent much of her time observing chimpanzees in order to protect them from extinction. Jane learned everything she could from books before studying them in the wild. She learned from watching and listening the games they played, the noises they made, and their grooming sessions. She was even able to recognize different chimps by their personalities. By closely watching their facial expressions she was also able to understand the meaning of each sound they made. Her observations helped other scientists learn many things about how chimpanzees live in the wild.

Activity:
Students will work in small groups to observe different animals. If your school is near an open field, use the outdoor area for observation. Find an area to observe insects, such as ants, birds, reptile, such as lizards, and mammals, such as squirrels. Each group should observe by watching and listening, and not bothering the animals in any way. Students record their observations in their learning journals. Encourage students to sketch each animal and record their behaviors.

If no natural area is available, bring the animals into the classroom. A bowl of fish, a small ant farm, lizards or snakes in a clear container, or a hamster in its cage will work. You could even gather some snails or caterpillars for the observations.
Follow-up:
In their learning journals, students describe the experience.
What did I do?
What did I learn?
What did I notice?
What was the best part?

Extensions:

Project WILD

"Environmental Barometer": Student observe animals in an area and discuss why they might be missing.
"Grasshopper Gravity": Students study grasshoppers in order to learn more about them.
Lesson Six: Endangered Species Art

Objective: Students will study endangered species and make a tissue paper art project.

Time: Two 1 hour periods

Materials: The Great Kapok Tree by Lynne Cherry
Colored tissue paper
Paint brushes
Glue and water
White drawing paper and pencils
Pictures or books of endangered species

Opening:
Review animal observations with students. What kinds of things can we learn about animals by carefully observing and listening to them? How did this help Jane Goodall in her work? How can active listening help you at school? Remind students that Jane was concerned with keeping chimpanzees from becoming endangered. What does endangered mean? In this lesson student become familiar with endangered species by researching these animals.

Activity:
Introduce Lynne Cherry's book The Great Kapok Tree. On a map, point to Brazil an explain that rain forests house a wide variety of animals, some of which are becoming endangered or extinct. Encourage students to use their active listening skills while you read the story aloud.

After reading and discussing the story, explain that the rain forest is not the only place where animal risk becoming endangered or extinct. It is happening everywhere. (The Department of Fish and Game can give you a list for your county and state.)

Students look through books and choose one animal for their art project. They will make a tissue paper collage of the animals in its natural environment. Students sketch the animal and its habitat onto the drawing paper. Encourage them to draw big enough that all of the paper is used. Tear pieces of tissue paper to place on the picture. Dip the paintbrush into the glue (thin with water first), and lightly brush over the tissue paper. More layers create more vibrant colors, and colors bleeding together are ok.
After students have completed their picture, they will quickly research the animal. On an index card, they will provide the animal's name, its habitat, and status (endangered, threatened, or extinct).

Follow-up:
Discuss the project and share if desired. How can studying endangered species help protect them? In their learning journals, students respond to the art project.
Describe your project.
What did I like/dislike?
What did I learn?

Extensions:

Readers' Theater: Use The Great Kapok Tree as a script for a readers' theater in which students read the story and act out the parts.

Project WILD

"Here Today Gone Tomorrow": This activity discusses the causes of extinction.

Project Learning Tree

"Life on the Edge": In this activity, students research endangered species.
Lesson Seven: Mapping the School Yard

Objective: The students will use active listening and observation skills in order to create a detailed map of the school grounds or other natural setting.

Time: One or two 1 hour periods

Materials: Outdoor area
Paper, pencils, crayons, etc.

Opening:
Ask students what they enjoyed or dislike about the art activity. Why is it important to learn about endangered species? Remind students that Jane Goodall used active listening and observation not only when watching the chimps, but also to keep track of where she was. Often she ventured into the forest alone, and had to remember her way back to camp. How might she do this? What kinds of challenges might she face?

Activity:
In this activity, students will observe their natural surroundings in order to make a map of the school yard or other outdoor area. First, students must decide from what point they will start and to where is their destination. An example might be from the classroom to the baseball diamond, or from one tree to another.

After deciding the location, students walk around the area making detailed notes of the trees, plants, and other landmarks in the area. A detailed observation might be looking at a tree with a low hanging branch, or the bush with the small pink flowers. They will use these notes to construct their maps. You might suggest they state travelling as taking so many steps or paces.

Once they have constructed their detailed maps, including colored plants, paces, etc., pair up students. Students exchange maps and take turns trying to discover the destination. Well detailed maps will be easier read and destinations will be easily discovered than less detailed maps. Discuss the results of the mapping activity as a class.
Follow-up:
In their learning journals, students reflect upon the mapping experience.
What did I do?
My partner could/could not find my destination because __________.
What did I think of this activity?
What was challenging or easy for me?

Extensions:

Project Learning Tree

"The Forest of S.T. Shrew": Students practice listening skills as they hear a story of a young girl's adventure in the forest.
Lesson Eight: The Other Way to Listen

Objective: Students will make a big book describing active listening skills. Books may be shared with younger grades.

Time: 1 hour

Materials: Paper
Pencils and crayons
Byrd Baylor's The Other Way to Listen
Chart paper

Opening:
Being a good listener and observer kept Jane Goodall from getting lost in the Gombe forest, as well as allowed her to get a close look at how chimpanzees live in the wild. She was even the first human being to see a newborn chimp in the wild! How can active listening help you?

Activity:
Read aloud The Other Way to Listen. Remind students that active listeners have still hands and mouths and keep their eyes on the speaker. Discuss the story with the class. What is the other way to listen? Why is listening so important?

After reading and discussing the story, have students create a big book that they can read to younger children at school. Review the major concepts of the book and write on a piece of chart paper. Although students may use the illustrations and storyline for ideas, encourage them to put their concept into their own words for the big book.

Make sure that students leave a one-inch margin along the left side for binding purposes. Pages should be colorful and neatly written.

Follow-up:
In their learning journals, students write about the activity.

What did I do?
What did I think?
How did I use active listening?
Extensions:

**Project WILD**

"Animal Poetry": Students get another opportunity for writing in this activity focused on the inspirational value of animals.
Lesson Nine: Assessment Through Shoebox Dioramas

Objective: As a culminating activity for the active listening unit, students will create a shoebox diorama depicting their favorite part of Jane Goodall's life with the chimpanzees.

Time: One or two 1 hour periods

Materials: Shoeboxes or triangular dioramas
Construction paper
Glue
Scissors
Pencils
Books or magazines
Index cards

Opening:
In lesson eight we read about another way to listen. What did the author mean? How did Jane Goodall use other ways of listening? What other ways of listening might you use to help you in school or at home?
Now direct students' attention towards the information they have learned on Jane Goodall. You may want to reexamine the hero profile or read other books about her life. What did you find most interesting about Jane Goodall? Chart responses.

Activity:
Students create shoebox dioramas depicting their favorite part of Jane Goodall's life with the chimpanzees. Students use tissue paper, construction paper, dried beans and other materials to create a scene. Once their dioramas are complete, students write one paragraph on an index card describing the scene and what they learned about Jane Goodall.

Follow-up:
For assessment purposes, students respond to the following questions in their learning journals:
What did I learn in this unit?
How did active listening help Jane Goodall?
How can active listening help me become a better student?
Assessment:
Dioramas should be detailed and include three-dimensional objects as well as clearly depict a part from Jane Goodall's life. Paragraphs reflect knowledge acquisition. Collect journals to read students' last entries. Student should have a clear understanding of why active listening and observing are important.

Suggestions:
If shoeboxes aren't available, you can make triangular dioramas from 9" x 9" pieces of construction paper. Fold paper diagonally twice until it forms a triangle. Unfold and cut on one of the folds from the corner to the center. Slide one flap under another to form the triangular diorama. Tape or glue in place.
APPENDIX C

Jacques Cousteau

Effort and perseverance are explored throughout Appendix C

"We are partners to the fish, the crab, the snail the grasses that grow in secret places beyond Our sight. Upon their lives our life depend. Upon their survival hangs our own."

Hero/Heroine Profile: Jacques Cousteau

June 11, 1910 Jacques Cousteau was born in Saint-Andre-de-Cubzac in France. Jacques's father was a lawyer and his mother cared for his brother and him. Even from a young age, Jacques was drawn to the water.

1917 Jacques was often ill, so he could not go outside to play. He turned to reading adventure stories to entertain himself. When he finally learned to swim it helped him grow strong and healthy.

1920 Jacques and his family moved to New York City. He was well-liked by his peers. He learned to dive at a summer camp that year.

1921 Jacques was always trying to invent things. He built a marine crane. It was so well-built that people thought his dad had helped him.

1923 Jacques bought a motion picture camera, like an early version of a camcorder, and began filming his family. His parents sent him to a boarding school where he studied day and night.

1929 Jacques graduated from high school. He entered the Brest Naval Academy in France. He took his camera wherever he went. His friends taught him how to spear fish and how to use goggles under water.

1937 Jacques married Simone Melchoir on July 23, 1937 and they moved to Toulon in France. His first son, Michel, was born in 1938, and a year later is second son, Philippe, was born.

1942 Jacques wanted to develop a device to let divers breathe under water. With the help of a Parisian engineer, he developed the "Aqualung." It was made up of two air tanks with hoses that lead into the mouth. Jacques became the world's first scuba diver!
1940's Jacques formed the Undersea Research Group which made dives to clear mines and retrieve items from sunken ships. World War II was going on and he helped any way he could. Under water, he also got to see the natural resources held by the sea.

1950 Jacques found a ship to haul his divers and he named it Calypso, after a Greek maiden.

1951 On November 24, 1951 the Calypso set sail. The ship traveled to the Red Sea to study ocean ecosystems. The Crew's motto was: "We must go see for ourselves."

1952 The Calypso set sail again and discovered an ancient sunken ship. They found pots and dishes and even a jar containing 2,000 year old wine! During the 1950's Jacques began producing films and books in France.


1957 He was named director of the Oceanographic Institute in Monaco.

1960 Jacques became concerned about France dumping nuclear waste into the ocean. He led a protest against the dumping.

1962 Jacques set up an underwater shelter called the Conshelf I where two "oceanauts" lived for one week, 33 feet below the ocean's surface. The Conshelf II supported five divers 36 feet under the surface for a month. The Conshelf III held divers for one month, 325 feet below the ocean's surface!

1966 "The Undersea World of Jacques Cousteau" aired on TV. His show included sharks, elephant seals, and the ocean's balanced ecosystem.
1969  Jacques began fighting for a "quality of life and happiness" for all people. He worked to raise awareness of the beauty of nature, especially under the sea.

1974  He founded the Cousteau Society. It raises money to educate people about the environment.

1997  Jacques Cousteau died.
Lesson One: Introducing Effort and Perseverance

Objective: The students will be introduced to the concepts of effort and perseverance and will create posters demonstrating knowledge of these social skills.

Time: 1 hour

Materials: Chart paper
Construction paper
Pencils, crayons, markers

Opening: Introduce the social skill of effort and perseverance. The activities in which students will participate will focus on their best effort and always trying. Ask students why putting forth their best effort is important. Why should they always try and not give up on something important to them?

Using a T-chart, access students' prior knowledge of effort and perseverance:

<table>
<thead>
<tr>
<th>Effort and Perseverance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOOKS LIKE</strong></td>
</tr>
<tr>
<td><strong>SOUNDS LIKE</strong></td>
</tr>
</tbody>
</table>

By practicing effort and perseverance, students can achieve goals, improve grades, and get things done.

Activity:
Students will create posters that include creative slogans and colorful illustrations of effort and perseverance. Remind students that everyone can come up with something creative, even the non-drawer. Once posters are complete, display them around the school to show others how to use effort and perseverance.
Follow-up:

Students will reflect in their learning journals upon completion of each activity in the unit.

What did I do?
What do I expect to learn in this unit?
How can effort and perseverance help me?

Extensions:

Set a class goal, such as extra physical education time, an art activity, or other fun activity, by creating awards, such as "I was caught trying my best" awards. Students use their listening and observing skills to notice students using effort and perseverance. Each time they see someone trying their best, they give that person an award. The goal may be reached when everyone receives an award, or when the entire class receives 100 awards. Decide as a group on the goal and the reward for reaching the goal.

Classroom freshwater aquarium or pond: This unit is ideal for bringing live aquatic animals into the classroom. Project WILD Aquatic offers advice and recommendations on setting up a classroom aquarium.
Lesson Two: Jacques Cousteau

Objective: Students will become acquainted with Jacques Cousteau and set five reasonable goals they wish to reach before the end of this unit.

Time: 1 hour

Materials: Duplicate Hero profile (Student Pages 1-3) Books on Jacques Cousteau and ocean life, such as Jacques Cousteau: Champion of the Sea, by C. Reef (optional) Paper and pencils

Opening:
Direct students attention to the T-chart they created in lesson one. Ask for a simple definition of effort and perseverance. Remind students that putting effort and perseverance into their work can help them achieve their goals and dreams.

Introduce Jacques Cousteau. Ask volunteers to tell what they know about him. Read the hero profile on Jacques. If possible, gather other books about Jacques, his life, and oceans. After students read the profile, discuss the following:

How did Jacques model effort and perseverance throughout his life? (Answers may include became a swimmer to get better, invented things, tried to raise people's awareness of the ocean.) Could he have achieved all this if he had given up on his dreams? Why are effort and perseverance important?

Activity:
What goals did Jacques reach during his life? How did he do this? Instruct students to set up five reasonable goals they would like to work towards during this unit. Make sure to discuss what is reasonable and unreasonable. Improving your spelling test grades is reasonable; making a million dollars is not. Students should also identify at least three ways to achieve each goal. Post their goals in clear view so that students can be reminded of their goals and read them several times each day.

After goals are set, take the class outside to play "Bop." In this game, groups of six to eight join hands to
form a circle. The object of the game is keeping a balloon in the air with any body part without letting go of their hands. Can students do this with only their hips or knees/can the whole class do this together? Emphasize putting forth your best effort.

-from Teaching Social Interaction Skills by Kerby, Mercier, Flanagan and Thompson, 1995

Follow-up:
In their learning journals students reflect upon setting goals.

What did I do?
How will I reach my goals?
What do I expect to happen?
Are my goals reasonable?
Lesson Three: The Undersea World of Jacques Cousteau

Objective: Students will view a Jacques Cousteau film.

Time: 1 hour

Materials: Any Jacques Cousteau film
A videolog for each student (Student Page 3)
Pencils

Opening:
Review with students the background information on Jacques Cousteau. How did he use effort in his life? How can effort help us with our classroom goals?

Jacques realized there was more to the ocean than most people know. He set goals to dive under the ocean to see the variety of life there. He is best known for his books and movies about the mysterious ocean.

Activity:
Obtain a Jacques Cousteau film to show your class. As students watch the movie, have them complete a videolog to be discussed as a group after the movie. After the movie, discuss some of the following:

- What kinds of things did you see in the movie?
- What was your favorite part? Why?
- What do you think of Jacques's job?
- How do effort and perseverance help him in his job?

Follow-up:
Students respond to the activity in their learning journals.

- What did I do?
- What was most interesting?
- What would I like to know more about?
- Why are effort and perseverance important?
Extensions:

Beach Trip: If you have the resources, take your class to the beach for the day. Have them examine the different habitats: sand, salt water, tide pools, etc. They can also observe the various forms of wildlife including seagulls, sand crabs, mussels, etc. Remind students to only observe; leave all life forms in their own habitat.
Name __________________ Date _____________ Period ____________

Title of Video ________________________________________________

Subject of Video ______________________________________________

Summary of Video
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Draw a picture of your favorite part of the video, or a part you found interesting.

How does this video fit into what I am learning in class?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

I rate this video ____________________

My reason for this rating is ________________________________
________________________________________________________________________
________________________________________________________________________

One part that was confusing was _______________________________
________________________________________________________________________
Lesson Four: Designing a Habitat

Objective: Students will identify habitat components and create a habitat for an aquatic life form.

Time: Two 1 hour periods

Materials: Construction paper
          Art supplies
          Glue
          Books on aquatic animals

Opening:
  Ask students to name some of the things they saw in the video from lesson three. Write the life forms on the board. By setting goals and never giving up, Jacques Cousteau was able to achieve his dream of working in the ocean and raising awareness of the ocean's treasures. Read the following quote:
  "I am reminded that the earth is a living body, and interlocking system of delicately balanced forces, endlessly changing - the sea and the cliff, the tree and the desert."

What does Jacques mean by interlocking system of forces? How does he feel about nature?

Now focus students attention on habitats. What are the four required parts of a habitat? (water, food, shelter, space) What kinds of habitats exist in the ocean? Do these habitats still need food, water, shelter and space?

Activity:
  Use Project WILD Aquatic's activity called "Designing a Habitat" on pages 20-21 of the guide. Students use the art supplies to design a habitat suitable for one type of aquatic animal. By working in small groups, students research and design the habitat, including the four components of a habitat.
Follow-up:

Students reflect upon the habitat activity in their learning journals.
- What did I do?
- What did I learn?
- What did I like/dislike about this activity?
- What was one challenging part for me?
- How can I protect my environment?

Extensions:

Project WILD Aquatic

"Riparian Retreat": Students look at the riparian habitat, its life forms, and its importance to humans.

Project Learning Tree

"Trees as Habitats": Once students are familiar with oceanic habitats, use this activity to extend the idea to other habitats.

"Habitat Pen Pals": Students study diverse habitats and become pen pals with an animal specie.
Lesson Five: Why is Water Important?

Objective: The students will learn about the amount of fresh water available on Earth and devise ways to conserve water.

Time: One or two 1 hour periods

Materials: Apple
Knife
Paper and pencils

Opening:
Review with students the components of a habitat. How can good effort and perseverance help to protect habitats? Jacques Cousteau was not just interested in protecting aquatic animals and habitats. He also wanted to protect the water that all living things, including humans, need for survival.

Activity One: Apple Simulation
This activity shows students how much clean fresh water is available on earth. Gather students around while you cut the apple and explain.
What portion of the earth is covered in water? About 75% is water. (Cut out about 1/4 of the apple and set aside. This small portion is land. The rest is water.)
What part of the earth's water is fresh water? About 0.028 is fresh water. (Cut off about 0.98 of the remaining 75% of apple and set aside. This will leave you with a very small piece of apple.)
What part of the earth's water is glaciers and ice caps? About 0.77 of the remaining piece of apple. (Cut off about 3/4 of the remaining apple)
The tiny piece of apple that is left represents all of the fresh water that humans have here on earth. There is less than one percent fresh water for humans to use.
Discuss with students the importance of water. Why do we need water? What will happen if there is not enough water? How can we protect our water supply?

-adapted from Teachers' PET Project by Zero Population Growth, 1998
Activity Two: Water Poetry

Conserving, or saving, water takes a lot of effort and perseverance. What are some ways you can conserve water? Students will write acrostic poems using water words and phrases geared toward conserving water. Brainstorm a list of water related terms and write on the board. Either assign a beginning word or let students choose their words. Write the word, in all capital letters, vertically along the left side of the paper. Each letter begins a new word or phrase about water. Students may also choose to use Jacques Cousteau as their starting word.

| Water is essential for life. |
| Only 1% of all water is fresh water. |
| N |
| Desalination |
| E |
| R |
| F |
| Use water wisely. |
| L |
| W |
| A |
| Turn off the faucet when brushing teeth. |
| E |
| R |

Follow-up:
Students respond to the activities in their learning journals.

Why is water important?
How can I help conserve water?
Extensions:

**Project WILD**

"Water's Going On?": Students take a look at how much water they use at school.

**Project WILD Aquatic**

"How Wet is Our Planet?": This activity teaches about responsible use of water.

"Alice in Waterland": Students learn where their water comes from and how to conserve this valuable resource.

**Project Learning Tree**

"Every Drop Counts": This activity explores water's journey to our faucets.
Lesson Six: Ocean Resources

Objective: Students will identify resources that come from the ocean and gain an understanding of the connection between all living things.

Time: 1 hour

Materials: Empty food cartons and containers
          Magazines and newspapers
          Pencils and paper
          Grocery store advertisements

Opening:
In lesson five you learned that all living things need water for survival. What are some of the ways we use water? The ocean offers much more to humans than just water. What are some other things we get from the ocean? Ask students to be specific.
Read the following quote to your class:
"We are partners to the fish, the crab, the snail, the grasses that grow in secret places beyond our sight. Upon their lives our lives depend. Upon their survival hangs our own."

What does Jacques mean? In this lesson students will examine the vast resources we get from the sea.

Activity:
Use Project WILD Aquatic's "Water We Eating?" activity on pages 120-122 of the Project guide. In this activity students visit a local grocery to find products harvested from the ocean. The information discusses alginate, agar, and carrageenan, which are used in many of the foods students love. If a store is inaccessible, use empty food containers and advertisements to find the information.
For homework instruct students to go on an ocean product scavenger hunt. Students should list all of the products in their homes that are derived from oceanic resources. They will share this information with the class.
Follow-up:
  Have students respond to the activity in their learning journals.
  What did I do?
  What did I learn?
  What surprised me the most?
  How can I protect ocean resources?

Extensions:

Project WILD

"Lobster in Your Lunch Box": This activity identifies where our food comes from. You can extend from the ocean to other environments.

Project WILD Aquatic

"Kelp Help": In this activity students learn the benefits of kelp.
Lesson Seven: What Are We Eating?

Objective: The students will recall food sources that come from the ocean and cook crepes, a French recipe.

Time: One or two 1 hour periods

Materials: Frying pan
          Oil
          Crepe ingredients
          Strawberry jam
          Yogurt
          Whipped cream
          Hot plates and pot holders
          Measuring and mixing utensils

Opening:
Remind students of the types of foods and products that come from the ocean. Go over the lists students created at home for homework. Who found the most products? Were you surprised by any of the products you found?
Remind students that Jacques Cousteau was born in France. Locate France on a map and ask students what they know about France. Today students will make French crepes stuffed with sweet fillings, some of which contain ocean products.

Activity:
Making the crepes will work best if students are put into groups of six to eight, and you have another adult to help monitor the activity. Review with students safety tips for cooking with hot plates and hot oil, and injury can occur when they are not used properly. Each group will make one recipe of crepes.

Ingredients

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2 cups all-purpose flour</td>
<td>2 teaspoons granulated sugar</td>
</tr>
<tr>
<td>1/2 teaspoon baking powder</td>
<td>1/2 teaspoon salt</td>
</tr>
<tr>
<td>2 cups milk</td>
<td>2 tablespoons butter, melted</td>
</tr>
<tr>
<td>2 eggs</td>
<td></td>
</tr>
</tbody>
</table>
In a bowl, mix dry ingredients. Stir in remaining ingredients and blend until smooth. Heat a lightly oiled pan over medium heat until bubbly. Pour 1/4 cup of crepe batter into the pan. Tip the pan so the batter spreads evenly. Fry lightly on both sides. Fill with jam, yogurt or whipped cream. Makes 12 crepes.

After eating the crepes make sure everyone helps with the clean up. Ask students what they liked/disliked about the crepes. What fillings did you try?

Follow-up:
In their learning journals, students reflect upon the cooking experience.
- What did I do?
- How did I use effort and perseverance while I was cooking?
- What was most challenging for me?
- What was the best/worst part?

Extensions:

Project Learning Tree

"Pass the Plants Please": Student look at plants how they are a part of our daily diets.
Lesson Eight: Climbing the Ladder to Success

Objective: Students will discuss how effort and perseverance can help them plan for the future.

Time: 1 hour

Materials: 3x5 index cards
          12x18 strips of paper, 1 inch wide
          Pencils
          Glue

Opening:
Review with students the cooking activity from lesson seven. What did they like about the crepes? How did they use effort while cooking in a group? What fillings contained ocean products? How can we protect the ocean so that we can still have all the good things?
Jacques Cousteau used effort and perseverance daily in his job. List some ways these social skills helped with his work. What do you want to be when you grow up? How can our social skills help you obtain your dream job?

Activity:
By using Jacques Cousteau as an example, students will create a ladder of ten steps it may take for them to achieve their dream jobs. What is your dream job? What kinds of steps are needed to obtain your job? Write a list on the board. Students decide on a job they would like to have when they grow up. They list one step to obtaining the job on each index card. Students glue cards between the long strips of paper, forming a ladder. The ladders are visual reminders of the effort and perseverance needed to achieve our goals.
See example on the next page.
Follow-up:
   In their learning journals, students respond to the activity.
   What did I do?
   Why was this important?
   Why are effort and perseverance important at school?

Extensions:

Project WILD

"Wildwork": This activity helps students identify different wildlife occupations.

Project WILD Aquatic

"Living Research: Aquatic Heroes and Heroines": Students research the accomplishments of local people who are working in aquatic settings.
Lesson Nine: Assessment

Objective: This activity will assess the students' understanding of the concepts of effort and perseverance.

Time: One or two 1 hour periods

Materials: White construction paper
          Pencils
          Crayons, markers, etc.
          Learning journals

Opening:
Review with students the importance of putting forth their best effort and not giving up easily. Remind students that Jacques Cousteau worked to preserve the oceans for wildlife and for humans. His own effort and perseverance have given us fascinating information about ocean life.

Activity:
Students will create ABC books on effort and perseverance. Each letter should be a topic of phrase discussed during the unit and show their understanding of the social skills.

Break students into groups of four. Each group will work cooperatively to create an ABC book. They can use their learning journals, hero profiles, and all other material used for this unit. Books should be creative, colorful and show a group effort.

Make sure that books include a cover, title, and author's page, a page where the authors sign their names and write how they contributed to the project. Collect learning journals for further assessment.
"I am never happier than when I am before the glowing campfire with the open sky above my head. I love all the things of nature and the wild creatures are my friends."

Hero/Heroine Profile: Rachel Carson

March 27, 1907  Rachel Louise Carson was born in Springfield, Pennsylvania. The Carson house had no electricity, heat or running water. They lived a farm life and Rachel spent many hours exploring in the woods behind her house. Since her brother and sister were older than her, she spent most of her time with her mother. They loved to be outside watching all the forest creatures.

1917  Rachel loved to read nature books. This year she sent a World War I story to a magazine contest. She won second place.

Throughout high school she worked hard and got good grades.

1925  Rachel was admitted to the Pennsylvania College for Women, known now as Chatham College. Her major was English Literature. She also became a reporter for the school paper, and played school sports like softball, field hockey, and basketball.

1927  She took a biology class and decided to change her major to biology. This was a risky decision because there weren't many female biologists at this time.

1929  Rachel graduated from college and received a scholarship to attend John Hopkin's University in Baltimore, Maryland. She truly loved the ocean, but had never actually seen it. The summer before she went back to school, she attended the Marine Biology Laboratory, and finally got to see the ocean!

1932  Rachel graduated from school and worked part time at John Hopkins. She also wrote marine articles for a newspaper. Then the Great Depression hit, and her family had to come and live with her.
1932 That same year she got a job with the Bureau of Fisheries as a script writer for a radio show called "Romance Under the Waters." Finally she had a job doing the two things she loved: writing and studying nature.

1933 Rachel and her mom moved to Silver Spring, Maryland. Soon after her nieces came to live with her because her sister had died. Rachel passed a civil service test and became a junior biologist for the Bureau of Fisheries.

1941 She began writing a book called Under the Sea-Wind, in which she explained about ocean ecology. Her book was ignored due to the beginning of World War II.

1949 Rachel became the Editor in Chief of the public department of the Bureau of Fisheries. She wrote booklets called "Conservation in Action," discussing wildlife refuges.

1949 Rachel also had the opportunity to go scuba diving off of the Florida coast. She said, "I saw how exquisitely delicate and varied are the colors displayed by the animals...I got the feeling of the misty green vistas of a strange non-human world."

1950 Rachel published The Sea Around Us and it became a best seller.

1952 Now her first book, Under the Sea-Wind was becoming as popular as her second book. She quit her job at the fishery to become a full-time writer.

1952 In this time Rachel's wrote The Edge of the Sea. She also spent much time with her grand nephew, Roger, who had come to live with her. They explored tide pools on beaches and the wooded areas of Maine. In her book, A Sense of Wonder, she urged parents to spend time with their kids in nature.
1957 Rachel became aware of the Maryland state government spraying the pesticide DDT (dichloro-diphenyl-trichloroethane). It was killing the insects and the birds. She began to study the effects of DDT.

1958 Rachel's mother died. The memory of her mother's love for nature helped her get back to writing.

1962 Silent Spring was finally published despite Rachel's battle with cancer. The book described pesticide use and its effects. President John Kennedy read her book and set his own scientists to work to see if her findings were true. They found the same facts as Rachel had. Her book helped to create restrictions about pesticide use.

1964 On April 14, 1964 Rachel died at her home in Maine.
Lesson One: Responsibility

Objective: Students will complete a T-chart to access knowledge about responsibility and play a game that will demonstrate responsible behavior.

Time: 1 hour

Materials: Chart Paper
          Markers
          Blind folds

Opening:
Responsibility is the next social skill you will be studying. Students will participate in activities focused at making them more responsible students.

Ask your class, what is responsibility? Why is responsible behavior important? When do they use responsibility in school? How do they show responsibility when they are outside?

Present a T-chart aimed at accessing students' prior knowledge of responsibility:

<table>
<thead>
<tr>
<th>Responsibility: Accountable for one's actions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOOKS LIKE</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Responsible students are accountable for the things they do. Responsibility helps students finish their work, gain trust and privileges, and take an active role in learning.

Activity:
Students will play a game called "Mine Field," in which students are responsible for their blind-folded partner's safety.

Place about 100 small balls (ping pong size) around a marked area on the field or playground. The object is for one student to guide the blind-folded person through the
mine field using only verbal clues. Clues must be given from outside of the mine field. Then switch roles. Try timing students to improve their times.

-from Teaching Social Interaction Skills by Kerby, Mercier, Flanagan and Thompson, 1995

Follow-up:
Discuss with students the activity and results. In their learning journals students reflect upon the experience.

What did I do?
What were the results?
How was responsibility incorporated into this activity?
What do I expect to learn during this unit?
Lesson Two: Rachel Carson

Objective: Students are introduced to Rachel Carson and create action plans for their school.

Time: One or two 1 hour periods

Materials: Duplicate Hero profile (Student Pages 1-3)
Books on Rachel Carson, such as Rachel Carson: The Wonder of Nature by C. Reef (optional)
Chart paper
Paper and pencils

Opening:
Remind student of the meaning and importance of responsibility. How can responsibility help you at home and in school?

Introduce Rachel Carson to the class. By being responsible, Rachel was able to go to college and become a biologist. She was able to work towards conserving our environment. Read the Rachel Carson Hero Profile aloud or independently. Discuss some of the following:

In what ways did responsibility help Rachel achieve her goals?
How was she responsible?
What things do you have in common with Rachel Carson?
How can being responsible help our environment?

Activity:
Take your class on a walk around your school's campus. As they are walking, have them make mental notes of the things that need to be maintained, improved, fixed, etc. These may be indoor or outdoor things.

After your tour is complete, brainstorm with students the things they can do to help the school. These may include:

- Setting up a school recycling center
- Picking up trash on the playground
- Aluminum can drive to raise money for a worthy cause
- Cleaning their desks on a regular basis

Provide students with time every day to work on the projects they have selected. Remind students that these
type of activities show responsible behavior. Also note which project may not be feasible, and make sure to get approval from your principal before beginning any project.

Follow-up:
In their learning journals, students respond to the activity.

What did I do?
How can I be more responsible at home and at school?
What did I learn about Rachel Carson?
What was most interesting to me?

Extensions:

This unit provides the perfect opportunity for introducing the class to class plants or pets in which responsible behavior is key to caring for them.

Make "Responsibility Is..." posters to display around the school.
Lesson Three: Egg Babies

Objective: The students will care for an egg baby for one week to observe appropriate and responsible behavior associated with caring for others.

Time: 1 hour for instructions
1 week for activity

Materials: 1 hard boiled egg for each student
Small cups, boxes, etc.
Cloth, cotton
Paper, pencils
Duplicate Egg Babies direction sheet
(Student Page 4)

Opening:
Rachel Carson was not only responsible at school, but at home as well. When the Great Depression struck the United States, Rachel's family came to live with her. Later on she raised her grand nephew when his mom had died. What kinds of responsibility do you have when caring for someone else? Do you have anyone or anything you care for? What ways do you use responsible behavior when caring for others?

Activity:
Hand out an egg and direction sheet to each student. Students will care for their "babies" for one week, taking them everywhere they go, including to and from school and out to recess. Each night students will write down in their learning journals to reflect upon the day's events with a "baby" in tow.

Students who break their babies may bandage them as needed. They will also need to construct a carrier out of the containers and materials provided, or make one at home.

After one week discuss with students the results of this activity. What kinds of things did they have to change in order to care for a baby? How were they responsible? Was this an easy/challenging assignment?

Suggestions: Boil the eggs before the lesson. You may use raw eggs, but some students are likely to break them, and clean up is not easy. If you would prefer not to use eggs,
use rocks, or instruct students to bring a small stuffed animal or doll to school prior to the lesson.

Follow-up:
In their learning journals, students write about the assignment.

What did I do?
How did I feel about the assignment?
What was most challenging for me?
How do you think Rachel Carson felt about caring for her family?
EGG BABIES

During our study of responsibility, you will be caring for an "egg baby" for one week. You will treat this egg as if it was a real baby. Here are the things you will need to do:

1. Take your baby everywhere you go. This includes shopping, out to play, and sport practices. If you must leave and can not take your baby, find someone to baby-sit for you. Never leave your baby alone for more than a few minutes!

2. Bring your baby to school every day.

3. Write daily in your learning journal about your experiences as a parent. Write at least 1 paragraph each night.

4. If your egg baby break, do not throw it away! Bandage it and see me.

This projects is to help you understand the responsibility it takes to care for someone else. At the end of the week, write in your journal about the types of responsibility it takes to care for another person. Have fun!
Lesson Four: Nature Haiku Poetry

Objective: Students will observe an aspect of nature and write a haiku poem about it.

Time: 1 hour

Materials: Outdoor area with plants, trees, or animals
          Pictures of animals or plants if an outdoor area is not accessible
          Writing paper and pencils

Opening:
Discuss with students how caring for another person takes responsibility. How do they feel about constantly caring for their egg babies? Remind students that Rachel Carson cared a great deal about the environment. In her job at the fishery, she wrote articles and scripts to inform people about the beauty of nature. She also wrote books about the sea to raise awareness of oceanic environments.

Activity:
Students will write a haiku poem about one object in nature in which they care about or have observed. Read the following quote to your class:
"I saw how exquisitely delicate and varied are the colors displayed by the animals...I got the feeling of the misty green vistas of a strange, non-human world."

How does this quote express Rachel's feeling about nature?
Take your students outside to observe something in nature, or students can choose something from a nature book, or something they know about. A haiku poem describes a natural object and is written in precise syllables:

five syllables
seven syllables
five syllables
One example of a haiku poem follows:

The Alligator
A speckled lizard
sits upon a granite hearth
warming its body

You may want student to recopy or type their poems and illustrate them.

How does observing a plant or animal foster responsible behavior? Students may suggest gaining appreciation of the object or wanting to keep them safe.

Follow-up:
Students reflect upon the writing experience in their learning journals.
What did I do?
How did I feel about this lesson?
What was challenging/easy for me?
What did I learn about responsibility?

Extensions:

Project Learning Tree

"Poet-Tree": In this activity students create other forms of poetry about plants or animals.

"Power of Print": Students look at newspaper articles to learn how different writing styles can influence readers.
Lesson Five: The Wartville Wizard

Objective: Students will read a story about litter and pickup trash around their school yard. The collected trash will be used to find ways to reduce litter at school.

Time: One or two 1 hour periods

Materials: Don Madden's The Wartville Wizard
Graph paper
Bags for collecting trash
Pencils

Opening:
Ask some volunteers to read and show illustrations of their haiku poetry. In what ways can writing encourage responsible behavior? As a child Rachel loved to read and write stories. Show the cover of The Wartville Wizard. Have students predict what the story is about.

Activity:
Read the story aloud to your class. Although it is a picture book, students love the funny plot and illustrations. After reading, discuss some of the following:
What happened?
How was the Wartville Wizard responsible?
How were the townspeople irresponsible?

Take students on a walk around the school. Instruct them to pick up every piece of trash they see, no matter how small. They will bring the trash back to class to count and graph. You may want other adults to help you monitor children as they pick up trash, or only allow the class in certain areas to collect.

In the classroom, have groups of three to four count their trash and sort according to type: gum wrappers, candy wrappers, soda cans, etc. on the board or on piece of chart paper, tally each group's findings. Groups will use the data to create trash graphs. Bar or circle graphs may work best. Ask students some of the following questions:
What was the total amount of trash collected?
What type of trash represents the most or the least?
Were any areas more littered than others?
From looking at the graph, what do student notice about the litter at our school?

Instruct students to save the trash for the next lesson. Also have them bring some trash from home. It should be already rinsed and dried before bringing it to school.

Follow-up:
Students will respond in their learning journals.
What did I do?
How does picking up trash fit with responsibility?
How did I feel about this activity?
How can I improve our school grounds?

Extensions:

Project WILD

"Litter We Know": This activity helps students identify ways in which litter is harmful to wildlife.

Project Learning Tree

"Earth Manners": Students create guidelines for exploring nature and develop respect for the outdoors.

"Wanted" Posters: Have your student created wanted posters for a character from the story.
Lesson Six: Recycled Art

Objective: Students will create recycled art projects from the trash they collected in lesson five.

Time: 1 hour

Materials: Construction paper
          Glue
          Pencils and scissors
          Assorted trash (juice cans, soda six pack rings, wrappers, etc.)

Opening:
Review with student The Wartville Wizard. Do you think having the power over trash would be a good or bad power? How would you use it? How can we stop littering without use of special powers? Where else do we see litter? There are three ways to take care of our trash problem:

Reduce it by buying products with little or no packaging.
Recycle it by making something new out of something old.
Reduce it by using something over again, or finding someone else who can use it.

We can also rethink our actions and change the way we make decisions or buy things. For instance, carpooling saves gas, and giving clothes to the GoodWill reuses them. How do the 3 R's and rethinking show responsibility?

Activity:
Using the trash brought from home and collected in Lesson five, instruct students to make a recycled art project. They can either make a three dimensional project or glue trash to their construction paper. There are no right or wrong ways to create this projects. Just be creative!

After students have completed their projects, have them write a phrase or a sentence about being responsible with litter, such as "Reduce the amount of trash you throw away!" Display the art in a place where other classes may view it, if possible.
Follow-up:

In their learning journals, students write about the art projects.

What did I do?
What did I learn?
What do the 3 R's mean?
How can I be more responsible with my trash?

Extensions:

Project WILD

"Enviro Ethics": In this activity students distinguish between behaviors that may be harmful or help to the environment.

Project Learning Tree

"Talking Trash, Not!": Students look at their own trash to create ways to reduce the amount of trash they throw away.

"Reduce, Reuse, Recycle": This activity helps students set up a program to reduce, reuse, and recycle trash.

If possible, obtain a copy of the Recycle Rex video to show your students. It uses cartoon dinosaurs to discuss the 3 R's. It is produced by Disney Educational Publications in conjunction with the California Department of Conservation.
Lesson Seven: Deadly Links

Objective: Students will discuss pesticide use and play a game geared at understanding the cause and effects of pesticide use.

Time: One or two 1 hour periods

Materials: Instructions for "Deadly Links" game from Project WILD
White and colored pip cleaners
One inch paper squares
Six inch lengths of yarn (30 pieces per student in a 2/3 white to 1/3 colored ratio)
One paper bag per grasshopper

Opening:
Litter is not the only activity harmful to the environment. Rachel Carson discovered pesticide spraying in Maryland. The government was spraying DDT (dichlorodiphenyl-trichloroethane) in an attempt to destroy mosquitoes. The mosquitoes became immune to the spray, but other insects and birds were being killed. DDT has been linked to the destruction of the bald eagle population as well.

Rachel wrote Silent Spring about pesticide use. If possible, obtain a copy of the book and read the opening scene to your class. It creates a clear picture of the effects of pesticide spraying.

Activity:
Students will participate in Project WILD's "Deadly Links" activity on pages 197-200 of the activity guide. In this game, students look at how pesticides can pass through the food chain and the cause and effects of this. This game can be played outside or inside in a large area.

Follow-up:
In the journals, students reflect upon the activity.
What did I do?
What did I think about this activity?
How can being responsible help wildlife?
What consequence might occur from pesticide use?
Extensions:

Research pesticide use in your area. Contact your local government agency about pesticide spraying or look on the Internet for information.

Project WILD

"Keeping Score": this activity explores the cause and effect relationships that harm or help wildlife and discover ways to help wildlife in their communities.

"Ethi-Thinking": Students discuss outdoor activities that are harmful to wildlife and the environment.

Project Learning Tree

"Pollution Search": In this activity students take a look at air, acid rain, water, and land pollution and create ways to reduce it.
Lesson Eight: Responsible Behavior

Objective: Students will examine responsible behaviors and discuss the consequences of being irresponsible.

Time: 1 hour

Materials: Construction paper and pencils

Opening:
By being responsible we not only help others and the environment, but we also help ourselves. Ask students to discuss what actions they are responsible for at home. Examples include doing homework, cleaning their rooms, or dumping the trash. What happens when you do the things asked of you? (receive allowance, stay up late, etc.) These are called privileges. In this activity students brainstorm a list of responsible and irresponsible behaviors and the consequences of each.

Activity:
Break students into small groups of four or five. Students will complete the following sentence for five actions:

If I'm responsible when I ______________, I ______________.

If I'm irresponsible when I ______________, I ______________.

Example:
If I'm responsible when I do my homework, I get extra playtime.
If I'm irresponsible when I do my homework, I get grounded.

from Character & Community
by R. DuVall, 1997

Encourage groups to choose one statement to read aloud. Why do responsible people receive some privileges that irresponsible people do not? What advantages are to being responsible? Why do adults trust some kids more than others?

Follow-up:
Students respond to the experience in their learning journals.

What did I do?
What did I learn?
How can I be more responsible?

Extensions:

Project WILD

"Changing Attitudes": In this activity students see how being responsible can change their attitudes towards wildlife.
Lesson Nine: Responsible Dining

Objective: Students will create cookies to take on a no trash picnic, demonstrating responsible behavior.

Time: Two 1 hour periods on two consecutive days

Materials: Sugar cookies
Assorted toppings as listed in the activity section
Plastic knives
Frosting
Ziplock baggies, cellophane, or reusable container

Opening:
Being responsible means you are accountable for your own actions. What actions show us that Rachel Carson was responsible? Remind students that responsible behavior can earn them privileges and trust from others.

Activity One:
Students will make trash cookies which illustrate the amounts of trash thrown out by people in the United States. Give each student one cookie to frost. Then add toppings using the following statistics:

Percentages of Trash Generated Annually (Keep America Beautiful, 1997)

37.9% paper/paperboard
14.6% yard waste
7.6% metals
6.3% glass
9.5% plastics
7.0% wood
9.4% other
6.7% food waste
Each topping represents one trash category:
Chocolate chips = paper
Nuts = yard waste
M & M's = metals
Marshmallows = glass
Sprinkles = wood
Red Hot candies = food waste
Coconut = other

After the cookies are complete, students wrap them in bags or cellophane. They will be dessert for your no trash picnic.

Activity Two:
Begin after completing the cookies. What foods do students usually bring in their lunches? What kinds of packaging do these items have? Explain that tomorrow you will be going on a no trash picnic. The idea is for students to pack their lunches with the least amount of trash possible. Brainstorm ways to reduce trash in their lunches, such as using cloth napkins, reusable silverware or a thermos. Instruct students to bring their lunches for the following day. Find a shade tree on the playground under which to have your picnic. Enjoy the trash cookies for dessert.

Suggestions: Provide students will cookies already baked to reduce the amount of time for the activity. To reduce your cost, ask parents to volunteer some of the items needed for the cookies.

Follow-up:
Discuss with students the items of trash thrown away at the picnic. How was the amount reduced through their responsible behavior?
Students reflect upon their picnic in their learning journals.

What did I do?
What was my favorite part?
What did I learn?
Extensions:

Prior to the picnic, have students bring in trash from a typical lunch to analyze and record. Compare this trash to the picnic trash.
Lesson Ten: Assessment

Objective: The students will list ways in which they can use responsibility at home, at school, and in their communities.

Time: 1 hour

Materials: Construction paper or other paper
Markers, pencils, crayons

Opening:
Review with students the concepts learned throughout the responsibility unit. Why might Rachel Carson be considered an environmental hero? How did responsibility help her? How can it help you?

Activity:
Students divide their paper into thirds. Title each section as follows:

<table>
<thead>
<tr>
<th>Responsibility at home</th>
<th>Responsibility at school</th>
<th>Responsibility in my community</th>
</tr>
</thead>
</table>

Students list three ways in which they are responsible in each area. Illustrate if desired. Each example should reflect the knowledge acquired during their course of study.

You may also want to collect their learning journals to see how their reflections show understanding of responsibility.
APPENDIX E

Gaylord Nelson

The social skill of Responsibility is promoted Throughout Appendix E

"We can not be blind to the growing crisis Of our environment. Our most priceless Natural resources - trees, wildlife habitat, Scenic landscapes - are being destroyed."

from Gaylord Nelson: A Day for the Earth by C. Reef, 1992, p. 38
Hero/Heroine Profile: Gaylord Nelson

June 14, 1916 Gaylord Nelson was born in Clear Lake, Wisconsin, a town with a population of only 700. Gaylord was nicknamed "Happy." He was happiest outdoors.

1916- As a child, Gaylord loved to play outside and watch all of the animals. For fun he and his friends would try to trap gophers, and then release them. They would also try to confuse the local turtles. As the turtles journeyed from one side of town to the other, the boys would pick up the turtle and turn them around. Gaylord was amazed that the turtles still ended up at their final destination!

1926 Gaylord and his family went to hear politician Bob La Follette speak. Gaylord decided then that he would some day be a politician.

1930 Gaylord made his first political move. He went before the town council to suggest the planting of elm trees on roads into Clear Lake. He loved the idea of the cool shade the trees would bring, but his idea was not approved.

1934 Gaylord graduated from high school and went to San Jose State College in San Jose, California.

1939 Gaylord graduated from college and went on to attend Wisconsin Law School.

1942 He received his law degree and went into the US Army, where he met his future wife, Nurse Carrie Lee Dotson.

1946 Back in Wisconsin, Gaylord decided to run for the state assembly and lost, but only by 100 votes.

1947 Gaylord and Connie got married and moved to Madison, Wisconsin. He was a lawyer there for two years.
1948 Gaylord signed onto the Democratic Party and ran for the Wisconsin State Senate and won a seat as a senator.

1952- Gaylord ran for senator and was elected for two more terms. While in office he worked on public education and conservation. Gaylord's daughter, Cynthia Lee, was born.

1956 Gaylord decided to run for Governor of Wisconsin and won. There had been not Democratic governor since 1932. When he needed a break from his job, he would tell a funny story about growing up in Clear Lake and the adventures he had had as a child.

1958 Gaylord's son, Jeffrey, was born. He was also reelected governor. He began a ten year project to buy land and make it into "wilderness areas." It cost $50 million! This ensured that some wilderness would be left for young and old to enjoy forever.

1961 Gaylord was elected US Senator for Wisconsin. He still wanted to help the environment.

1962 On March 3, 1963 Gaylord gave a speech on the environment. He said, "We can not be blind to the growing crisis of our environment. Our most priceless natural resources - trees, lakes, rivers, wildlife habitats, scenic landscapes - are being destroyed."

Gaylord took President John Kennedy on a tour of the Wisconsin wilderness. The Presidents said, "What has been done here, must be done in every state in the country."

1969 Gaylord attended a meeting on water pollution in Santa Barbara, California. He got the idea for Earth Day while on the plane. He said, "The youth of today face an ugly world of the future with dangerously and deadly polluted air and water. I am proposing a national teach-in on the crisis of the environment."
1970 On April 22, 1970 the first Earth Day was celebrated. Over 20 million people in America participated! Children in New York City cleaned the streets. Manhattan closed its streets to cars and buses. The Girl Scouts helped clean the Potomac River in Washington, D.C.

At the time Earth Day was reported to be the largest demonstration in American history!

1970- Gaylord worked on passing environmental laws. He spoke against pollution and developed the National Hiking System which includes the Pacific Crest Trail, a trail from Canada to Mexico.

1990 Gaylord spoke at the 20th anniversary of Earth Day. He said, "This is our last best chance for saving the planet.

2000 On April 22, 2000 the 30th anniversary of Earth Day was celebrated.
Lesson One: Problem Solving

Objective: This lesson will access students' prior knowledge of problem solving.

Time: 1 hour

Materials: Chart paper
          Markers

Opening:
The problem solving unit may be most effectively taught in April since the environmental hero is Gaylord Nelson, founder of Earth Day.

Problem solving is the ability to peacefully resolve conflicts. Problem solving can help you get along with others as well as solve problems at home, at school, and in the community.

Ask students to brainstorm the actions of problem solvers. What do problem solvers do? Why is problem solving important? Present a T-chart to access students' prior knowledge of problem solving. This chart will be a visual reminder of how problem solving looks and sounds.

<table>
<thead>
<tr>
<th>Problem solving: peacefully resolving conflicts</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOOKS LIKE</td>
</tr>
<tr>
<td>-------------</td>
</tr>
</tbody>
</table>

Problem solving can help students do well in school, maintain friendships, and see different points of view.

Activity:
One skill that a problem solver has is the ability to positively disagree. When you disagree positively, you respect the other person's opinions while maintaining your own opinion. Present a situation in which student may disagree on a subject, for example, a favorite sports teams
or music group, or choosing a free time activity. Is it ok to have different opinions on something? How does it feel to have someone put down your opinion? Can you disagree without hurting the other person's feelings?

To practice positive disagreements, have students role-play situations in which they must disagree without becoming involved in an argument.

First, brainstorm a list of possible disagreements and write on the board. Next divide students into groups of three. While two students are role-playing, the third observes and comments on their reactions. Each group should role-play until all members have participated as observers and players. Allow about ten to fifteen minutes for this activity.

As a group, discuss the following:
What did you notice during the role-playing?
What were some appropriate responses during the role-plays?
Were any inappropriate comments made?
How can students use positive disagreeing skills at recess or at home?

Follow-up:
Students respond to this experience in their learning journals.

What did I do?
How did I feel about the role-playing?
How can I use this outside of class?
Lesson Two: Problem Solving and Gaylord Nelson

Objective: Students will create a problem solving story in which they list a problem and three creative solutions to the problem.

Time: 1 hour

Materials: Duplicate Hero profile (Student Pages 1-3)  
Paper  
Pencils, markers, crayons

Opening:  
Review with students the T-chart on problem solving as well as the activity on positive disagreements. Express to students that problem solving not only deals with positively disagreeing, but also with discovering peaceful and creative solutions to problems.

Introduce Gaylord Nelson to your class. Gaylord Nelson used problem solving skills to preserve and improve the conditions of wildlife and the earth. Hand out the hero profile on Gaylord Nelson to read aloud or independently.

In what situations did Gaylord use problem solving?  
How did his efforts help wildlife and our environment?  
How can we use problem solving to protect our environment?

Activity:  
By the age of fourteen Gaylord was already trying to improve his surroundings. He wanted to plant elm trees to provide shade in his home town. What are some problems you face at school? What are problems you face at home or in your community? How can you solve them?
The student will create a problem solving story to show a problem and peaceful, creative ways to solve it. Give each student a piece of paper. Holding the paper horizontally, students divide the paper into four sections. In section one students write and illustrate a problem they may have had; rumors, stealing, fighting, etc. In the remaining three sections students write and illustrate ways to peaceful solve the problem. Have volunteers share their pictures.

from Character & Community by R. DuVall, 1997.

If desired, discuss with students problems they see in our environment, such as litter, air pollution, or endangered species. Have them repeat the activity, focusing on environmental problems and solutions. Share and discuss each story.

Follow-up:
In their learning journals, students write about the activity.

What did I do?
How can problem solving help me at school?
Why is problem solving important?
How can I use problem solving to help the environment?

Extensions:
Create a "Solve Problems Peacefully" bulleting board. Each student makes a peace symbol. Each section describes and illustrates a way students can solve problems peacefully in the classroom, at home, in the community, and in nature. Cut out the symbols and display on the bulletin board.
Visit this Earth Day Website to find out more information on Gaylord Nelson. It includes background information on Earth Day and Gaylord, as well as an audio message from Senator Nelson, and an environmental timeline. http://earthday.wilderness.org/history/

Project WILD

"Improve Your Place": Students study about their own habitats and design ways to improve them.
Lesson Three:  Air Pollution Testing

Objective:  Students will conduct an air pollution test to see where the most air pollution is generated at their school.

Time:  1 hour  
A few minutes the following day

Materials:  Index cards  
Petroleum jelly  
Yarn  
Hole punch

Opening:  
Being by reviewing with students the solutions they created for their problems. Discuss how Gaylord Nelson spent his life trying to solve environmental problems so that our earth might stay beautiful for years to come.  
Air pollution is one of the many problems our world is facing. Read the following quote:  
"The youth of today face an ugly world of the future with dangerously and deadly polluted air and water."

What did Gaylord mean? Why should we be concerned with air pollution? How can it affect you? What causes air pollution?

Activity:  
The students will conduct an air pollution test around their school. Punch a hole in the top and bottom of each index card. Yarn will be threaded through the holes to attach to fences, poles, etc. On the back of the card write your classroom and "Please Do Not Remove." On the front, write the location where the card will be hung. Coat the front of the card with petroleum jelly to catch any air born pollutants. Place the cards in areas where students suspect air pollution to be a problem: by buses, teacher parking lots, or near streets.  
After cards are in place, have students predict the areas with the most air pollution. Leave cards in place for 24 hours. You may want students to respond in the journals making any predictions about what they will find, or what they liked about the activity.
Remove cards the next day and examine them. Which card has the most pollution on it? Which has the least? What does this tell us? How does air pollution affect us and wildlife?

Students brainstorm possible ways to reduce the amount of air pollution around their school. Some possible suggestions may be making posters, carpooling, or walking to and from school.

Follow-up:

Students reflect upon the air pollution activity in the journals.

Were my predictions accurate or inaccurate?
How can problem solving help clean up the air?
What can I do to help?

Extensions:

Project WILD

"Ethi-Thinking": Students looks at human activities that are harmful to wildlife and the environment.

Project Learning Tree

"Air Plants": In this activity students discover how plants produce and clean our air.

"Air We Breathe": Students explore air quality and create solutions to the problem of air pollution.
Lesson Four:  Wasting Water

Objective:  Students will examine the amount of water they waste at school and devise ways to conserve this natural resource.

Time:  1 hour

Materials:  Containers
           Measuring cups
           Paper towels

Opening:
Problem solving helps us to solve conflicts with others. It also helps solve environmental problems. What did you learn from the air pollution lesson? As a politician Gaylord Nelson spent some of his time trying to create solutions to many of the environmental problems facing the earth today.

Another environmental problem is water pollution. The earth has a very limited supply of fresh water for us to drink, cook and clean with. What are some ways that our fresh water becomes polluted?

Activity:
Students will measure the amount of water wasted during normal activities such as getting a drink or washing their hands. Break students into groups of three or four. Each group will need a container to collect waste water, the water that goes down the drain, paper towels, measuring cups and access to a sink.

Instruct groups to have one student get a drink. Place the container under the faucet to collect the wasted water. Measure water in the container and record information on a piece of paper. Repeat this process with hand washing.

Discuss the activity with the class. How much water was collected from each activity? Now multiply that amount by the five days you are in school. How much do you think our whole class would use in a year? Tell students the amount of water used to brush teeth (two gallons in five minutes) and for taking a shower (25 gallons in five minutes). That's a lot of water!

Now have students discuss possible ways to reduce the amount of water wasted during normal every day activities.
Follow-up:
Students write about the experience in their learning journals.
What did I do?
How can problem solving help conserve our water?
What did I learn?

Extensions:

Project WILD

"No Water Off a Duck's Back": This activity explores oil spills and the effects on wildlife.

Project Learning Tree

"Water Wonder": By examining the water cycle, students learn how nature purifies water and conservation efforts are needed.
Lesson Five: The Wump World

Objective: Students will discuss the cause and effect relationships of pollution.

Time: One or two 1 hour periods

Materials: Bill Peet's The Wump World
Chart paper
Paper and pencils

Opening:
Review the activity performed in lesson four. How can problem solving keep our environment cleaner for years to come? How can we protect our water supply? In this lesson you will read a story about a beautiful land that becomes polluted.

Activity:
Read aloud Bill Peet's The Wump World. Discuss with students the ways in which Wump World changed after the Pollutians arrived.
Discuss cause and effect relationships. An effect is something that happens as a result of the cause. Students will make their own cause and effect charts.
First, make a chart as a shared activity. The effect is bad grades. What are the causes? List student answers on the board. You may wish to repeat this process for pollution so that students have a clear understanding of the task.

BAD GRADES
(effect)
Not turning in homework
Missing school
Being lazy
Not paying attention in class
Brainstorm a list of environmental effects, such as air pollution, water pollution, littering, or extinction from which students can choose. Each student or pair of students chooses one effect and lists at least five causes. On the back of their charts, students list at least five ways that could solve the problem.

Follow-up:

- In their journals, students respond to the cause and effect lesson.
  - What did I do?
  - What did I learn?
  - How did I use problem solving?

Extensions:

- Have students write a new ending to *The Wump World*.
- Have students think of ways in which the Wumps and Pollutians could have peacefully resolved the pollution and lived together happily.
- Have students compare and contrast themselves to the Wumps or the Pollutians. Use a Venn Diagram or other comparison chart.

*Project Learning Tree*

"Pollution Search": Students research various forms of pollution and find ways to reduce it.
Lesson Six: Solving Problems in Our Community

Objective: Students will research a local problem and list possible solutions to the problem.

Time: 1 hour

Materials: Newspaper articles
Paper and pencils

Opening:
Long before Gaylord became a governor or a senator he was trying to solve problems in his community. As a state assemblyman he worked on public education and conservation. In the next activity you will be looking for ways to help solve local problems.

Activity:
Students will work in groups of four or five. Distribute newspapers or pre-selected article, and have groups read and discuss the article. What is it about? What are some solutions to the problem? Have groups share their articles and possible solutions with the class. Encourage listeners to add to the solutions if they think of any.

As a class discuss the ways in which the groups solved each problem. How did they use problem solving? What might Gaylord think of their solutions?

Follow-up:
In their learning journals, students reflect upon the experience.
What did I do?
What did I learn?
How can I help my community?
How does problem solving help the environment?
Extensions:

**Project Learning Tree**

"Our Changing World": In this activity students examine global environmental changes.

"Life on the Edge": Students develop "public relations campaigns" for an endangered animal or plant species.
Lesson Seven: Democracy in Action

Objective: Students will learn about special interest groups and how decisions are made at the local level.

Time: Two 1 hour periods spread over several weeks

Materials: Writing paper and drawing paper
Pencils and crayons
List of local agencies or special interest groups
Copy of student worksheet page 200 in Project Learning Tree guide

Opening:
In lesson six you looked at some problems in our community and thought up possible solutions. There are other ways of getting involved in solving local problems. Like the young Gaylord who wanted to plan elm tree along roads into Clear Lake, you can become involved in community decision making.

Activity:
Use Project Learning Tree's "Democracy in Action" activity on pages 197-200 of the guide. This activity explains how democratic societies give the right of decision making to the people. It also shows how students can become involved in the local decisions making process.

Students brainstorm things they are concerned or care about and find interest groups who are involved in those concerns. A variation may be to invite a representative from different interest groups to speak to the class. Make sure students are prepared with questions prior to the speaker's visit.

Follow-up:
Students respond in their learning journals.
- What did I do?
- What did I learn?
- What was most interesting?
Extensions:

Project WILD

"Planning for People and Wildlife": This activity helps students examine wildlife in cities, and discover ways to improve the quality of wildlife in cities.

Project Learning Tree

"There Ought To Be A Law": Students find out how local laws are made.

"We Can Work It Out": Students discover ways to resolve conflicts over land use.
Lesson Eight: Problem Solvers Guide

Objective: Students will construct a problem solvers guide showing mastery of problem solving skills.

Time: 1 hour

Materials: Construction paper
Markers, crayons, pencils, etc.
Books on the environment (optional)

Opening:
Why is problem solving an important skill? How can you use it to solve problems peacefully at home or at school? What kinds of problems did Gaylord try to solve?

Activity:
Students will construct a "Problem Solvers Guide to Caring for the Earth." Brainstorm a list of ways students can care for the earth. Write the list on the board. Instruct each student to choose one topic about which to write. Allow time for research, if necessary. Students will write a brief summary of their topic and their solutions or ways to reduce the problem. For instance, a student writing on pollution may give a definition, some examples of pollution, and ways to reduce pollution. Each page should be colorful and creative.

Remind students to leave a one-inch border on the left side for binding purposes. Illustrate a cover and make an author's page for all the authors to sign. You may want to ask the librarian if he/she can make your book part of the library collection so other students may read it.

Follow-up:
Students respond to the activity in their journals.
What did I do?
How will studying the environment help solve environmental problems?
How was problem solving used in this activity?
Why was this project important?
Extensions:

Environmental Posters: Students research and draw one natural environment. Then they brainstorm ways that humans could harm the area. On the posters students draw things that will prevent harm to the natural area.

Project Learning Tree

"Power of Print": this activity has students look at different writing styles in newspapers to determine the power behind the words.
Lesson Nine: Happy Earth Day Every Day!

Objective: Students will plan an Earth Day celebration featuring ways to reduce or solve environmental problems.

Time: Several weeks
You may want to begin planning this activity at the beginning of this unit.

Materials: Various materials

Opening:
You have learned how Gaylord Nelson used problem solving to solve or reduce some environmental problems. He was also the founder of the first Earth Day on April 22, 1970. What is Earth Day? Why should we celebrate the earth?

Activity:
If you are not celebrating Earth Day in April, remind students that the annual Earth Day is celebrated on April 22nd each year, but that every day should be Earth Day. Brainstorm with student a list of ways that your class can celebrate the earth. Write the list of ideas on the board or on chart paper. Make sure students are suggesting ideas that will help and not harm the earth. Some ideas may include:

- Recycling projects
- Planting flowers around the school
- Picking up trash
- Making environmental posters for other classes
- Inviting other classes to an environmental presentation

Give students adequate time to research and gather the materials needed for their Earth Day celebration. Students should work in small groups of four to organize each event but the whole class should participate in each activity. Don't forget the treats for your celebration!
Follow-up:

- Have students write about the celebration in their learning journals.
  - How did I participate?
  - What is my job?
  - How do I feel about this project?
  - What was challenging/easy for me?
  - What was the best part?

Extensions:

Project Learning Tree

"Publicize It": In this activity students participate in action projects designed to inform others about environmental issues.
Lesson Ten: Assessment

Objective: The students will write letters illustrating their knowledge of problem solving skills and local issues.

Time: 1 hour

Materials: Paper and pencils
Addresses of the city council or the Mayor's office

Opening:
You have participated in many activities throughout the problem solving unit. What were some of the activities? What did you learn about problem solving? How will you use problem solving at home and at school? What did you learn about Gaylord Nelson?

Assessment:
Students will write letters to the Mayor or city council members regarding their problem solving unit. They will include information about problem solving, an environmental issue about which they would like to see improvement and change, and why problem solving is important. Make sure to edit each letter and keep the rough draft for assessment purpose.

Letters should show acquisition of knowledge about problem solving. They should include the importance of problem solving, an environmental issue in the community, and possible solutions.
Collect students' learning journals to review and use for assessment as well.
Aldo Leopold

The social skill of respect is promoted throughout Appendix F

"When we see land as a community to which we belong, we may begin to use it with love and respect."
Hero Profile: Aldo Leopold

January 11, 1887  Aldo Leopold was born in Burlington, Iowa. His grandfather was a naturalist and taught him about many animals and birds. His father taught him to respect wildlife and to be responsible when hunting.

1895  At age eight, Aldo loved to walk quietly through the woods and observe the animals around his home. His favorite bird was the wren because of its beautiful song. His favorite time of year was August when the family went to Les Cheneaux, a resort on Lake Huron. He loved to go exploring there.

1900  Aldo attended Burlington high School. He was very shy, observing everything but rarely speaking. He heard of a forestry school opening at Yale University. He dreamed of becoming a forester.

1903  Aldo left high school to attend a boarding school in hopes that if he got good grades, he could attend Yale University.

1904  His classmates nicknamed him "the Naturalist" because he made friends by taking them along on his explorations.

1904  Later this year Aldo enrolled at Yale, but not in the forestry program because it was a Master's program. He attended Sheffield Scientific School and he studied physical chemistry, mechanical drawing and geometry.

1908  Aldo graduated with a Bachelor's Degree and enrolled in the forestry program at Yale.

1909  Freshly out of the forestry program, Aldo was hired by the US Forest Service and sent to work in the Apache National Forest in Arizona. It was a wild place with no roads. He had to ride on horse back every day.
1911 While in Albuquerque speaking to his boss, he Estella Bergere. He asked for an assignment closer to her and he was moved to the Carson National Forest.

1912 Aldo and Estella were married and moved to the Rio Grande Valley.

1913 When Aldo became ill from kidney failure, he had to return from the forest. He set out to write article for The Pine Cone, a forestry journal. This same year his son, Aldo Starker, was born.

1914 Aldo returned to a new job. His job was to develop guidelines and programs to protect game animals and public recreation for the Apache National Forest.

1915 Aldo wrote the Game and Fish Handbook. His second son, Luna, was born.

1917 Aldo worked on cleaning up sewage and trash around the Grand Canyon. His daughter, Adelina, was born.

1918 Aldo wrote the Watershed Handbook, which showed how to protect rivers and lakes.

1924 With urging from Aldo, the United States Forestry Service designated the Gila Wilderness Area a national forest. He became known as the "father of the National Wilderness system." This same year Aldo moved his family to Madison, Wisconsin. He went to work in a timber factory to develop ways to use the wasted parts of the lumber. His son, Aldo Carl, was born also.

1928 Aldo began working for the Sporting Arms and Ammunition Manufacturer's Institute to develop conservation methods for game animals.

1929 Another child, little Estella, was born.
1931 Aldo wrote a "Report on a Game Survey of the Northern Central States," as well as a textbook entitled *Game Management*. He also attended a conference on a new science called ecology. Now he was not just concerned with game animals, but with the conservation of all wildlife.

1931 In August the University of Wisconsin hired Aldo as a professor or game management. He also gave short radio talks and got conservation groups to work with him.

1934 Aldo went to Washington, DC, to meet President Franklin Roosevelt to work on the President's committee on wildlife restoration. Aldo also bought 500 acres of ruined farm land. It became the University of Wisconsin's Arboretum and Wildlife Refuge. Aldo became the leader of the Wilderness Society.

1935 Aldo bought 80 acres of land on a river.

1936 He planted 2,000 pine tree, blackberry and other bushes, and many other trees on his land.

1938 Aldo was put in charge of the Department of Wildlife Management at the University of Wisconsin.

1948 On April 21, 1948 Aldo died while helping fight a fire at a neighbor's house. His book of essays, called *A Sand County Almanac*, was published in 1949.
Lesson One: Respect

Objective: The students will practice the social skill of respect by participating in a game called "Islands."

Time: 1 hour

Materials: Chart paper and markers
12 plastic lids of Frisbees

Opening:
Having respect for yourself and others is showing that your care about others and are considerate of others. Being respectful can help you get along with others, raise your own self-esteem, and earn the respect of others.

Ask students to think about how respect looks and sounds. Present a T-chart to access students' prior knowledge of respect:

<table>
<thead>
<tr>
<th>Respect: To show regard or consideration for.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOOKS LIKE</td>
</tr>
</tbody>
</table>

How can respect help you at school and at home?
Activity:

Students will participate in an outdoor game called "Islands." Start the activity by placing twelve markers (lids or Frisbees) along a 3-foot diameter circle. Students jog, hop, or skip, depending on your command, around the circle. When you shout "Islands!" students have five seconds to touch a marker or island without touching anyone else. Repeat the game a few times before removing a couple of the islands. Continue to reduce the number of islands. Students should be helping others find an island, and displaying respectful behavior.

-from Teaching Social Interaction Skills
Kerby, Mercier, Flanagan and Thompson, 1995

Follow-up:

In their learning journals, students reflect upon the experience.

What did I do?
How do I feel?
Why is respectful behavior important when playing a game?
What do I expect to learn in this unit?
Lesson Two: Aldo Leopold

Objective: The students will observe nature and develop ways to respect nature.

Time: 1 hour

Materials: Duplicate Hero profile (Student Pages 1-3)  
Paper and pencils  
Chart paper

Opening:  
Remind students that respect is showing care and consideration for others. When have they seen respect at school? Respect can also be in the form of accepting differences, helping others, and being good citizens.  
One such respectful citizen was Aldo Leopold. Aldo loved nature and showed his respect for plants and animals by working to protect them. Read the Aldo Leopold Hero profile and discuss some of the following:  
What kinds of things did Aldo do?  
How was he similar or different from you?  
How did he show respect for nature?

Activity:  
As a child Aldo was in love with nature. By the time he was in high school, he wanted to protect wild birds and game animals.  
Take students outside and instruct them to find one natural object to observe (a leaf, an ant, tree, bird, etc.). Students should think of ways they can show respect for their object. For example, if they observed a tree, ways to show respect might include planting more trees or not wasting paper. Allow about ten minutes for observations.  
Back inside the classroom have students share their observations and ways to respect their object. If any students did not think of ways to show respect, ask volunteers to assist them.  
Using student ideas, create a word web to display in the classroom.
Follow-up:
   Have student write about the activity in the learning journals.
   
   What did I do?
   What did I learn?
   How did I show respect?
   Why is respect important?

Extensions:

Project WILD

"Wildlife is Everywhere!": In this activity students acknowledge that humans and wildlife share environments.

Project Learning Tree

"Three Cheers for Trees": student look at trees and their many uses, gaining respect for these natural resources.
Lesson Three: Everything is Connected

Objective: Students discuss the components of habitats and play a game to understand the importance of healthy habitats.

Time: 1 hour

Materials: Directions for "Habitat Lap Sit" from Project WILD guide, pages. 33-34

Opening:
In lesson two you learned about Aldo Leopold and his efforts to protect wildlife. Why is it important to protect wildlife? In what ways can you help? Discuss the following quote from Aldo Leopold:
"When we see land as a community to which we belong, we may begin to use it with love and respect."

What does this mean? How can we love and respect the outdoors?
Aldo felt that all land, plants and animals, including humans, were connected. All things depend on each other for survival. If one area is out of balance, all other areas are affected.

Activity:
Students will participate in Project WILD's "Habitat Lap Sit" on pages 33-34 of the activity guide. This activity demonstrates how animals depend upon the components of their habitat: food, water, shelter, and space. When one of these is depleted, it can throw the entire ecosystem out of balance. This whole group activity is best played outside, since a large, tight circle must be formed.

After the activity, discuss with students how we are all connected to our habitats. People depend on plants, animals, and land for survival, while wildlife depends on people for the same reason. By respecting and caring for all things we can ensure their survival as well as our own.
Follow-up:
Students respond to the activity in their learning journals.
- What did I do?
- Why is it important to respect all things?
- What did I learn?
- What did I enjoy or dislike about the activity?

Extensions:

**Project WILD**

"Oh Deer!": This "tag" sort of game illustrates how animals depend upon their habitat for survival.

"Shrinking Habitat": In this activity students discuss growing cities and the loss of habitat for wildlife.

**Project Learning Tree**

"Web of Life": Students look at a particular habitat to see the connection between the plants and animals living there.
Lesson Four: Birds of a Feather

Objective: Students will research one bird in order to make a class field guide. They will also see a relationship between knowing about an animal and respecting the animal.

Time: Two 1 hour periods

Materials: Books on birds, encyclopedias, and computers
Pictures of birds
Paper, pencils, crayons
Pictures and information on the wren

Opening:
Discuss with students respect for nature because we are in some way connected to nature. How are we connected? Although Aldo Leopold loved all aspects of nature, he especially loved birds. As a child his favorite bird was the wren because of its beauty and songs. Also loved watching birds so much that he created a journal to keep track of the various species in which he came in contact. Today students will become experts on a bird as they research information to include in a class bird guide.

Activity:
As a whole group, present the information on wrens to your class. Include pictures for students to observe. Discuss where the wren comes from originally; this is its native habitat. Also include the following information:
where it nests
what it eats
its type of feet and beak
coloration
any adaptations

Complete a field guide page as a class. Once you have completed a page for the wren, instruct students to choose one bird to research. You can brainstorm a list of birds to use, or log onto the US Fish and Game's website at http://www.dfg.ca.gov/dfghome.html.
After students have gathered their information, they are ready to make their field guide pages. This page should include all of the above information, plus an illustration of the bird.
Follow-up:

In their learning journals, students respond to the activity.

What did I do?
What did I learn?
How can knowing about an animal help me respect it?
What was the most interesting part?

Extensions:

Project WILD

"Color Crazy": Students examine the various colors of wildlife.

"Adaptation Artistry": In this activity, students have a chance to create a bird of their own.
Lesson Five: Pine Cone Bird Feeders

Objective: Students will make pine bird feeders as part of their respect unit.

Time: 1 hour

Materials: String
           Pine cones
           Honey or peanut butter
           Bird seed
           Pie tins and plastic knives or spoons
           Newspaper

Opening:
In the last activity students researched birds. Review with students the importance of respecting all living things. Why should we respect birds? How can knowing about different birds help us to respect them? How can we show our respect for birds? Students will make bird feeders as a show of respect for birds around their school.

Activity:
Divide students into groups of two or three. Each group will need a pine cone, string, honey and peanut butter, pie tin, and newspaper.
Cover the work area with newspaper to keep it clean. Attach the string to the pine cone to create a hanger. Smooth the honey of peanut butter all over the pine cone. Then roll in pie tin full of bird seed.
As a group decide where to hang the bird feeders. Hang feeders and sit close enough to observe, but not to scare the birds. Quietly observe your new feathered friends as they enjoy your gifts. Use your field guide to identify the different birds.
Make sure to remove the feeders and dispose of them properly when all the bird seed is eaten.

Follow-up:
Students write about the experience in their journals.
What did I do?
What did I learn?
What would I do differently?
Extensions:

Project WILD

"Owl Pellets": This activity helps students to see what owls eat by constructing a simple food chain.
Lesson Six: Valuing Others

Objective: Students will write letters to school personnel showing respect and value for the person.

Time: 1 hour

Materials: Paper and pencils

Opening:
In lesson five students showed respect to wildlife by creating bird feeders for birds. By respecting wildlife we are valuing wildlife. What does it mean to value something? Aldo Leopold felt that we should respect all life forms, including humans. How do we value other people?

Activity:
Think about all of the people who work at our school. Write a list of their names and jobs on the board. What kinds of things do they do for us? Why should we value these people?
Have students choose one person to whom they will write a thank you letter. Their letters should include the individuals' importance to the students, how they help the students, and why they are valued. Make sure that letters are written in a personal letter format and are edited for neatness.
You may want to invite each person to class to present the letters, or send students to hand deliver them. A cookie or other small gift may be an added touch.

Follow-up:
Have students respond to the letter writing activity.
What did I do?
Why is this important?
How did I feel?
How can I show people that I value them?
Extensions:

Project WILD

"Good Buddies": This activity looks at different kinds of animal relationships, including symbiosis, in an attempt to see the value of these relationships.

Project Learning Tree

"Dynamic Duos": Students take another look at wildlife relationships and why we should respect them.
Lesson Seven: Respecting Trees

Objective: Students will make recycled paper, learning the value and respect we should give to trees.

Time: Several hours to soak newspaper
      Two 1-hour periods
      Two or three days for drying

Materials: Newspaper
          Buckets
          Cornstarch
          Whisk or non-electric eggbeater
          Plastic wrap
          Piece of window screen
          Rolling pin or large can

Opening:
In the last lesson, we learned the value of others at school. Why do we value those people who help us? How can we show them respect? Remind students that Aldo Leopold believed we should respect all forms of life.

We should also respect trees. Trees provide us with many things. What types of things do we get from trees? What would happen if there were no more trees?

Activity:
Where does our paper come from? How is it made? Today you will make recycled paper with your class to show the importance of respecting trees. Gather all of the materials needed for this project.

Fill a bucket half-full with newspaper torn into small pieces. Add enough water to wet the newspaper and then let it soak for several hours.
Beat the newspaper mixture into a creamy pulp with the beater or whisk.
Stir three tablespoons of cornstarch in a cup of water and add it to the newspaper. Mix well.
Place the window screen into the mixture several times until it is coated with a 1/8 inch layer of the mixture.
Put the screen on a thick stack of newspapers and cover with the plastic wrap. Roll the rolling pin or can over the screen to squeeze out excess moisture.
Place the screen in a place where it can dry for several days. Once it is dry, remove paper from the screen.

from Ecology by B. Gruber and S. Gruber, 1991

After the paper has dried discuss the results with students. Does it resemble their notebook paper or the recycled paper you may use in your class? Would they enjoy making paper this way on a regular basis? Why should we respect trees? How can we show our respect for trees?

Follow-up:
In their learning journals, have students reflect upon the experience.
- What did I do?
- What did I learn?
- What was challenging or easy?
- How do I feel?

Extensions:

Project Learning Tree

"Plant A Tree": This activity helps students identify the ways in which trees enrich our lives, and find areas where trees may need to be planted.

"Make Your Own Paper": This activity offers another way to make your own paper.

"Tree For Many Reasons": Students look at tree and reasons for conserving them.
Lesson Eight: Respecting Each Other

Objective: Students will show respect to other students by writing compliment or value statements about others.

Time: 1 hour

Materials: Paper and pencils

Opening:
Review with student the importance of respecting and valuing trees. What did they like or dislike about making paper? In what ways can we show respect for wildlife? How do we respect adults, like your parents or teachers? Why should we also respect our classmates? How can we show respect to each other? Appropriate response may include sharing, saying please and thank you. How can we show others that we value them? One way is by giving compliments.

Activity:
This activity may be completed inside or outdoors. Instruct students to write their names at the top of a piece of paper. Papers will be passed to every student. Students are to write a compliment or value statement about the person whose paper they have. This is an anonymous compliment, so do not include names. No put downs are allowed. If students notice a put down on any papers they should let you know immediately. This is a really quick moving activity, so only allow students 20-30 seconds before passing the papers.

Example:
I value John because he helps me with my math.
Jackie has nice shoes.

At the end of the activity, students get their own papers back and read who they are valued by others. Encourage students to share a favorite compliment.
Follow-up:

Students respond to the activity in their learning journals.

What did I do?
What did I learn?
How did this activity make me feel?

Extensions:

Project Learning Tree

"A Look At Lifestyles": Students examine the ways Native Americans and American pioneers used and valued their environments.
Lesson Nine: Friendship Salad

Objective: Students will demonstrate respect for others while preparing a friendship salad.

Time: One or two 1 hour periods

Materials: Paper plates and bowls
Cutting and serving utensils
Cutting boards
Assorted fruits
Whipped topping, coconut, marshmallows (optional)

Opening:

How did students feel about receiving compliments? How do compliments show our value and respect for each other? Remind students of how Aldo felt that land was a community to which we all belonged. Communities consist of respect and values, as well as good manners. How does having good manners show respect? What are good manners?

Activity:

Instruct each student to bring in one item to include in their friendship salad. Have students decide upon the ingredients of the salad. Items may include:

- melons
- watermelon
- kiwi
- grapes
- strawberries
- apples
- cherries
- bananas
- marshmallows
- pineapple
- coconut
- whipped topping

On the day you are to make the salad, remind students that they are to respect others by showing good manners. How can good manners keep them from getting hurt during cooking? Make sure that students have washed their hands before beginning.

Students should share knives and utensil to cut their items, if needed, and put on a plate. Students then pass the plates to serve themselves. Students should only take the things they will eat. Remind them to say please and thank you. After everyone has their salad, eat and enjoy!
Follow-up:
Students write about making the friendship salad in their journals.
What did I do?
How did I show good manners?
Why are manners important?
What would I do differently next time?
What was the best part?

Extensions:

Project Learning Tree

"Earth Manners": In this activity, students examine the need for respect when outdoors.
Lesson Ten: Assessment

Objective: Students will demonstrate their knowledge of respect by writing respect poems.

Time: 1 hour

Materials: Paper and pencils

Opening:
Review with students the activities in which they participated during the study of respect. How does Aldo Leopold fit into our study? What was your favorite or least favorite activity?

Activity:
Break student into groups of four or five. Each group will write the meaning of respect for each letter of RESPECT. For example:

R is for remembering to say thank you.

Encourage students to use the activities from the unit as examples of respect, and to include things about Aldo Leopold.

You will assess students' knowledge of respect by reading their poems, noticing respectful behavior displayed in the groups, and from their learning journals.
REFERENCES


