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A School-Wide Project:

Community, Experience and Values

by

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Abstract

This paper describes a school-wide integrated curriculum project carried out at Beit Rabban Day School for students aged three to twelve in New York City in May of 2006. The project centered on a 5-day 250 bike ride done with Hazon, a New York based Jewish environmental group, and the Arava Institute of Israel, a center for environmental studies. Beginning with a discussion of progressive education and educational theorists this paper focuses on shared learning experiences, authentic experiential learning, community, and education rooted in values. Lesson plans and work samples from the school-wide project are included along with examples of other schools and projects that have undertaken similar learning opportunities.

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Rationale

This independent study focuses on an integrated curriculum designed for an elementary school. It is based on a project approach to learning where students and teachers identify a theme or event around which learning across the grades will circulate for a brief period of time. Further, topics in all subject areas are related to that central theme or event in an organized and purposeful way. This approach to progressive education provides students with opportunities to make connections within and between curricular subject areas, provides opportunities for interaction between students of different ages, and reinforces a strong communal bond among students, parents and teachers. According to theories of progressive education and child development, ability to work with peers on a focused project and create meaningful experiences promotes better understanding of academic materials and social interactions. Shared communal experiences build positive attitudes towards school and help students to gain understanding of universal concepts and values.

The purpose of this paper is two-fold. The focus of the paper is on community and shared learning experiences and, as these are discussed, the merits of progressive education in general will be highlighted. It will concentrate on one particular school, Beit Rabban, that has had success with multiple school-wide projects as part of an integrated curriculum. It will review other schools that have also attempted school-wide projects in a secondary way. Next, this paper will serve as a reference tool for teachers and other educators as a model of school-wide integrated curriculum and a first hand account of a project. The project was a three-week long learning experience based on a Jewish environmental bike ride that took place in Israel in May 2006. Teachers will hopefully be

able to gain curricular resources and information from this paper, as well as inspiration to create similar projects in their own schools.

The reasons for writing this paper are to inform other educators of the positive experiences I have had in creating and implementing school-wide projects, and additionally, to promote this learning opportunity to other schools and communities. In conducting research for this paper limited resources were available providing information about other school-wide projects done on this scale or in this much depth. I hope that in writing this paper other educators will be able to gain a clear understanding of school-wide integrated projects and, if such projects are suitable for their communities, will choose to apply concepts and methods of such learning to their own teaching.

In writing this paper I consider the following questions:

I. How is community built and reinforced through engaging in shared learning experiences?

To answer this first question I look to educational theorists Lisa Delpit, Howard Gardner, John Dewey, Hilda Taba and Lev Vygotsky. I will discuss experiential learning, community, types of learners, progressive education and scaffolding of learning among other relevant topics in relation to these theorists. I will investigate how theories developed by these thinkers have shaped progressive education today and specifically the type of progressive educational curriculum at Beit Rabban.

II. Which type of community would select and successfully execute a school-wide project?

The question of which type of school would choose a school-wide project will be addressed here. Parent involvement, appreciation of Multiple Intelligences, a strong

vision, core values, and cooperative learning are all discussed as fundamental assets to a school-wide project like the one done at Beit Rabban. A history of Beit Rabban, the subject school, will be given along with an explanation of its theory and philosophy. Daniel Pekarsky's (2006) book, *A Vision at Work*, will be used to provide a background for the school. Examples of prior experiences at Beit Rabban and other schools that have chosen a similar type of learning will also be given.

III. What does a school-wide project look like?

The actual curriculum of the Israel Ride project done at Beit Rabban will be discussed here. Examples of lessons will be given to address different aspects of a school-wide project. Discussion of lessons and their application will be included to provide practical materials for educators. Student work samples will be explained to highlight educational goals and achievements. Additionally, a section with reflections and comments from parents, teachers and students, and my personal reflections will be included to look back on this particular project and look forward to future school-wide projects both at Beit Rabban and other schools.

I. How is community built and reinforced through engaging in shared learning experiences?

A community is "a social group of any size whose members reside in a specific locality, share government, and often have a common cultural and historical heritage" (http://www.dictionary.com retrieved on May 15, 2007). A school community is one where the members share a common location: the school building, common government: the administrative team, and in the Beit Rabban school community, a common cultural and historical heritage. The Beit Rabban school community exists because parents and teachers have come together for the purpose of educating elementary students in both Jewish and secular subjects and promoting specific aspects of culture and values. Parents choose to send their children to Beit Rabban rather than another school. They are associating themselves with the school community and thus allowing their children to be a part of the environment, culture, and educational regime of Beit Rabban.

The physical and social environments are both a large part of community. Lev Vygotsky (1978), in his theory of learning, proposes that children have an ability to develop over time, and that this development in aided by an environment full of social interactions. Learning can be scaffolded by the experiences of others- be they peers, older students or teachers, and this aids in the process of development. This social learning leads to cognitive learning by way of the Zone of Proximal Development. Vygotsky (1978) describes the Zone of Proximal Development as, "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers," (p. 86) In order to move forward in their

cognitive understandings, students must be part of a learning community where collaboration and scaffolding take place. Further, peers influence each other in their provision of opportunities for learning. According to Vygotsky, students need to be a part of a community in order to fully develop.

Vygotsky focuses on the school environment as a location that provides opportunity for scaffolding to take place. A school where students sit in clusters with desks facing together, where peers are given opportunities to collaborate, and where teachers take note of the needs of students and their abilities to enrich learning for others would be a school where Vygotsky's theories could be applied. Beit Rabban is such a school. The classrooms are arranged to promote discussion and collaboration between students and with teachers. Further, the students often work in pairs and groups to solve problems, learn new information and participate in assessments. A teacher will work together with her students to help them create meaning and their own unique understandings.

The cross-grade learning that takes place at Beit Rabban provides additional opportunities for students to achieve within the Zone of Proximal Development. Students study in dual grade classrooms with kindergarten and first grade together, second and third grades, and fourth and fifth grades groupings. Cross grade learning happens on a regular basis in the school outside of class groups with ability based math, Hebrew and reading groups where students join based on skill, rather than age. This provides a chance for a first grade math prodigy to study with similarly-abled third graders for part of the day, but to still remain with closer-aged peers for other subjects. Students with more experience have opportunities to teach students with less experience and vice versa.

According to an article about Vygotsky's theory, "it is essential that the partners be on different developmental levels and the higher level partner be aware of the lower's level" (http://chd.gmu.edu/immersion/knowledgebase/theorists/constructivism/vygotsky.html retrieved on May 8, 2007). Students engage in conversation and collaboration regularly about working together and being a part of a learning community at Beit Rabban. Often a teacher will do an activity that is familiar to the older students in the classroom but new to the younger students. At these times the teacher will explicitly say that the older student has an obligation to help his or her partner learn the new task or lesson. This makes both partners aware of their own levels during this activity. The daily schedule includes a classroom morning meeting which is a time for problem solving and discussion, as well as a weekly community service meeting that focuses on the whole school and broader community. The students are allowed time to discuss working together in a small group or as a class and able to brainstorm suggestions and solutions to problems. Further, students work in so many different groupings throughout the day that each child has an opportunity to experience a variety of roles.

The student-teacher relationship at Beit Rabban is the type described by Vygotsky as "reciprocal" (1978). It is one where the student and teacher work in partnership to create an appropriate learning environment. Student and teacher are in dialogue about the best possible learning opportunities for that student. Further, teachers provide opportunities for scaffolding of learning to take place. Students have a responsibility in the classroom at Beit Rabban to be active participants in designing and executing their own learning.

An example of this type of responsibility is seen in *chumash* (old testament) class at Beit Rabban. Students in second grade begin a life-long study of *chumash* by learning to work in a *chevruta* (pair) to help each other decode and understand the text of the *chumash*. Students read each day in Hebrew from the *chumash* in partner pairs at a pace that best suits them. They are expected to translate the Biblical Hebrew to Modern Hebrew, discuss the grammatical and literary conventions and understand the meaning of the verses. Teachers initially help students gain reading and grammar skills in the beginning of the year, but soon allow students some time during each class to struggle through a few verses on their own. Eventually students gain confidence and skill to read the *chumash* independently and take responsibility for their learning. This class structure is reciprocal and provides opportunities for scaffolding according the Vygotsky's theory. Teachers and students negotiate the terms of learning and students help each other to make progress by offering their own strengths and expertise.

The relationship between students and teachers hinges on common values, goals and most importantly at Beit Rabban, common culture. Lisa Delpit (1995) makes a strong case for educating children in the way of their culture. In her studies, Lisa Delpit (1995) focuses on minority groups who have been marginalized in the realm of education. Using what one knows about a group of people can inform one's teaching practice and often result in true learning and growth. Further, this cultural connection builds community more strongly. When studying the educational gap between white and non-white children in a variety of school settings, Delpit (1995) concluded that those teachers who were themselves part of the same group as their students, or those teachers who were able to identify with their students and modify their teaching to better reflect other learning that

their students had done outside of the classroom reached more children and felt more successful in their efforts. In an essay titled, "Hello Grandfather" in the book *Other People's Children: Cultural conflict in the classroom* Delpit (1995) tells of her experiences teaching and studying in an Alaskan village. Delpit (1995) explains that the students in the village struggled to learn literacy from non-Native teachers for a variety of reasons, including the de-contextualization of their education. The idea that one could learn to do an act from a book or writing on a blackboard, rather than from a person, was new and foreign to her students. In Native cultures Delpit (1995) found that one's actions mirrored one's speech or writing, while in American, or non-Native communities that was not the case. Delpit (1995) stressed the need for a commonality in culture between teacher and student to build community and a positive learning experience.

Teaching in a Jewish private setting shares cultural similarity with teaching in a Native American setting. Both groups of people share a strong sense of culture and community, often passing tradition and beliefs from generation to generation. Further, both groups have experienced persecution and along with that, difficulty obtaining equal educational opportunities. Geoffrey Short (2005) in an articled titled, *The role of Jewish Education in continuity: a response to Jonathan Sacks* explains that in order for the Jewish community to survive, education was essential for continuity of the Jewish way of life. Like the examples given by Delpit (1995) of Native American teachers passing on the Native American way of life, Jewish teachers have the opportunity to educate Jewish children in secular, religious and cultural ways of life. The cultural significance of this style of learning is paramount. Delpit's theory that learning and knowing one's culture is

both effective and appealing to students has influenced and continues to influence the education that students receive at Beit Rabban.

In traditional Jewish learning done by Jewish sages in the second and third centuries C.E. questioning and debate over the text was encouraged. Students and scholars could spend days discussing a small point or looking into all of the meanings of one phrase or word. The idea, however, was not to reach a definite conclusion. Quite the contrary, the engagement in learning about the Jewish texts was the end in and of itself. The study of such materials was a holy act, not bound by making a decree or ruling, rather, meant to illuminate possibilities. Students were encouraged by teachers not to memorize by rote, but rather to form opinions and draw connections about the texts and to relate them to personal experiences and everyday life.

In a Jewish text, *Pirkei Avot: Ethics of the Fathers*, a collection of quotes and parables about Jewish learning it is said in chapter 3, verse 21, "Rabbi Elazar ben Azaryah used to say: Where there is no Torah there is no culture; and where there is no culture there is no Torah. Where there is no wisdom there is no fear of G-d, and where there is no fear of G-d there is no wisdom. Where there is no knowledge there is no discernment; and where there is no discernment there is no knowledge. Where there is no food there is no Torah; and where there is no Torah there is no food" (Marcus, 2005). This need for a balance between learning and existence is common in Judaism. The *Ethics of the Fathers* strive to teach one to have a relationship with Torah and with Judaism. One needs to stay grounded in the world around him in order to be able to study Torah with spiritual and religious openness. The method of study at Beit Rabban allows

students to have both Torah and culture, knowledge and discernment, fear of G-d and wisdom, and Torah and food.

Beit Rabban is a place where the engagement in learning is the end, not the means. Students are encouraged to debate and discuss, not to reach a standard answer, but rather to engage in the process of learning and questioning. Like the sages before them, the students need to be active participants and thinkers, not just vessels for information. In a series of articles about Jewish Education, and specifically education in America in the 20th century titled Jewish Education and American Jewish Education, part III, Jonathan Krasner (2006), discusses the difficulty of instilling in students a love for Jewish learning, a strong Jewish education, and a secular education as well. The author looks back at the start of a modern Jewish Education movement in the 1960's and reflects on the need for Jewish educators to find a balance between modern American culture and traditional Jewish values (p. 2).

I am in a wonderful position of sharing culture and educational experiences with my students. I teach in a Jewish Day School and I went to a Jewish Day School for elementary school. I was raised in a community where Jews would study and think together and my students are studying and thinking together. As for communication styles, which Delpit (1995) stresses need to match, I find that my students and I share a common vocabulary and style of speech. This works to the advantage of my students, but even more, to the advantage of the families in my school. Parents who want to educate their children with their own morals and values choose a school that seems to portray their own family morals and values, especially when choosing a private religious school. Teachers have always been educating children about more than academic subjects, but

more recently have overtly added values to the curricula. Hilda Taba and her colleagues Durkin, Fraenkel, and McNaughton (1971) developed a theory of integrated study that relies on identifying key attitudes, feelings and values that are to be explicitly taught to students. Teachers assume the role of identifying relevant and important values, which children should learn from the curriculum and apply in life. This is meant to help "students to develop their own values and to understand and to analyze the values of others" (Taba et. al., 1971, p. 13).

In each lesson and unit of study teachers are responsible for teaching not only the course material, but broader, more universal values and themes. The topic of study is only a vehicle for learning global concepts. Teachers are to teach about interdependence, conflict, power and even community. These concepts can be taught by studying ancient Rome, the Civil War or the New York Subway. Students of all ages can learn about key concepts in a developmentally appropriate way with a fitting topic of study. These key concepts will provide students with understanding not only about the topic of study, but also about future learning and life in general. They will become more aware and socially responsible members of a community with these understandings according to Taba (1971). With strong values of their own culture, and a lens through which to see the world, students have the ability to understand other cultures and appreciate the values of others. Taba (1971) focuses on the structure and goals of the learning so that it is purposeful and long lasting. She highlights teaching attitudes, feelings and values, which all come back to creating a learning community that is socially responsible. Additionally, the learning that takes place within a concept centered unit will be more practical and applicable and easily related to other information.

An example of teaching values in the Beit Rabban community, which falls nicely in line with Taba's approach, is the community service curriculum. Students at Beit Rabban are constantly engaged in community service projects that truly aim to connect students to the community and help them to gain skills of problem solving and allocating resources to fulfill a true need they see around them. In this way the values of cooperation or interdependence can be taught through experience.

At Beit Rabban each class undertakes a community service project guided by the teacher, but conceptualized and carried out by the students. Time is devoted each week to the community service curriculum and students are guided through a process of finding out what need exists in their community, how they can effect change and what steps should be taken to do so. In the book *Vision at Work: The Theory and Practice of Beit Rabban,* Daniel Pekarsky (2006) gives an example of a kindergarten and first grade class that has collected money for *tzedaka* (charity) all year and must vote on how to allocate the money. The students decide that a man named Joe, who is homeless and frequently sits near the school in the park, should receive their funds. The teacher guides the students to use the money to make sandwiches for Joe and other homeless people in the park rather than handing the man more than $40 that the class has collected. The teacher works to brainstorm with her students about what Joe might need and how they can get it to him. This process, which involves student input at every step, allows the children to experience the process of giving and to realize that it is not as simple as handing money to someone who asks for it.

In my own classroom I have had powerful experiences with second and third grade students wanting to give and to help others and thinking very deeply about how

they can use their own resources to do so. This year my students got in contact with our local library to gather donated books that they shipped to an orphanage in Africa. The students wrote letters to the library and to the orphanage in Africa. They researched postage rates and collected money for shipping. My students went to the local library to pick up and package the books, weighed them and bought the proper postage from the post office. Throughout this process they were learning valuable life skills and applying them to a worthy cause.

An additional benefit of Delpit's (1995) proposal that those within a group are better suited to teaching that group, rather than coming from without, is that it facilitates easier communication. When parents communicate with teachers with similar styles of interacting the process usually goes more smoothly and is understood by all. Cultural beliefs should not interfere with the communication process between teacher and parent if both are in agreement about the cultural norms. This is not to say that miscommunications do not occur, but the frustrating feeling which Delpit (1995) describes in the essay *The Silenced Dialogue*, where one party truly believes that the other can't hear them, is avoided. The feeling that two speakers share when they identify as part of the same cultural group creates an aura of comfort and familiarity.

Delpit (1995) describes the following five rules that guide conversations and make up the "culture of power" (p. 24):

1. Issues of power are enacted in the classroom
2. There are codes or rules for participating in power; that is, there is a 'culture of power'
3. The rules of the culture of power are a reflection of the rules of the culture of those who have power.

> 4. If you are not already a participant in the culture of power, being told explicitly the rules of that culture makes acquiring power easier
>
> 5. Those with power are frequently least aware of- or least willing to acknowledge- its existence. Those with less power are often more aware of its existence (1995, p.24-25).

When two speakers engage in conversation and share a culture, this power imbalance, although still in existence, does not exert such a force over the conversation. The two speakers can discuss ideas without discussing rules of the culture, or wondering which participant has more cultural power than the other. In a school where parents and teachers identify as part of the same culture more open communication has the potential to take place because all are part of the "culture of power."

Beit Rabban aims to educate students to be socially aware and responsible. It views students as competent and valuable members of a community. With this in mind, curricula, projects and lessons are planned so that students have ample opportunity to engage in the community around them, gain an authentic understanding of the world, and have experiences that will shape their understandings and interests. This is not unlike the model that John Dewey proposed for progressive education in the early 1900's. John Dewey, in his work *Experience and Education* (1938) proposes that schools need to develop theories of experience, exert social control while allowing room for freedoms and find purpose in activities and learning experiences. This model shaped the foundation for education at Beit Rabban, as mentioned in Pekarsky's work *Vision at Work* (2006).

A school needs to develop a theory of experience, according to Dewey (1938) that is clearly stated.

> Like any plan, it must be framed with reference to what is to be done and how it is to be done. The more definitely and sincerely it is held that education is a development within, by and for experience, the more important it is that there shall be clear conceptions of what experience is.

> Unless experience is so conceived that the result is a plan for deciding upon subject-matter, upon methods of instruction and discipline, and upon material equipment and social organization of the school, it is wholly in the air (p.17).

This plan will help the school to achieve its goals, teach through experience and assess the learning that happens. Beit Rabban uses a clear vision to educate students. Teachers are hired and then trained in an intensive two week course in the philosophy of the school, methods of instruction and the art of informal assessment.

The organization of experiences and their progression is a large part of the theory of experience that is to be put into place. Experiences can generate both positive and negative effects, and it is the responsibility of the educator to choose suitable and meaningful experiences for students (Dewey, 1938). At Beit Rabban students participate in meaningful and successful experiences, thus having positive effects on learning. The last section of this paper will discuss the success of participating in the Israel Ride project, an experience for students and families that was incredibly valuable and meaningful for the entire school community. Further, the sequence of these experiences should result in relevant understandings for students. Conclusions should be drawn, connections made, and provide opportunity for growth. "We must also specify the direction in which growth takes place, the end towards which it tends" (Dewey, 1938, p. 28). This takes planning and direction on the part of both the school and the educator. By choosing appropriate and meaningful educational experiences growth can take place.

A book greatly inspired by Taba's principles, *Understanding by Design* (Wiggins & McTighe, 2005), helps to illustrate how a teacher can create and organize lessons and units that incorporate the key concepts mentioned above. Wiggins and McTighe (2005) explain that in order for students to gain true understanding of the subject at hand, they

need to find guidance in an encompassing "big idea" that informs learning and ties together activities and lessons. Beyond that, teachers need to ask essential questions of the unit and of the students that maintains a focus and a purpose for study. Using the principals of backward design outlined in the book, students can "explain, interpret, apply, have perspective, empathize and have self-knowledge" (p. 44). These skills also work to create a well-informed and positive learning community.

Beit Rabban adheres to the recommendations made in the book *Understanding by Design* (Wiggins & McTighe, 2005) when creating and executing curricula for the school. Teachers are instructed in the theory of backward design and learn with help from administrators how to create their own concept focused units. When working to create a school-wide project teachers met on a regular basis to discuss key concepts, values and themes that would be most appropriate to teach through the chosen school-wide project. Teachers used a rubric designed by Wiggins and McTighe (2005) to plan the framework for the entire school's curriculum of the project. By staying focused on the key concepts to be taught and making them consistent for the entire school the hope was that the entire community would share in common values and understandings by participating in the project. This was meant to create a shared-learning experience for all students in the community.

When individual teachers identify the values and key concepts to be taught, they are imposing their own bias on the learning. This can be a positive force when the goals of the teacher match, or at least line up with those of the parents. By choosing a school with teachers who share so much of their own culture, and hopefully their values as well, parents can attempt to ensure a consistent message for their children. The values and

attitudes that the teachers choose to teach will hopefully reflect what is important to each family, and to the Jewish community as a larger unit.

The experience of the Israel Ride project was chosen for the Beit Rabban community because of its relevance to the Jewish curriculum, opportunity for teaching social values, and close fit with the theory of backward curriculum design already in place at the school. It provided meaningful experiences for students in a familiar framework. Dewey's theory that students benefit from authentic experiences is supported by the work students did as part of the Israel Ride project. Examples in the last section of this paper of student work and comments from students, parents, teachers and administrators will highlight just how positive the Israel Ride experience was for Beit Rabban.

II. Which type of community would select and successfully execute a school-wide project?

The question of why a school would choose a school-wide project will be addressed here. An appreciation of Multiple Intelligences, parent involvement, a strong vision, core values, and cooperative learning are all discussed as fundamental assets to a school-wide project like the one done at Beit Rabban. A history of Beit Rabban, the subject school, will be given along with an explanation of its theory and philosophy. Pekarsky's (2006) book, *A Vision at Work*, will be used to provide a background for the school. Examples of prior experiences at Beit Rabban and other schools that have chosen a similar type of learning will also be given.

Multiple Intelligences

When thinking about undertaking a large project such as this, one might ask: Why would a school want to reach out to the entire community to educate students? Isn't a school a self-contained environment for learning? A place where children can come for the majority of their day, sit at a desk, look at a book or a board, and learn what they need to know about the world? To answer these questions, consideration must be taken for the type of school environment that could support a school-wide interdisciplinary project and for the community of learners who would be involved.

Howard Gardner (1993) in his book, *Multiple Intelligences: the theory in practice*, gives good reason for a school to engage in a project approach to teaching, one where students have experience with a certain topic or material for a prolonged period of time, where they gain true understanding of the material, where through experience and questioning they become experts. This rationale applies to Beit Rabban's school-wide

project approach, as well as the learning there in general. Howard Gardner proposes that a person can possess seven types of intelligence. These intelligences: musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, and intrapersonal, are the ways in which a person can experience and understand the world (1993). People may have certain strengths in one or more of the areas of intelligences, just as a person may excel in certain subject areas in school. But beyond an ability to excel in these areas, intelligence of a particular type, according to Gardner, is both innate and applicable in life. For educators, the knowledge that different students possess different intelligences, not just skills or talents, can reframe the way that material is presented, performances are assessed, and how the student is understood as a whole person.

Beit Rabban is a school where multiple intelligences are recognized and embraced. Students are given ample opportunities to express their learning in a variety of forms and to gain new information through many of the intelligence lenses. Teachers and students must recognize what they are trying to assess and find ways to record and acknowledge these achievements. A school-wide project, designed to take into account multiple ways of learning and exercising understanding can address Gardner's theory of intelligence and better serve an entire learning community. The activities and assessment pieces of the curriculum provided in the third section of this paper are well suited to Gardner's theory.

In the book *Multiple Intelligences: the theory in practice* Gardner (1993) tells of the Key School, an institution founded on the theory of Multiple Intelligences by eight educators dedicated to creating a school for students of every type of intelligence. It is a place where "each child should have his or her multiple intelligences stimulated each

day" (1993, p. 113). This school has characteristics of an institution which would support a school-wide project. As mentioned in the introduction to this section, in order to better understand the success of a school wide project, the school dynamic and structure must be taken into account. Although the Key School has not carried out school wide projects in the vein of the Beit Rabban projects, the structure of the learning is conducive to such projects.

The Key School, as described by Gardner (1993), is a place not unlike Beit Rabban. The learning that takes place there is authentic and related to real world experiences, in the line of John Dewey's school of thought, and students are seen as competent and able. Learning takes place across grades and subject matter, just as in Beit Rabban and students have opportunities to learn from teachers, experts and each other. In the Key School school-wide themes are chosen for long periods of study and students become responsible for their learning. They undertake projects that are completed in a manner that best suits that student's learning style (Gardner, 1993).

This project approach for elementary students allows so many opportunities for discovery and growth. One benefit is that students become experts in an area that it truly engaging and interesting to them. Each student finds his or her niche within a wider topic and narrows in learning new information and skills. This is an excellent opportunity for each student to express his or her strengths and areas of intelligence. The scope of the projects is not limited by a list of objectives, but rather asks each student to "describ(e) the project's genesis, purpose, problems and future implications" (p. 114). This method allows for true hypothesizing and students draw conclusions of their own findings. They

learn the skill of constructing a project and seeing it through which will serve them well later in life.

"When one examines life outside of school, projects emerge as pervasive. Some projects are assigned to the individual , some are carried out strictly at the individual's initiative, but most projects represent an amalgam of personal and communal needs and ends" (p.114). Students who can experience and understand this project approach will be prepared for most any career and interaction with peers. "The hope is that students not only will learn about the range of activities that exist in the wider community but in some cases have the opportunity to follow up a given area, possibly under guidance of the visiting mentor" (Gardner, 1993, p. 113). This real life experience, opportunity for engaging with the community and acquiring of skills invaluable later in life are all linked to a value-based curriculum, as Taba (1971) discusses and as is key to Beit Rabban's approach.

Multiple intelligences are valued at Beit Rabban. It is an environment where learners are encouraged to express themselves in a variety of ways. Further, the assessment of learning is dynamic and constant throughout a project or the school year so that the individual is seen as a changing and learning being, rather than a recipient of information. For the past two years the Beit Rabban community has undertaken a topic or subject of study, suspended the majority of other teaching, and delved deeply into understanding and experience of this topic. The Israel Ride discussed here was the second of these school wide projects.

Parent Involvement

In addition to relevancy to students, another factor that makes a school receptive to a school wide project is that the school works in partnership with the community. Beit Rabban is the type of school that reaches out to the community. It is a place where students learn from real world experiences, a place where students teach each other, where teachers learn from students, and most of all, where the entire community is part of this learning. On the Beit Rabban website it says, "Beit Rabban's community of families reflects the diversity of the Jewish community and appreciates the responsibility of each child and family to seek out their own understanding of a committed Jewish life" (http://www.beitrabban.org/community.php retrieved on July 12, 2007). This responsibility translates into high parent involvement and strong commitment to learning.

The implementation of this project required each teacher, student and parent in the Beit Rabban community to take part in this learning experience. It is important to mention that a school that takes on such a project will be most successful when parents, teachers and students all take part wholeheartedly. The educational newsletter, *District Administration* a publication for teachers and administrators, stresses that "it's more important than ever to create effective parent engagement programs" (2007, p.12). As parents become less involved in schools students do not perform as well. Students need to feel supported by parents and teachers to have successful and long lasting learning experiences. Professor Joyce Epstein of Johns Hopkins University has created the National Network of Partnership Schools in order to facilitate partnership between families, communities and schools. She asserts that in order to strive for academic success families and communities need to be involved in student education (Vogel,

2006). A school-wide project such as this requires cooperation and trust between teachers, parents and administration and a level of confidence that this alternative type of learning will be beneficial.

Parents at Beit Rabban have a high level of involvement and commitment to the school. By choosing a private Jewish Day School, parents are already investing money and time into the education of their children. Additionally, Beit Rabban is a school that requires a certain level of commitment and participation on the part of the parent. At a recent spring fundraiser for Beit Rabban 94% of families were either in attendance or had contributed to the event in some way. This remarkable statistic is not uncommon in the Beit Rabban community. Parents are involved by chaperoning students on trips, participating in park duties during recess, visiting classes as guest speakers, and spending time each evening and weekend on family-centered homework. On a weekly basis, parents, grandparents and caregivers from twenty different families act as park chaperones walking with the students to and from Central Park for recess. A parent who chooses Beit Rabban is made aware of the commitment required to truly join in the school community. Most parents at Beit Rabban are fortunate enough to be in a position to dedicate this amount to time to their child's education, and for those who are not the community reaches out to them. They feel both a sense of responsibility and entitlement about the type of education that their child receives. Annette Lareau (1987) in an article titled, *Social Class Differences in Family-School Relationships: The Importance of Cultural Capital*, noted that many middle-class and professional parents feel comfortable intervening in school operations and view "schooling as a partnership in which parents have the right and responsibility to raise issues of their choosing" (p. 82). Most parents at

Beit Rabban fall into this category. They choose the school both because of the education opportunities, but for social and political reasons as well.

Beit Rabban: A Vision

Twelve years ago Devora Steimetz founded Beit Rabban Day School as a school for Jewish gifted and talented students. She wanted to create a progressive school where dialogue, text study, and experience were at the core of the curriculum. She aimed to take young Jewish leaders and turn them into teachers with little or no previous experience in the classroom. She wanted to use authentic materials, not text books, appropriate for any aged student as her tools of instruction. Most of all, she wanted to create a community where students learned for the sake of learning and fine tuned the skills necessary to continue to grow as learners as they went on in life. Although Beit Rabban has changed from the original plan of a school for gifted and talented students, it still maintains key values and concepts of education which initially laid the foundation for this progressive school. Additionally, Beit Rabban is now a place that welcomes all kinds of learners, providing opportunities to students with special needs and learning difficulties.

Recently, Daniel Pekarsky (2006) has published a book titled, *A Vision at Work: Theory in Practice*. This book details the formative years of Beit Rabban. Pekarsky spent a year inside Beit Rabban, observing teachers and students, talking with the founder, and developing an understanding for the type of education being provided. After his year of observation Pekarsky remained, and still remains in contact with Ms. Steimetz about Beit Rabban.

His book is written in the form of letters to a fellow educator about daily routines in the school, schedule of the day, methods of instruction, academic content, and

community. Pekarsky (2006) focuses on the vision of the school, how it developed, and what a school with a vision looks like in reality. He grapples with the issue that a vision realized is not always the same as the original intention. Pekarsky (2006) discusses the strengths of the learning community at Beit Rabban and a philosophy of education similar to that of John Dewey. Dewey and the founder of Beit Rabban, Devora Steimetz, stress experience and social morality to create a classroom environment focused on inquiry, problem solving, and community (Pekarsky 2006, p.94).

Pekarsky (2006) mentions, when drawing the parallel between Beit Rabban and Dewey, that both share an "interest in cultivating people whose ideas about how to act are actively informed by their experience," (p. 94). Relating specifically to the Beit Rabban school-wide project approach, both the bike ride project and the gates project were designed with social awareness and justice in mind. The bike project in particular revolved around the themes of protecting the environment in Israel and sustainability in the Middle East. Through this project seemingly about biking, students were able to access and experience much larger social issues.

The ability to study multiple subjects at once stems from the idea that Beit Rabban uses an integrated approach to curriculum planning and that teaching in one discipline does not preclude learning about another, tangential area. This integrated approach is rooted in backwards design as described by Wiggins and McTighe and in the theory of Hilda Taba. For example, the study of geography and a focus on Ancient China allows opportunities for scientific investigations about paper-making, artistic representations of calligraphy, and written essays about inventions in ancient China. Students are not bound to one area of study and use the thematic unit of the time to

broadly investigate areas of interest. The Beit Rabban schedule provides ample opportunities for this type of learning during "explorations" time each day. According to Pekarsky (2006) "the kids are typically offered the chance to choose from a variety of activities, some of which relate to the larger course of study they're engaged in," (p. 39). Centers may be set up around the room for investigation and discovery, or students may choose to do research on a topic of interest, take out art materials, or read or write. At this time of day students fully integrate subject areas and work independently or as part of a group to learn.

The school-wide projects mentioned above are an extension of this explorations time. They are modeled after the openness and freedom to study in a variety of modalities, environments and peer groupings. These school wide projects are not limited to one particular academic subject, nor are they confined to one particular group of students. The Beit Rabban school-wide project approach integrates learning fully, in all subject areas, and allows students of all ages to explore, investigate and learn.

In 1996 in Celebration Florida a planned community was developing. Real estate was sold in this community to mostly middle and upper class families who wanted to buy into the ideals of "place, community, health, technology, and education." This was to be an ideal community where neighbors lived and worked together, participated in community activities and shared progressive educational goals for their children. However, the last goal of a progressive school became a widely contested issue. Families became concerned that learning was not taking place and that students would not truly be prepared for their future endeavors. In its planning stages, the Celebration school looked

to be a model of community centered learning with progressive goals. However, parent and community concern caused fundamental changes to later take place.

The goals of the Celebration school were to include the entire community in the learning process, allow students of all ages to work together, and create authentic learning experiences that would help students, "become lifelong learners and to excel as critical thinkers in a diverse and ever-changing world" (Leinsing & Rosen 1997). The school was designed on 36 acres of land with large classroom "neighborhoods" where multi-age classes with 4-5 teachers would be housed (1997). Classes would use an interdisciplinary approach to learning academic subjects and focus learning towards the greater community with learning opportunities in businesses in the area. Teachers and students would work together to decide upon learning goals and methods to accommodate different learners and interests.

A strong connection between the learning approach at Celebration school and Beit Rabban Day School is the visionary approach and value based learning. Beit Rabban, as described by Daniel Pekarsky (2006) is a "vision guided" school that operates on the values of "autonomy, tradition, and text-study" (p. 37). Celebration school operates on fifteen guiding principles "that provide a unifying vision for all learners in Celebration School, bond the school with the local and global community, promote human integrity, and enhance the ability to accept the many challenges, problems, and possibilities of life," (Leinsing & Rosen 1997, p. ?). These values structure the instruction, educational opportunities and curricula at Celebration school. The values, listed below, guide both students and teachers in the school

- Accountability: accept responsibility for personal choices and actions in relation to self and community.
- ***Celebration***: discover joy in individual and community experiences.
- Communication: engage in effective, open, and efficient verbal, written, and symbolic methods of communicating thoughts and feelings.
- Competence: expand confidence through actions of quality.
- Cooperation: work cooperatively with others to enhance each person's unique skills and qualities.
- Diversity: recognize and act on the belief that including people from a variety of cultures, backgrounds, ages, and abilities builds a rich learning environment.
- Environmental Sensitivity: take responsibility for protecting and preserving the beauty and balance of the natural world.
- Equity: promote the moral and ethical claim of each person to legal, social, and economic fairness.
- Human Dignity: respect the right of every human being to have needs met and potential developed.
- Innovation: originate, develop, and express creative ideas for positive change.
- Insight: engage in active pursuits of knowledge to construct understanding.
- Rationality: demonstrate the ability to think logically and reasonably.
- Self-Worth: believe in one's self and demonstrate the ability to take risks and learn from mistakes and successes.
- Service: use unique talents and ability to contribute positively to society.
- Wellness: pursue a balance of mind and body through the development of skills that meet emotional and physical needs.

The values of Beit Rabban are in line with those of Celebration school, but more notably, the presence of these guiding principles or values shape the way that families and educators think about the school community. Putting values at the forefront of planning is education is not a new idea. Dewey, Taba and Wiggins and McTighe stress the need for teachers to identify core values in their own lives and teach to those values so students walk away with a true understanding of larger meaningful principles in life.

Families at Celebration school did not necessarily select a progressive school for their children. Celebration was the public school in the area and all who lived in the district could attend. Parents who lived in the area had bought into the community but

ended up with a particular type of school which was not their own vision. The tensions that surrounded Celebration School may have stemmed from the lack of "buy-in" by parents. Beit Rabban, as mentioned in the first section, relies on parents to accept, or "buy-in" to the Beit Rabban philosophy as it openly advertises its goals and mission and parents choose to send their children to this private institution.

A school that is grounded in values and approach, is the type of school to undertake a community wide project that involves students, teachers, administrators and families. The type of learning at Beit Rabban where the Bike Ride project took place is not unique, as the learning in Celebration was meant to be community bases and cross-age all year round. Cooperative learning, as described by Johnson and Johnson (1994) is meant to help students learn better and retain what they learn when engaged in "authentic" learning tasks together. Celebration school took on this approach to learning on a large scale, while Beit Rabban tries to replicate it at specified times for specified projects.

Cooperative learning is a shared learning experience where students work together in collaboration to create a product or learn a new concept. An article, *Methods of Cooperative Learning*, aims to "examine the empirical support validating the effectiveness of the different methods of cooperative learning" (Johnson, Johnson & Stanne, 2000). Teachers use cooperative learning in a variety of settings and with a variety of students. In both Celebration school and Beit Rabban cooperative learning is used to enhance student learning. This cooperative learning also takes place among students of all ages and grades. Further, the outcome of such learning can lead to improvements in, but not limited to

> "achievement, higher-level reasoning, retention, time on task, transfer of learning, achievement

> motivation, intrinsic motivation, continuing motivation, social and cognitive development, moral reasoning, perspective-taking, interpersonal attraction, social support, friendships, reduction of stereotypes and prejudice, valuing differences, psychological health, self-esteem, social competencies, internalization of values, and the quality of the learning environment" (Johnson, Johnson & Stanne, 2000).

Cooperative learning was found to be more effective than competitive or individual learning in all forms in the study Methods of Cooperative learning. (Johnson, Johnson & Stanne, 2000). The use of cooperative learning in Beit Rabban and Celebration has benefits to the students learning both short and long term. The academic benefits of learning specific material are great, but even greater are the social benefits. By learning in a group students experience success emotionally and socially. They can share their learning, work on compromise and negotiation, and learn skills that will translate beyond school assignments. This is in line with the vision and value centered learning that is promoted by both of these schools. If the goal is to help students become more well rounded and guided by principles that will carry over into future learning and growth, then the use of cooperative learning seems natural for these schools.

The Gates project

The first cooperative project came two years ago to the Beit Rabban community. The school was fortunate enough to have an opportunity present itself right across the street. Located at Central Park West and 70th Street, Beit Rabban is in the heart of the Upper West Side of Manhattan. The school is conveniently located next to the park, where students go each day to play and relieve some pent up energy. Teachers walk with students across the street and to a nearby playground, sometimes in sun, and sometimes

in snow. The park has become part of the Beit Rabban community, since the students are such frequent visitors, and students feel a strong connection to "their playground." When an art installation was being assembled in their very own yard, Beit Rabban couldn't help but become intrigued and excited.

"The Gates" project began at Beit Rabban in February of 2005 as a reaction to the installation of 7,500 sixteen-foot high orange gates on the walking paths of Central Park. [Information about the gates and the artist Christo can be found on the artist's website: http://www.wirednewyork.com/parks/central_park/christo_gates/.] Being so closely connected to Central Park, Beit Rabban was naturally connected to the gates as well. When the project of building and installing the gates in the park began, work at Beit Rabban was already underway in creating a complimentary curriculum that would help students to understand and experience the artwork that was covering their park's landscape.

Teachers met in the months before the gates were installed to discuss ways of bringing the art to the students. It was decided, that the students should go to the art, rather than the other way around. Classes would take frequent trips to visit the gates, sketch them, touch them, and even photograph them to better appreciate the works. The entire school would share in the process of discovering these amazing pieces. Further, the Beit Rabban community would create experiences, like those of the artist Christo, for students to understand the art of wrapping. To launch "The Gates" project at Beit Rabban the entire student body met in the school's gym to create some art of their own.

Students were asked to bring a special object from home that could be wrapped and put on display. Students chose favorite stuffed animals, pictures of friends and

family, and even items of clothing. Working in cross-grade pairs, students chose from a variety of wrapping materials including paper, cloth, foil, saran, and string, to bind and wrap their objects. In pairs of older and younger students, each team wrapped their items in a decorative way, just as the artist Christo had done with many of his projects. The wrapped objects were placed on long tables in the school auditorium with only name labels, identifying which students had wrapped the objects, and left for parents and friends to view over the course of a week. Visitors would attempt to guess what was inside or discuss the method or choice of wrapping. Some items belied their contents, wrapped with twice or three times as much material as needed to only cover the object.

During the exhibition students also had a chance to view the pieces and make comparisons to Christo's other famous works. The artist Christo wrapped The Reichstag in Germany in a project that spanned almost five years from 1971-1975 as well as a Roman wall, trees in a forest and famous monuments in Italy to name a few. Pictures and information about all of Christo's work can be found on the Christo website (http://www.christojeanneclaude.net/wr.html). By learning about the artists' work and by experiencing their own artwork students were able to connect the art in their neighborhood, The Gates, to the artist, and to themselves. This authentic experience was a key component to the Gates project and relevant to experiential learning as described by John Dewey (1938) among other progressive theorists.

Other projects

In order to fully understand the impact and importance of a school wide project, discussion must begin with what other schools have done and are currently doing. It is

helpful to see the variety and scope of projects that are successful and to reflect on one's own practices so that one can improve.

In the summer of 1998 at the Morris L. Einstein Learning Center in Brooklyn students worked together on a school-wide, cross-grade project focusing on bridges in New York City (Singer et.al. 1999). The impetus for this short-term school-wide project came about, not unlike the Christo Gates or Israel Ride project at Beit Rabban, because of a community event, namely the 100-year anniversary of Manhattan and Brooklyn joining, by way of a bridge, to become part of the greater New York City. Students ranging in age from 3-12 years old, the same age range as Beit Rabban students, worked together to investigate bridges, their construction, and the history of bridges in New York City as part of an interdisciplinary investigation of the topic. Also similar to Beit Rabban's Gates project and Israel Ride project, the students had a culminating event and exhibition displaying and celebrating their work. The bridge project carried out by the Einstein Learning Center was a success in the community providing learning experiences for the students and involving local experts and families in the project. The authors of a reflective paper about the project say, "we believe this project offers ideas for developing thematic, inter-disciplinary, multiage school projects that can be implemented in other settings" providing other educators with thoughts for further projects in an appendix (Singer et.al. 1999, 2). This is what Beit Rabban has undertaken.

In Florida 3rd, 4th and 5th grade students in a gifted education program took part in a community gardening project at Lake Park Elementary in partnership with The Conservancy of Naples called "Nature's Pharmacy" (Camp 1997). This three-year project involved multiple grades and, "this real-world educational experience offers a true

learning environment for an estimated audience of 80,000 people annually" (1997, p. 1). Students, teachers and local volunteers and experts worked to plant a medicinal plant garden. Students were involved in multiple facets, working to plan the garden, plant the crops, care for the plants and harvest the crop. The success of this project is reflected in the wealth of information and resources the students and staff created, including handouts for garden visitors, computer materials and a newsletter about the garden. This interdisciplinary learning experience impacted students and community, and like the Israel Ride project at Beit Rabban, was an opportunity for students to learn cooperation, "a skill that is essential to the modern working community" (1997, p. 1). Further, the nature of this project, reaching out to the community to inform and impact an important issue of environmental protection and involvement speaks to the themes of the Israel Ride project, which also aims to spread awareness through education.

Schools that take part in community-centered projects, on a small or large scale, instill the values of community and cooperation in students along with the learning goals of a many faceted educational opportunity. The smaller scale projects mentioned above, done by one school or community share common features with larger projects, such as the NASA Explorer School program, which selects elementary schools around the country to take part in science, based learning projects. According to the website, it provides:

> Student programs that provide opportunities for active participation in research, problem solving and design challenges relating to NASA's missions and involve students in science, technology, engineering and mathematics explorations to encourage the use of scientific tools and methods; challenges will be grade-specific, supporting national and state standards. In addition, in-flight

> opportunities and competitions will provide access to unique NASA resources and personnel (http://explorerschools.nasa.gov/portal/site/nes/ retrieved on July 4, 2007).

Along with the student learning opportunities, NASA explorer schools provide "family involvement in student educational growth, achievement and career exploration." (http://explorerschools.nasa.gov/portal/site/nes/ retrieved on July 4, 2007). The program feels that students should have both school and home experiences and promote the NASA explorer school website as a vehicle for this learning.

> This large-scale school-wide project aims to:
>
> - Increase student interest and participation in mathematics, science, technology and geography.
> - Increase student knowledge about careers in mathematics, science, engineering and technology.
> - Increase student ability to apply mathematics, science, technology, and geography concepts and skills in meaningful ways.
> - Increase the active participation and professional growth of educators in science.
> - Increase the academic assistance for and technology use by educators in schools with high populations of underserved students.
> - Increase family involvement in children's learning

> (http://explorerschools.nasa.gov/portal/site/nes/ retrieved on July 4, 2007).

I believe that smaller projects can have similar goals and a similar impact. Schools participating in such programs report student success and more active family involvement. Phelps High, a small, rural school in eastern Kentucky, struggled to meet achievement standards and to engage students in their learning. After becoming part of a NASA education initiative, "teachers at the school began to increasingly involve students, using inquiry-based instruction. 'The kids loved it...They became really engaged in their studies." (http://www.nasa.gov/audience/foreducators/5-8/features/F_Leading_the_Way_to_Success.html retrieved on July 4, 2007). Due in large part to participation in the NASA program in 2002, Phelps High, which was ranked fifth worst of the state's 237 high schools moved to sixth best only four years later in 2006. The experience of participating in a school-wide interdisciplinary project motivated and

positively impacted students at Phelps High. I believe that student participation in school wide projects, be they large or small can have lasting impacts on student learning and performance, and can make an impression on the entire community for years to come.

III. What does a school-wide project look like?

The actual curriculum of the Israel Ride project done at Beit Rabban will be discussed here. Examples of lessons will be given to address different aspects of a school-wide project. Discussion of lessons and their application will be included to provide practical materials for educators. Student work samples will be explained to highlight educational goals and achievements. Additionally, a section with reflections and comments from parents, teachers and students, and my personal reflections will be included to look back on this particular project and look forward to future school-wide projects both at Beit Rabban and other schools.

The Hazon Israel Ride

Each year more than 100 bike riders travel to Jerusalem Israel to begin a weeklong ride from the capital of Israel to its southern most city, Eilat. These riders are joining together to support Hazon, an American Jewish environmental agency, and the Arava Institute, an Israeli environmental school that strives for sustainability and peace in the Middle East.

> The Arava Institute is the premier environmental teaching and research program in the Middle East, preparing future Arab and Jewish leaders to cooperatively solve the region's environmental challenges. Together, faculty and students are advancing a critical common cause: a sustainable future for the region's human and natural resources.
>
> Established in 1996, the Arava Institute is a non-profit organization located on Kibbutz Ketura in Israel's Arava Valley near the Jordanian and Egyptian borders and the Gulf of Aqaba/Eilat. The Arava Institute is a unique oasis of environmental education, research, activism, and international cooperation. (http://www.hazon.org/go.php?q=/rides/2007IL/hazonAndTheAravaInstitute.html#1, para. 2)

The Arava institute partners with Hazon, an agency based in New York City, which is dedicated "to create a healthier and more sustainable Jewish community, as a step towards a healthier and more sustainable world for all" (http://www.hazon.org/go.php?q=/rides/2007NY/theCause_-_WhereTheRideProceedsGo.html, para. 1). Hazon leads a bike ride in New York, which promotes environmental awareness and raises funds for a variety of grants and smaller organizations. Hazon also organizes a community supported agriculture program where patrons can buy stock in a local farm and receive locally grown fruits and vegetables on a weekly basis from those farms at a location closer to home in NYC. Education and leadership initiatives are also part of Hazon's mission mentioned above. The Hazon's Israel ride began in 1996 as a fundraising effort, but also as a way "to strengthen community and as a platform for cutting-edge Jewish education" (http://www.hazon.org/go.php?q=/rides/2007IL/hazonAndTheAravaInstitute.html#2a, section 8, para. 1). Hazon mentions on their website that, "our Rides reach participants across an incredibly wide range of ages and backgrounds and reframe what it means to be Jewish in powerful and sometimes life-changing ways" (http://www.hazon.org/go.php?q=/rides/2007IL/hazonAndTheAravaInstitute.html#2a, section 8, para. 2).

Beit Rabban's participation in a Hazon event, and in particular my participation in the Hazon Israel ride, was a natural pairing. Both institutions seek to educate and guide future leaders, be they adults or students, and both want to do so through the frames of Judaism and community. Hazon's slant on the environment pairs well with Beit Rabban's moral and social responsibility to the community and, as mentioned in the example in

section one about community service, to a worthy cause. The bike ride itself was a part of the school's community service curriculum. While students were not asked for donations, some families did choose to contribute to the bike ride. Most notably though, students were able to be part of Hazon's efforts in education and publicity, becoming aware of the issues of the environment and peace in the Middle East and hopefully applying their own skills at problem solving to address these issues later in life. This intensive study of two difficult issues provided an excellent opportunity for the type of value based learning discussed by Taba et.al. (1971) which is key to the Beit Rabban vision of education, to be discussed below.

Planning the Project

On Tuesday, May 9, 2006, as I began the orientation to a 5 day, 250-mile bike ride in Israel from Jerusalem to Eilat I was already immersed in a project that reached across communities, countries and cultures. I was taking part in the Hazon Arava Institute Israel ride, but I was also furthering a connection between myself and my community, myself and Israel, and my community and Israel. This challenge that I undertook with great support from friends, family, students, colleagues and the school community was three-fold. If imagining this "Israel Ride Project" as a series of concentric circles I would put my personal experience of the ride, the physical and mental challenges, and the individual documentation of the project in the inner circle. Surrounding that would be the school community's experience of this project. It would include the planning and preparation done by teachers and students, the lessons created and learned the family support, and the creation of artifacts and documents by these groups. Finally, the outer circle would encompass the ride participants, donors and supporters, and all those who

will access the ride project in a secondary way, perhaps by reading this Bank Street Master's project.

The actual project began in August of 2005 when I approached the principal of Beit Rabban asking if I could participate in the Hazon Arava Institute Israel ride. My principal was very interested in the idea as a learning opportunity for the students and piece of the upcoming year's curriculum. (Our school had done a school wide project the previous year on Christo's gates in Central Park so this was a new topic, but similar endeavor.) We agreed that this project would be a school wide, interdisciplinary undertaking that would use a backwards design approach. It would include activities that would be class based, school wide and community wide as well. The initial planning began on a small committee level with a few teacher representatives meeting to discuss ideas and think about possible themes or big ideas that would be accessible to many students. We created a timeline of the events and decided to launch the project one week before I would leave for Israel on Israeli Independence day. The details of the launch and the planning it would require were not yet settled. As the date of the ride approached, larger teams formed and each teacher in the school became involved in planning for her own class as well as for the larger group activities.

Initial planning ideas/topics:

Israel
- geography
- vocabulary
- environment

Health
- nutrition
- calories
- energy
- exercise

Bikes
- safety
- gears
- art/sketching

- observations of bikes
- an actual ride

Jewish themes

- *tzedaka* (charity)
- community

teamwork
accomplishing a goal
preparation (training)

Calendars soon came out to decide how much time to allocate to this project. It was decided that the project needed to begin before I left for Israel, to connect students to the project and to my experience of it, and to end once I returned so that I could personally share my experiences and students could share with me and with the community their learning and display their work. Since the holidays of Israeli Independence Day, Israeli Memorial Day and the Jewish holiday of Lag B'omer, part of the spring harvest festival, all fell around and during the ride; we would begin the project with one holiday and end it on another. Students gathered for the "launch" the first of a few school-wide events on May 3, 2006, Israeli Independence Day, and finished their learning with a community-wide exhibition for students, parents and friends on May 17, 2006, the day after Lag B'omer. The three weeks dedicated to the project were necessary to fully develop the integrated curriculum, allow students time to acclimate to the project, and to bring in the entire community and allow them opportunities to participate as well.

The Launch

For the launch, we wanted to create a tangible item that would represent the entirety of the project, could be worked on by students of all ages, and would have informational content. We decided to create an 18-foot map of the state of Israel made on large white squares of paper with collage materials. With almost 100 students ages three to ten in the school, we wanted to make multi-age groups of five or six students, each

supervised by a teacher, with an accomplishable goal for a one-hour art project. Each group of students was given a large white square of paper on which there was part of an outline of the boarder of Israel and a small color key to designate the geography of that area. Prior to this activity, I worked with two other teachers to lay out the map, sketch Israel, note the major cities, and highlight the route on which I would ride. We decided to use simple colors, for forest, desert, water, the route and cities. In the areas that were to be desert, we put yellow and orange dots, to designate using paper from the yellow, orange and brown families to totally cover the white paper and create a patch of desert. The same method was used for each of the other sections. The documentation of this project, along with pictures, can be seen at http://www.ileneisraelride.blogspot.com.

When the students congregated in the social hall of our building to work on this project they had not seen the map in its entirety, nor did they see the work or progress of other groups. Each group of six students sat around a circular table on which they were provided colored paper, scissors, glue sticks, markers and the large piece of the map. They were also given small note cards and pencils on which they were to make a sketch of themselves on a bike. This small feature was added as a way to bring the students further into the map. We decided that as the ride went along, each day note cards with sketches the students had made would be added to the route to mark my progress. The map was to be hung in the stairway of the school building in a very visible area, within reach of students, parents and visitors. Not only would each child be able to identify his or her own piece of the map, but also his or her note card.

The visibility of each piece of the project, along with the high level of involvement of the entire school were both key features of the launch. It was essential

that all students took part in the introductory and later culminating tasks and that these experiences were meaningful and powerful. As mentioned in the first section of this paper, educational expert John Dewey (1938) stresses the importance of experience for long lasting learning and in a school-wide project; the hook of the project is the unique and special experiences that students have outside the realm of their usual learning.

The Beit Rabban Israel Ride Project

Along with the school-wide launch of the project, teachers at Beit Rabban were asked by the administration to plan daily lessons and activities as part of this curriculum and to take part in school-wide events. A committee was formed by teachers to plan lessons and units that would appropriately meet the needs of different students and match each grade's skills level and interest. Students became engaged and excited in the learning as a result of their experiences, and throughout the process, parents were kept informed and involved in why the project was taking place, what students were learning and how they too could participate. Activities were designed on three scales: classroom, school, and broader community. The launching activity where students created a large map of Israel in cross-grade groups was done by the entire school, in classrooms different grades focused on science lessons, or geography or Hebrew language, while the entire community was invited to participate in a school bike ride and final exhibition. I also created a blog as one facet of the project onto which parents and children could add comments, read my words or looks at photos. I updated the blog regularly while in Israel on the bike ride, and again at the end of the project after the culminating activity. These points of entry for different members of the community facilitated a large reaching project that generated excitement and support from many places.

The blog that I created was a way to inform parents and students of my travels and experiences, share pictures and stories, and allow for a conversation to take place within our community. The online tool provided a forum for parents, students, teachers, friends and family to share their thoughts, support and reactions to the learning that was taking place. The ability for readers of the blog to publish their own comments was particularly meaningful for the community because this added another layer of participation, where many voices were heard. Students were able to put their names on their comments and for weeks after the ride checked out the blog to notice new messages or changes. They were excited to see photographs with familiar faces and parents were eager to look together with their children at home as the blog unfolded. Over 50 postings from friends and families of the school were made on the blog in two weeks time. This turnout on the on-line forum shows great support.

Parents of younger students, particularly in the preschool, looked together with their children at the blog and had family conversations about the site. One parent, Deborah, wrote, "Ilene--*Kol hakavod* (loosely, good job), you are awesome! We are so proud of you. I just read your latest post & can't wait to share it tonight with Ava & Henry. What a fabulous way to see & re-experience Israel. Looking forward to your next installment...." This mother of a preschool student was able to connect to the project through the blog and to share her support in this forum. Her comment sparked other words of encouragement and enthusiasm by parents and students.

Most compelling were the words of students, some as young as 5 years old, who made a point to put their own comments on the website. One child, Victoria, a then third grade student in my class eagerly wrote, "Hi ilene,yesterday we did the salt cristles,they

are realy interesting. we all miss you so much. we heard you spoke to Jo this morning,we didt get to do reading groups today either." This post, to me, reflects all of the successful elements of this project. Victoria is mentioning a learning experience she had that was connected to this interdisciplinary curriculum and she even comments that she enjoyed it! Further, she makes note of the communication between me and the school (Jo is the principal) and finally, the flexibility of the curriculum in that the reading groups were cancelled that day for the sake of taking part in Israel Ride project. That morning students were working so intently on their science experiments on salt water crystals, that they had to reschedule a usual fixture in their day, reading groups. In my mind the ability to continue passionate and involved learning because the students are truly engaged is a wonderful reason to reschedule reading groups! Further, the message that a small amount of time, three weeks taken from the usual schedule, is worthwhile to build skills and involvement in learning. Students suspended regularly learning temporarily for a new opportunity with the knowledge that the usual schedule would resume. For many students, and some teachers, this was reenergizing and exciting.

The experiences of the community and students are part of the learning goals of this integrated school-wide project. The reflections and comments of the community both during and after the project are key to understanding this approach to learning and to further implementation and modification for the future. One parent expressed enthusiasm about the project, saying, "This should be another exciting event for everyone involved. If you would like, I can develop some in class experiments to demonstrate some of the environmental principals that the children may be discussing--build up of gases, particulates in the air, meaning of biodegradable, plant and people respiration, renewable

resources, etc." The willingness of parents to be involved in the project relates to an earlier point about parent involvement in a school. Parents who take an interest not only in what students learn, but also in enriching and participating in lessons show children that they value school and learning and are supportive of projects undertaken by the school. Students need to feel positive and supported by parents about their learning in order to succeed. According to many articles, including one by Fan Xitao (2001), students with parents who were supportive and had high academic goals for their children were more successful than those who did not.

An additional factor which helped the Israel Ride project to be realized and successful was the strong leadership and input from the administration of the school. The principal of Beit Rabban, Jo Sassienie, worked diligently to communicate to parents each part of the project and to commit time and energy to guiding and mentoring teachers along the way. One effective way in which Ms. Sassienie communicated the goals and outcomes of the Israel Ride project was through letter writing. Below are two sample letters detailing the onset and mid-point of the project, allowing parents more than just a glimpse into the classrooms. The letters were sent both by post and e-mail to each family in the school and prompted many responses, including the letter mentioned about by a parent wanting to add to the science curriculum. The following letter gives an excellent summary of what the project will entail and why it was chosen.

Dear Parents,

I wanted to take a moment before Pesach to write and clarify a few things about the Beit Rabban Israel Bike Ride Project.

The Israel Bike Ride Project is a unit of study designed for the Whole school for educational purposes, in the style of the Christo Gates project that I know many of you will remember from

last year. The project was decided upon by the school's administration and will be implemented by the entire faculty, all of whom are tremendously excited at this wonderful opportunity for our student's education. Ilene Harris will be participating in the ride as a representative of the school and will continue to work for the school during the ride. She will provide us with a marvelous opportunity to enhance and strengthen our students connection to and learning about Israel. At the same time we hope that Ilene will act as an inspirational role model for our students. For eight school days, as she cycles from Jerusalem to Eilat learning about The Land of Israel, it's place in Jewish tradition and related environmental issues , Ilene will communicate with the children in the school regularly. We will follow her progress closely and in turn learn from her each day. She is currently leading the faculty, under my guidance, as we develop curriculum and activities for the project. On her return she will follow up with each class and use her experiences to guide and teach both children and teachers as we complete our work that will be exhibited for you to enjoy on May 19, 2006. After Pesach we will be sending home a more detailed letter to let all parents in the school know more about this exciting project.

The fund-raising aspect of the ride is minor for Beit Rabban and will not be the focus of either work or conversation in the classroom. Although we do see this example as a continuation of regular Beit Rabban *tzedakah* (charity) efforts and education, Ilene's declared goal of $5K is being raised by many sources aside from Beit Rabban families. Indeed she has already raised over $1500.

While Ilene is in Israel the children will participate for the most part in alternative curricular activities related to the Israel Ride Project. The regular curriculum will be for certain periods of time replaced by a special schedule to accommodate this school wide learning project and our curricular goals for the students will be incorporated into activities exclusively designed for this unique project. I have hired a fulltime substitute teacher to work alongside Eloise and to cover Ilene's teaching assignments during this time. In my enthusiasm it seems that I, along with Ilene, inadvertently mis-communicated certain aspects of the project and mistakenly failed to communicate other important connected issues. I hope that this letter has helped to clarify. Please do not hesitate to call me if you have any concerns or questions. We are very much looking

forward to this original and inspirational project and hope that you will enjoy participating with us.

With all good wishes for a chag kasher v'sameach,

Jo Sassienie

Principal

This second letter is one sent out while the Israel Ride was underway. It contains information about the activities of each of the classes in the school. Most remarkable is the level of integration into the curriculum, while addressing so many different subject areas.

12 Iyar, 5766

May 10, 2006

Dear Parents,

Today the students at Beit Rabban followed Ilene Harris, Shtillim teacher, as she cycled from Jerusalem to Ashkelon. Ilene got up this morning at 4:30 AM. When I spoke to her at 7AM our time (2PM Israel time), she had cycled 45 miles and had tackled one of the steepest hills of the ride. This is probably the furthest that Ilene has ever cycled and she had another 15 miles to go before a swim in the ocean. On the way Ilene had learned about the relationship between salt and water from an expert in the field and had played 20 questions with her cycling companions. She said it was all, 'AMAZING'!

Late last night before getting some well-needed sleep Ilene added to her blog, which you can visit at http://ileneisraelride.blogspot.com and on which you can post responses as some of our students have already done. It is a wonderful way for us to experience the ride with Ilene and to stay closely in touch. Ilene will be writing in her blog on a daily basis so that we can all follow her progress, learn with her and show our support. You can also go to www.hazon.org to see more

news from the Israel Ride about Beit Rabban, Ilene and other riders, including some students who are riding with their parents as a bar/bat mitzvah project.

As Ilene cycles from Jerusalem to Eilat, the students at Beit Rabban are participating in new and exciting curricular experiences related to the themes of Israel, the environment and bicycles. We launched our project on *Yom Ha'atzma'ut* [Israeli Independence Day]. The children prepared for this day, the birthday of Israel, by learning about the flag, the history of Israel, *Hatikvah* [the Israeli national anthem] and many other songs from and about Israel in Hebrew. On *Yom Ha'atzma'ut*, all ninety-five students and every staff member participated in one room in a collaborative collage project. Small groups of students from across the age range made a jigsaw piece of the map of Israel with Ilene's route marked on it in purple. You can view the complete map on the stairwell and it will be displayed at the exhibition next week. In an assembly later that morning we looked at the map we had all made together, sang songs and Ilene spoke to the students about her adventure. We wished her *nesiya tova* [good travels] and all good wishes for her challenge and journey. The sight of the large map of Israel on the floor surrounded by excited students and parents was a truly moving moment and the picnic that followed was also joyous and an appropriate celebration of this special chag.

Before Ilene left for Israel she visited each classroom in her bike gear with her bike and talked to the children about her trip, answering many questions. Over the next 10 days each class in the school will follow Ilene's route, learning about the places and terrains in Israel that she rides through and to some extent, depending on the age group, studying the issues that Ilene will be exposed to on the way. In addition they will learn how these places are so deeply connected to Jewish tradition, life and observance and in some cases will study the sources in *Tenakh* [Bible] where these places are mentioned. The children will use and study the map of Israel and will also develop map skills and create a variety of maps of their own. Every child in the school will also do a close observational drawing of a bike using different materials.

In addition, each class will participate in certain special classroom activities. There are so many that I can't share all of them here in this letter but want to give you a taste of all that is happening here at school.

In *Nitzanim* [4th and 5th grades] the students will learn particular texts from the Torah that relate to the land of Israel with Zev Farber, our Rabbinic Fellow. In *Torah She Be'al Peh* [Oral Laws of the Bible] they will be focusing on rabbinic texts that discuss the environment - water, the land and conservation. In Hebrew the students will be reading stories about Israel and/or by Israeli authors. In Art they will make representations of wheels using wire. In Humanities the students will focus on the geography of Israel, constructing their own maps, and discussing the different weather/climate types that are found in the different places and terrains, and how this affects lifestyle and the land. The children will speak about water sources, and how resources are utilized. In science the class will study nutrition and will look at different food types (carbohydrate, protein, sugar). They will look at the different energy levels that can be obtained from different foods, and how quickly they are absorbed as well as their nutritional value. In fact, the children will develop sample diet sheets for Ilene during her ride.

In *Shtillim* [2nd and 3rd grades] the children will focus on the geography of the country as we follow Ilene en route. In science they will be looking at some of the concepts behind certain environmental issues. They have been studying salt and water and are currently making salt solutions and crystals. They will be investigating the working of gears and pulleys on a bike. They will also explore *pasukim* [verses] in the *chumash* [Bible] and *mishnayot* [writings], which mention places that Ilene will visit or ride past.

In *Garinim* [K and 1st grades] the children will be making their own maps of Israel using legends and using charcoal to draw bikes. They will be making model bikes and wheels out of wire as they study the mechanics of a bike and how it works. In Hebrew lessons they will be studying transportation, living in Israel and the cities of Israel. The children will study the different geographical features and terrains that Ilene will pass through such as deserts, craters and mountains. Their environmental work will focus on water; its use and conservation, and desert plants.

In *Gan Bet* [4 year olds] the children will be studying Israel through the different bodies of water there. They will make a map showing where the bodies of water are and will look at special types of fish that are native to the land (and seas) of Israel. They will be making an

aquarium with different types of fish and will make observations of things that float and consider why that might be. They will learn about the salt in the Dead Sea. In Art the children will be making different prints using wheels.

In *Gan Aleph Adom* [3 year olds] the children are focusing on maps and exploring in particular the map of Israel along Ilene's route. They will be building a map in the block area with the children's homes marked on it. They will also be making a mural using prints from bike treads and tires.

In *Gan Aleph Yarok* [3 year olds] the children have been reading stories from and about Israel and about transportation. They have added items to the dramatic play area to represent Israel and bike riding. They talked about what they would pack to go on this trip and have used bike tires and other materials to print and make models of bikes and wheels. The children have also been exploring globes and maps of Israel, the school and the world.

In these ways and in other that I haven't mentioned here we hope and imagine that the children will gain knowledge, develop a stronger connection to and love of *Eretz Yisrael* [the land of Israel] and will be inspired by Ilene's challenge. We very much look forward to sharing our work with you at the exhibition on Friday, May 19th from 12:30-1:30PM.

Warm regards,

Jo Sassienie Principal

Lesson plans

This section gives examples of lessons that were carried out in the 2nd and 3rd grade classroom during the three-weeks devoted to the Israel Ride. Science, geography, Hebrew language, writing, art, and physical education are all elements of these lessons providing samples of the broadly reaching curricular topics. Each lesson is part of the learning that took place for this project and is meant to support all types of learners. Further, these lessons can be modified and adapted in subject matter, length or detail to be suited for any classroom.

For all of the lessons included, the following information is applicable:

Student Demographic Information:

My school is a Jewish Day School on the Upper West Side in Manhattan. More than half of the students live on the Upper West Side, some students live in Riverdale, and a few live on the Lower East Side. Most students in the school are part of a two-parent household. About 40% of the students receive financial aid of some type to help pay the school tuition, but very few of the students have great financial need.
Classes are small, ranging from 10-18 students per classroom. The classes are co-taught by two full-time teachers. This atmosphere of collaboration is one of the values of the school. The school also values Jewish community, care for the environment, social responsibility, and respect for others.

The school has grades K-5 and is 12 years old. Additionally, the school does not own its own building and rents space from a synagogue.

The second and third grade classroom has 16 students
who come from Middle, Upper Middle, and Upper Class homes
13 of the students are "typically developing"
There are also 3 students with special needs which focus on language, attention and memory.

1 student struggles with attention
1 student has difficulty with active working memory and difficulty with reading
1 student has emotional and behavioral difficulties which manifest with language limitations and social difficulty

Student Needs:

Lee: Attention

Strengths:
+ sense of humor
+ excitement about learning
+ kinesthetic tasks
+ creative/artistic

Struggles:
- Processing Controls: focal maintenance, satisfaction control, saliency determination

- Production Controls: facilitation and inhibition, self-monitoring

- Mental Energy Controls: consistency

Taken from Levine's Neurodevelopmental Constructs for attention (Levine, 2001).

Lee is a student who struggles with attention. He is a bright and engaging child with a great sense of humor and interest in learning new things. Lee succeeds at hands on tasks, especially those involving art materials, real objects and construction. He's talented at drawing, writing poems, playing sports, and telling jokes. He is most engaged when he is "doing."
Where Lee struggles is in the area of attending to group discussions and participating appropriately. Here Lee has difficulty with the intake controls of span control and satisfaction control (Levine 2001). He "tunes in" for only short bursts of time and if disinterested is unable to maintain concentration. His participation, which often looks like calling out and interrupting, is related to the output control of option control, where Lee chooses his first instinct to call out, even though he knows this is not in line with the classroom culture (2001). Lee also has trouble following a series of directions, which may be related to active working memory, but also possibly with mind activity through his intake control (2002). He will repeat what is asked of him, verbalizing the short list so that he can walk himself through it, but even still may skip a step. He can attend to the details and small pieces of information given over in a lesson, but often misses the bigger picture or asks, "What do we do now" in reference to an activity that follows a lesson. Lee needs direct and private instruction from teachers to execute a task. He is learning to attend to and execute directions more efficiently, but at this time still needs to check in with a teacher when following any multi-step directions. He tends to get off track or distracted one or two steps into the process.

Kevin: Language

Strengths:
+ creativity/imagination
+ artistic, drawing

+ kind and thoughtful
+ background knowledge

Struggles:
- weak language production: difficulty expressing ideas, frustration with choosing words, limited vocabulary, limited grammatical expression (this applies to oral and written)

-speech articulation problems, including stuttering

Taken from Levine's Neurodevelopmental Constructs for Language (Levine, 2001).

Kevin has been in the school since Kindergarten. Kevin has been diagnosed with dyslexia, a learning disability, as well as a social disorder. Kevin is reserved socially but has a few close friends. He is agreeable, well mannered and kind to others. Kevin's biggest challenge is in his expressive language--both oral and written. Kevin has shown improvement in his ability to express his ideas through work with a therapist, but still struggles with writing. His narratives often lack cohesive ties and his ideas are often presented in a sequence that lacks coherence. When he "shares" in class, it is extremely difficult for his friends and teachers to follow his thought process. His ideas continually get lost in his jumbled syntax and overall disorganization (Levine, 2001). It can be difficult for Kevin to work with a partner or in a small group since it is hard for his peers to understand his ideas. Kevin also has an oral motor weakness, which affects his enunciation. Kevin works with a language speech and language therapist once a week as well as with a behavioral therapist once a week.

Danny: Memory

Strengths:

+ Social
+ Understands directions
+ Ability to express thoughts
+ Creative writer

Struggles:

- Active working memory: Short-term to long-term linkage, idea maintenance, task-component maintenance
- Short-term memory: Saliency determination, depth/detail processing

Taken from Levine's Neurodevelopmental Constructs for memory (Levine, 2001).

Danny is an outgoing, sociable boy. Danny is a visual learner. He benefits from having visuals during lessons and is able to recreate stories artistically. Furthermore, Danny has a definite strength in his mathematical abilities, and is quick to understand new concepts in math. Danny is also very creative and is able to create unique story ideas for his fiction writing.
Academically, however, his biggest struggles are related to his difficulty with active working memory. This often impedes his academic success throughout the day. When Danny decodes unfamiliar words, it is difficult for him to retain the words in his long-term memory. Therefore, when Danny comes across the word again, even moments later, he can no longer remember how to read or pronounce the word. This causes a lot of frustration for Danny, and often deters him from making any further attempts at decoding the word. In addition, during writing, Danny has a difficult time keeping an idea in his head long enough to use it in a meaningful way. The ideas are usually lost before Danny can develop the idea on a higher level or incorporate it with his prior knowledge.
Specifically, according to the Levine (2001) Danny struggles with attentional dysfunction affecting short-term memory. Danny's weak mental energy makes it difficult for him to devote enough attention to processing new information. Furthermore, Danny often speeds through assignments so quickly that he often fails to put into practice any of the strategies that help him register new information.
However, Danny has discovered several useful strategies to help him manage his difficulties with active working memory. One strategy is rehearsal, where Danny repeats and practices new words repeatedly to help it transfer to the long-term memory. During writing activities, it is helpful for Danny to have a graphic organizer to help him organize and preserve his ideas before he begins. Danny also benefits from repeated and written directions, since multi-step directions can be difficult for Danny to follow. This allows Danny to work more independently. (Levine, 2001)

Israel Map

Summary:
This lesson is a school-wide art project where students create a large map of Israel using collage materials. This launching unit is meant to get students excited about learning the geography of Israel, making a personal connection to the map of Israel, and connecting with a teacher who will soon be visiting Israel for a 5 day bike ride. Students work in multi-grade groups with a teacher as moderator, follow a template for creating the map, and as a school discuss the result. This activity builds teamwork, knowledge of geography, and social awareness.

Additionally, students will work on creating maps during Hebrew language time. Students will produce personal "treasure" maps along with maps of Israel and use these maps in conversations and games to learn key vocabulary associated with geography in Hebrew. Further, students will learn to give directions, follow directions, and write directions in Hebrew. Students will use speaking, listening, reading and writing skills to engage in these activities.

Subject(s):
Art, Social Studies

Discipline:
Geography

Rationale:
This lesson is developmentally appropriate for a wide range of ages. Students will use the materials provided in the most suitable way for their needs. Each child will have a hands on experience that will facilitate their learning. All students will discuss this lesson in the classroom with their classroom teachers to further support their group experiences, and to provide extension and supports.

This lesson takes place with a wide range of students of many ages. According to Lev Vygostsky (1978) students working together of varied ages have an opportunity for scaffolding to take place where older students help younger students realize new concepts and abilities and reach higher potentials. These interactions are necessary for development according to Vygostsky (1978) and benefit both older and younger students.

John Dewey's (1938) theory of education supports the experiential learning that takes place in this lesson. The authentic experience of creating a map and being involved in the planning and use of materials is essential for learners.

Howard Gardner's (1993) theory of Multiple Intelligences informs this lesson in it's approach to educating with multiple ways of learning in mind. This lesson is accessible to students who learn in bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, and intrapersonal ways. The scale of the project, use of collage materials, working in a group, and even the problem solving aspects of piecing together a puzzle all speak to different types of intelligence.

II. STANDARDS/SKILLS/SUBJECTS/DISCIPLINES

Standards and Skills:

NY- New York State Standards

- **Subject:** Arts (1996)
  - **Learning Standard 1 :** Creating, Performing, and Participating in the Arts
    Students will actively engage in the processes that constitute creation and performance in the arts (dance, music, theatre, and visual arts) and participate in various roles in the arts.
    - **Level :** Elementary
      - **Key Idea :** Visual Arts
        Students will make works of art that explore different kinds of subject matter, topics, themes, and metaphors. Students will understand and use sensory elements, organizational principles, and expressive images to communicate their own ideas in works of art. Students will use a variety of art materials, processes, mediums, and techniques, and use appropriate technologies for creating and exhibiting visual art works.

        Performance Indicator : Experiment and create art works, in a variety of mediums (drawing, painting, sculpture, ceramics, printmaking, video, and computer graphics), based on a range of individual and collective experiences (a)

        Performance Indicator : Develop their own ideas and images through the exploration and creation of art works based on themes, symbols, and events (b)

        Performance Indicator : Identify and use, in individual and group experiences, some of the roles and means for designing, producing, and exhibiting art works (e).

- **Subject:** Social Studies (1996)
  - **Learning Standard 3 :** Geography
    Students will use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth's surface.
    - **Level :** Elementary
      - **Key Idea :** Geography can be divided into six essential elements which can be used to analyze important historic, geographic, economic, and environmental questions and issues. These six elements include: the world in spatial terms, places and regions, physical settings (including natural resources), human systems, environment and society, and the use of geography. (Adapted from The National Geography Standards, 1994: Geography for Life)
        s draw simple maps of their communities or regions showing the major landmarks, industries, residential areas, business districts, transportation networks, health and educational facilities, and recreation areas
        s examine different kinds of maps to identify and define their components, including key, title, legend, cardinal and intermediate directions, scale, and grid
        s use cardboard, wood, clay, or other materials to make a model of their community or region showing their physical characteristics (Taken from National Geography Standards, 1994)
        s read about children living in other cultures to learn about their customs, beliefs, and traditions; natural resource use; food; shelter; socialization and schooling; and other important components of culture
        s draw maps and pictures showing how people make use of and modify their physical environments (e.g., land use for agriculture, mining, residential developments, transportation networks, recreation).
        - **Performance Indicator :** Draw maps and diagrams that serve as representations of places, physical features, and objects

III. KNOWLEDGE

Essential Questions:
How do people work together?

How does a common goal unit people?

Geography: In what ways can real world features be represented on a map?

Key Concepts/Understandings:
Interdependence: People need to work together to reach a common goal

A common goal can unite people and help them to work together.

IV. ATTITUDES AND VALUES

Attitudes and Values:
The students will engage in cooperative behaviors and demonstrate effective social problem-solving skills.

The students will demonstrate an enjoyment in creative expression by their active and enthusiastic participation in producing an art form.

V. CULMINATING TASKS AND ASSESSMENTS

Culminating Task:
Creating the map as a group and seeing it put together

Ongoing and Formal Assessments:
Each group will be headed by one teacher who will engage students in discussion about their understanding of the task. Younger children will be asked simple questions like, "what color do you think the green represents?" (forest)
While older students will be asked, "If this yellow represents desert, which part of Israel do you think we are constructing?" (the south)

In the classroom, a discussion of the project that ensues will provide further informal assessment.

Student reflection about the group work will be assessed since a key skill in this activity will be collaboration. Older students will self-assess by writing a short piece about how their group worked together, while younger students will have a small class meeting about how all of the kids helped each other.

To introduce the self-assessment, teachers of younger grades (pre-school through 1st grade) will address the class and say,

"Yesterday we worked on a big project with the whole school. In your group you worked together with art materials and as a team to get your part done. We are going to take some time to think about what it was like to work together, what was good and what was bad, and you are going to share what it was like for you." (pre-K will talk, K-1 will write and talk)

For grades 2-5 the teacher will say the following to introduce the self-reflection:

"Yesterday, as you worked to create a map of Israel in your groups, you were working on two different skills. First, you were using your artistic skills to create the map, but you were also using teamwork skills to work with your other group members. Today, before we view your artistic skills by looking at the map, we are going to think about your teamwork skills and how you contributed to your group. Think about what each team member contributed, what skills they were able to share, and what role you played in the group. Please fill out these sheets thinking about how groups work together and what this means for the final product."

Attachments: Appendix

Israel Map Reflection K/1 p. 92
Israel Map Reflection 2/5 p. 93

VI. LEARNING EXPERIENCES, RESOURCES, AND MATERIALS

Sequence of Activities With Accommodations:
Students will have learned, during Hebrew time about the map of Israel. They will have learned the geography and key areas of the map, as well as vocabulary related to maps and directions. This information will help them in creating a large map and working in groups. Additionally, they will already feel a connection and familiarity with the subject matter.

2 hours- In preparation, a color coded map, divided into 13 large 2x3 foot pieces of white paper, was created by teachers. The paper was laid down on the floor and teachers drew an outline of the map of Israel, including bodies of water, borders, and the route for the bike ride. Additionally, each section of the map was coded with a color for a certain geographic feature. For example, in the area where the Sea of Galilee was drawn, a blue dot was drawn in the middle to signify that water was present and blue colors and collage material were to be used to fill the space. Alternately, if an area was rich in forest or desert, green or yellow dots were drawn accordingly. This helped students to fill the map in appropriately.

Day 1:
All students met in the auditorium to create the map. Supplies were laid out on tables and students will be grouped with at least one child from each class. Tables consisted of 6-9 students supervised by one teacher.
10 min- An introduction by a teacher as to how to create a specific section of the map was given. The teacher held up the relevant materials and explained the process by which the map was created. Time was given for students to ask questions. Once instructions were given, students set to work with their groups, assigning tasks and staying focused with the guidance of the teacher. Some groups took a short time for planning, but then the students executed the project. One teacher went around and took pictures to document the activity.

The teacher introducing the activity said, "Each group is going to create a small part of a very large map of Israel. On your table are collage materials, a large sheet of white paper, crayons, markers and colored pencils, scissors and glue sticks. You will use these supplies to cover the white paper entirely. A key is shown on your piece of white paper giving you a clue about which colors to use, where borders might be, and where Ilene's bike route will lay. Your job is to apply the correct colors to the space and finish your piece of the map."

35 min- Students created the map using supplies provided. In most groups one of the oldest students took the lead, asking other students which materials should be used, how to attach the paper, or where to paint the color, and tried to give roles and tasks. In some groups, teachers helped to prompt these discussion, but tried to step back to allow the students to truly work together. Students usually worked on the part of the map that was closest to their seat to begin the activity, but once each group got going, many students got up, walked around, even asked other tables for additional supplies. When disagreements occurred about the work, students usually were able to compromise by dividing a section of the map so two children could both work on it, or coming up with alternative methods or materials.

Students with special needs, including Danny, Lee and Kevin, worked in groups with teachers and other students that they know well and with whom they were more comfortable. These three students enjoyed the artistic freedom of the activity, and no writing or formal speaking was required which was helpful for them.

15 min- Later that day, once the map was pieced together, students reconvened in the auditorium to view the final product. For many students this was surprising and unexpected as it was difficult to visualize. Each group sat near their own section of the map and a few students were called upon to share thoughts or observations. Kevin did not share his thoughts in the group, but was encouraged to have a conversation with a teacher privately to process the activity.

The map was hung in the hallway of the school which each student passes by every morning on the way to class.

Day 2:
20-30 min (depending on age)-Students de-briefed in their classes. The preschool students discussed working in a group and helping others. Grades K-5 began with a questionnaire attached which asked students to reflect on their part in the group and how they worked collaboratively.(two questionnaires, one for k-1, and one for 2-5 are attached)
Each class shared during morning meeting what different group experiences were like. Students discussed group dynamics and their understanding of the project. They reviewed what the map of Israel looked like and compared it to the one they made. They took a map of Israel to the hallway to look at the shape, geographic areas and points of interest (cities, bodies of water, deserts) on the student map verses the printed map.

15 min- The teacher created a word wall of words relating to the map of Israel. At this morning meeting the students shared ideas for which words should be included. This was particularly helpful to Kevin and any other student with language difficulties. Lee also benefited because having a task during a discussion rather than just talking helped him to stay focused.

The words included:
North
South
East
West
Desert
Forrest
Sea
Border
Region
Resource
Route

Day 3:
10 min-Students visited the map with their classes to trace the route. On the map, Ilene's route was delineated by a purple line that flowed from Jerusalem to Eilat according to her biking route. Students were able to add their own note cards with pictures of bikers to the actual map to mark off which parts of the route had been completed as Ilene traveled.
10 min -Each day a different class put markers on the map to show how far Ilene had traveled.

The class looked at the word wall before going to view the map to refresh their vocabularies and act as a prompt for comments and ideas.

Resources to Draw on:
http://www.gemsinisrael.com/mapofisrael.html

source for a map of Israel (English)

Attachments: Appendix

Israel Map Images pp. 94-96

Links
http://www.ileneisraelride.blogspot.com A blog kept during the Israel Ride project

Materials Needed:

colored construction paper
glue sticks
bottles of glue
large 1x2 ft. white paper
markers
pencils
crayons
dot markers
note cards
scissors
maps of Israel
camera
wipe board
wipe board markers
yard sticks

Gears

Summary:

Students will create a system of gears using wooden Tinker Toys to show understanding of how gear systems work. These gears will be put on display during a school-wide exhibition and students will explain to friends and parents how the systems work.

Subjects:

Art, Language Arts (English), Science

Rationale:

The eight and nine-year old students are in the Piagetian stage called "Concrete Operational." They are "capable of mental operations, internalized actions that fit into a logical system. Operational thinking allows children to mentally combine, separate, order and transform objects and actions. Such operations are considered concrete because they are carried out in the presence of the objects and events being thought about," (Cole & Cole, 2001, p.163). Therefore, allowing the children to build their own gears and systems of gears is developmentally appropriate for these students. The concrete, experiential learning will help the students fully incorporate the ideas that they have been learning into their knowledge base.
According to Kohlberg's six moral stages, the students in this class are mostly in stage three called, "Good-child morality," (Cole & Cole, 2001). Thus, a lesson focused on change, and cause and effect, which is grounded in the notion of interdependence and mutual relationships, is appropriate for both the students' cognitive and social development levels.

II. STANDARDS/SKILLS/SUBJECTS/DISCIPLINES

Standards and Skills:

NY- New York State Standards

- **Subject:** English Language Arts (1996)

  - **Learning Standard 1 :** Language for Information and Understanding
    Students will listen, speak, read, and write for information and understanding.

    As listeners and readers, students will collect data, facts, and ideas; discover relationships, concepts, and generalizations; and use knowledge generated from oral, written, and electronically produced texts. As speakers and writers, they will use oral and written language that follows the accepted conventions of the English language to acquire, interpret, apply, and transmit information.

    - **Level :** Elementary

      - **Key Idea :** Speaking and Writing
        Speaking and writing to acquire and transmit information requires asking probing and clarifying questions, interpreting information in one's own words, applying information from one context to another, and presenting the information and interpretation clearly, concisely, and comprehensibly.

        Performance Indicator : Present information clearly in a variety of oral and written forms such as summaries,

paraphrases, brief reports, stories, posters, and charts.

■ **Performance Indicator :** Select a focus, organization, and point of view for oral and written presentations.

■ **Performance Indicator :** Include relevant information and exclude extraneous material.

■ **Performance Indicator :** Use the process of pre-writing, drafting, revising, and proofreading (the "writing process") to produce well-constructed informational texts.

■ **Performance Indicator :** Observe basic writing conventions, such as correct spelling, punctuation, and capitalization, as well as sentence and paragraph structures appropriate to written forms.

• **Subject:** Arts (1996)

• **Learning Standard 2 :** Knowing and Using Arts Materials and Resources
Students will be knowledgeable about and make use of the materials and resources available for participation in the arts in various roles.

• **Level :** Elementary

• **Key Idea :** Visual Arts
Students will know and use a variety of visual arts materials, techniques, and processes. Students will know about resources and opportunities for participation in visual arts in the community (exhibitions, libraries, museums, galleries) and use appropriate materials (art reproductions, slides, print materials, electronic media). Students will be aware of vocational options available in the visual arts.

■ **Performance Indicator :** understand the characteristics of various mediums (two-dimensional, three-dimensional, electronic images) in order to select those that are appropriate for their purposes and intent (a)

• **Subject:** Mathematics, Science, and Technology (1996, 2005 Math update)

• **Learning Standard 5 :** Technology
Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.

• **Level :** Elementary

• **Key Idea :** Technological Systems 4:
Technological systems are designed to achieve specific results and produce outputs, such as products, structures, services, energy, or other systems.

Assemble and operate a system made up from a battery, switch, and doorbell connected in a series circuit.
Assemble a system with interconnecting mechanisms, such as a jack-in-the-box that pops up from a box with a hinged lid.
Model a community-based transportation system which includes subsystems such as roadways, rails, vehicles, and traffic controls.

■ **Performance Indicator :** Assemble and operate simple technological systems, including those with interconnecting mechanisms to achieve different kinds of movement.

■ **Performance Indicator :** Understand that larger systems are made up of smaller component subsystems.

III. KNOWLEDGE

Essential Questions:

How do systems work together?

What factors contribute to motion?

How does one changes in a system affect other parts of that system?

Key Concepts/Understandings:
Interdependence: Parts of a system work together to reach a common goal.

Cause and Effect: When one factor in a system changes, other changes take place as a result.

IV. ATTITUDES AND VALUES

Attitudes and Values:
When observing and creating sets of gears students will inquire and demonstrate effective problem-solving skills.

Students will express curiosity about how a system works and relies on the different parts.

Students will enjoy and be excited by engaging in the scientific process as they hypothesize and experiment with different constructions.

V. CULMINATING TASKS AND ASSESSMENTS

Culminating Task:
Students create a system of gears to be displayed along with a written piece explaining how the gears were constructed and how they work.

Ongoing and Formal Assessments:
Students will record initial observations on the observation sheet provided as they play with gears and grasp new concepts. Misconceptions will be discussed upon reviewing these sheets.

Students will then plan their own systems of gears, with materials at hand, and record on their planning sheets what they intend to create.

Students will reflect on their own process by using a student evaluation near the end of their construction. They will be asked what changes they made to their projects along the way and why.

Finally, Students will write a short explanation of their own constructions, including key words and phrases discussed in class to illustrate understanding.

Attachments: Appendix

Observation sheet p. 97

Planning sheet p. 98

Student evaluation p. 99

Rubric:
Appendix p. 100

VI. LEARNING EXPERIENCES, RESOURCES, AND MATERIALS

Sequence of Activities With Accommodations:
Day 1
40 min- Students will observe and sketch a bike in the classroom. They will be allowed to move the pedals or turn the wheels to observe up-close how the gears move. Students will be encouraged to do a detailed, up close drawing of one part of the bike.

Day 2
15 min- The teacher will begin with a mini-lesson on how gears move. She will ask three key questions to focus the thinking about gears and systems.
She will ask:

How does the size of a gear relate to its movement?

What is a revolution? How does it differ for different gears?

How do gears move together in a system?

30 min- Students will discuss how gears move, trying out different systems using gear toys (manufactured) and Tinker Toys to create their own sets of gears. Using materials printed from the internet students will read about gears moving clockwise and counter-clockwise and how systems of one, two and three gears operate.

Lee will be allowed to use the computer to watch a short clip about gears rather than use the printed material from the internet because he will be better able to focus.
Danny and Kevin can choose which they would like to view.

A word list will be made for the classroom with key words such as:
teeth
clockwise
counter-clockwise
system
series
and these words will be used by the teacher often when discussing gears. Students will be encouraged to look at the word wall to describe their own constructions.

Day 3
40 min- Students will be given materials to create their own system of gears. They will be allowed to use Tinker Toys, rubber bands, wood blocks and other construction materials to make a system of at least two gears, decorate it, and write a short piece explaining how it works.
This hands on activity is well suited for each student with special needs since it is so engaging and involved.

Day 4
30 min- continue work on gears
Students will be told that their gear projects will be part of the school wide exhibition of work. Each student will write an explanation of their project, no longer than one page, including what materials they used, how they created the system of gears and how it works.
25 min- write a draft of gear explanation (using words from word wall)

Kevin and Danny will draw a comic, rather than write a paragraph, showing in detail how the gears move. They will each include four boxes in the comic to show how the gear moves.

Day 5
30 min- finish gear project
20 min- edit and finalize gear explanation

Day 6
The teacher will put gears on display during school-wide exhibition.

At the exhibition, a table will be set up with places for the projects and the written explanations along with the work sheets done by students throughout the project. Each packet of papers will be next to the student project along with the student's name. In the center of the table, the teacher will write a short description of the week's activities, learning goals, vocabulary and assessments. Students will show their own projects, or those of others, to parents or friends who are visiting.

Resources to Draw on:
http://www.kidcore.com/item.aspx?pID=254
- source for ordering gear toys

http://www.target.com/gp/detail.html/sr=1-1/qid=1185232575/ref=sr_1_1/601-6600504-

1420109?ie=UTF8&asin=B00004TFRN
- source for ordering Tinker Toys

Materials Needed:

Tinker toys
Gear toys
bike
scissors
glue
markers
paint
paintbrushes
wood blocks
wood glue
rubber bands
skewers
paper clips
wire cutter
wire
paper
pencils

Hebrew Maps

Summary:

Students will work on creating maps during Hebrew language time. Students will produce personal maps along with maps of Israel and use these maps in conversations and games to learn key vocabulary associated with geography in Hebrew. Further, students will learn to give directions, follow directions, and write directions in Hebrew. Students will use speaking, listening, reading and writing skills to engage in these activities.

These lessons will take place in conjunction with a school-wide activity where students will create a large map of Israel in cross-grade groups. Work in Hebrew class will support understanding of geography of Israel before creating the large map and work after creation of the large map will review what was learned.

Further, understanding of the geography of Israel (and navigation) is essential for students to follow the route of the Israel bike ride from a central city in Israel south to the border of the country.

Subject(s):
Art, Foreign Language, Social Studies

Discipline:
geography, history

Rationale:
My eight and nine year old students are in the Piagetian stage called "Concrete Operational." They are "capable of mental operations, internalized actions that fit into a logical system. Operational thinking allows children to mentally combine, separate, order and transform objects and actions. Such operations are considered concrete because they are carried out in the presence of the objects and events being thought about," (Cole & Cole, 2001, p.163). Therefore, these authentic Hebrew immersion lessons are developmentally appropriate for our children because it allows to students to speak and comprehend in Hebrew in a concrete manner with an actual purpose. They will be able to create a real map, give directions, and follow directions, which fits with their stage of thinking. In addition, the culminating activity of this lesson focuses on having the students create their own map. This is a very concrete way to have the students gain a deeper understanding of maps and directions and fits with the concrete operational stage of development.

According to Kohlberg's six moral stages, the students in this class are mostly in stage three called "Good-child morality," (Cole & Cole, 2001). Thus, a lesson focused on communication, which is grounded in the notion of interdependence and mutual relationships, is appropriate for both the students' cognitive and social development levels.

II. STANDARDS/SKILLS/SUBJECTS/DISCIPLINES

Standards and Skills:

NY- New York State Standards

- **Subject:** Arts (1996)
  - **Learning Standard 1 :** Creating, Performing, and Participating in the Arts
    Students will actively engage in the processes that constitute creation and performance in the arts (dance, music, theatre, and visual arts) and participate in various roles in the arts.
    - **Level :** Elementary
      - **Key Idea :** Visual Arts
        Students will make works of art that explore different kinds of subject matter, topics, themes, and metaphors. Students will understand and use sensory elements, organizational principles, and expressive images to communicate their own ideas in works of art. Students will use a variety of art materials, processes, mediums, and techniques, and use appropriate technologies for creating and exhibiting visual art works.

        Performance Indicator : Develop their own ideas and images through the exploration and creation of art works based on themes, symbols, and events (b)

        Performance Indicator : Understand and use the elements and principles of art (line, color, texture, shape) in order to communicate their ideas (c)

        Performance Indicator : Reveal through their own art work understanding of how art mediums and techniques influence their creative decisions (d)

        Performance Indicator : Identify and use, in individual and group experiences, some of the roles and means for designing, producing, and exhibiting art works (e).

- **Subject:** Languages Other Than English (1996)
  - **Learning Standard 1 :** Communication Skills

Students will be able to use a language other than English for communication.

- **Level :** Alternate
  - **Key Idea :** Modern Languages - Checkpoint B1

Listening and speaking are primary communicative goals in modern language learning. These skills are used for the purposes of socializing, providing and acquiring information, expressing personal feelings and opinions, and getting others to adopt a course of action.

Performance Indicator : Comprehend messages and short conversations when listening to peers, familiar adults, and providers of public services either in face-to-face interactions or on the telephone

Performance Indicator : Understand the main idea and some discrete information in television, radio, or live presentations

Performance Indicator : Initiate and sustain conversations, face to face or on the phone, with native-speaking or more fluent individuals

Performance Indicator : Select vocabulary appropriate to a range of topics, employ simple and complex sentences in present, past, and future time frames, and express details and nuances by using appropriate modifiers

Performance Indicator : Exhibit spontaneity in their interactions, particularly when the topic is familiar, but often rely on familiar utterances

Performance Indicator : Use repetition and circumlocution as well as gestures and other nonverbal cues to sustain conversation.

- **Key Idea :** Modern Languages - Checkpoint B2

Reading and writing are used in languages other than English for the purposes of socializing, providing and acquiring information, expressing personal feelings and opinions, and getting others to adopt a course of action.

Performance Indicator : Read and comprehend materials written for native speakers when the topic and language are familiar.

Performance Indicator : Use cognates and contextual and visual cues to derive meaning from texts that contain unfamiliar words, expressions, and structures

Performance Indicator : Read simple materials independently, but may have to guess at meanings of longer or more complex material

Performance Indicator : Write short notes, uncomplicated personal and business letters, brief journals, and short reports

Performance Indicator : Write brief analyses of more complex content when given the opportunity for organization and advance preparation, though errors may occur more frequently

Performance Indicator : Produce written narratives and expressions of opinion about radio and television programs, newspaper and magazine articles, and selected stories, songs, and literature of the target language.

- **Subject:** Social Studies (1996)
  - **Learning Standard 3 :** Geography

Students will use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth's surface.

- **Level :** Elementary
  - **Key Idea :** Geography can be divided into six essential elements which can be used to analyze important historic, geographic, economic, and environmental questions and issues. These six elements include: the world in spatial terms, places and regions, physical settings (including natural resources), human systems, environment and society, and the use of geography. (Adapted from The National Geography Standards, 1994: Geography for Life)

s draw simple maps of their communities or regions showing the major landmarks, industries, residential areas, business districts, transportation networks, health and educational facilities, and recreation areas

s examine different kinds of maps to identify and define their components, including key, title, legend, cardinal and intermediate directions, scale, and grid

s use cardboard, wood, clay, or other materials to make a model of their community or region showing their physical characteristics (Taken from National Geography Standards, 1994)

s read about children living in other cultures to learn about their customs, beliefs, and traditions; natural resource use; food; shelter; socialization and schooling; and other important components of culture

s draw maps and pictures showing how people make use of and modify their physical environments (e.g., land use for agriculture, mining, residential developments, transportation networks, recreation).

- **Performance Indicator :** Draw maps and diagrams that serve as representations of places, physical features, and objects
- **Performance Indicator :** Locate places within the local community, State, and nation; locate the Earth's continents in relation to each other and to principal parallels and meridians. (
- **Performance Indicator :** Identify and compare the physical, human, and cultural characteristics of different regions and people

III. KNOWLEDGE

Essential Questions:
How do people work together?

How does a common language unite people?

Key Concepts/Understandings:
Interdependence: People need to work together to reach a common goal

A common language can unite people and help them to work together.

IV. ATTITUDES AND VALUES

Attitudes and Values:
The students will demonstrate fluency and comfort with a foreign language by using it effectively to navigate and give directions.

Students will engage in cooperative behaviors and demonstrate effective social problem-solving skills.

Students will demonstrate an enjoyment of using new terms in their enthusiastic participation in Hebrew speaking opportunities

V. CULMINATING TASKS AND ASSESSMENTS

Culminating Task:
Creation of a map along with instructions for use, written in Hebrew.

Ongoing and Formal Assessments:
Informal assessments will include conversations with the teacher during Hebrew lessons where the teacher will ask students questions about maps and directions. The Hebrew Conversation rubric will be used to assess these conversations.

Further, each student will be informally assessed by peers in their ability to complete a task of giving directions and following directions.

Formal assessments will include one Hebrew homework piece (attached)
and the final creation of a map with Hebrew directions included and a final rubric for the map.

Rubrics: Appendix
Hebrew map p. 102
Hebrew conversation skills p. 103

VI. LEARNING EXPERIENCES, RESOURCES, AND MATERIALS

Sequence of Activities With Accommodations:
Day 1
20 min- Students will discuss the terms North, South, East and West in Hebrew by doing a "four corners" activity. Around the classroom signs in Hebrew will say North, South, East and West (according to actual geography of the room) and students will be given clues written in Hebrew to start at a certain place in the classroom and navigate in each direction a certain number of steps and different terms. Students will already be familiar with the terms left, right and numbers. While following directions, students will fill out a sheet that asks along the way where they are (north, south etc.)
Danny might have difficulty with this activity so his directions will be modified to lead him in a circle, starting at North and moving clockwise. Lee will benefit from the movement of the activity. Since Kevin is better with comprehension than production, this lesson will suit him well. He can follow directions easily and fill out the sheet with only one word.

A sample sheet (in English) is provided in the resources section.

20 min- Once the students have followed all directions, they will remain at their final point (North, South, East or West) and be called upon to tell others how they got to their point. Kevin will be able to use his sheet as a prompt to say that he moved from north, to east, to south to west. The next task of drawing a map and labeling it will show his comprehension of the activity and he won't need to use so much oral language.

Day 2
15 min- Using a map of Israel, students will follow oral directions given by the teacher in Hebrew to find different locations on the map. For example, the teacher may say "Start at the southern most city on the map and move north until you reach a city that begins with the letter A. Now move west towards the sea and stop at a city on the water. Where are you?" Students will be allowed to record their moves in Hebrew on personal dry erase boards and show their answers, so that each student can work at his or her own pace.
30 min- Once students have practiced this game with a larger group and the teacher, threes or fours will break off to play the game together, alternating giving directions and following them. Each student will have a chance to give directions in Hebrew and follow directions of other students. Kevin and Danny will be in a group with students who can support him. They might work with a teacher to write directions out before presenting them to the group.

Day 3
10 min- Students will make maps using the new terms in Hebrew- N,S,E and W and write their own set of directions to get from one point to another. The teacher mentions that the maps will be put on display during the school wide exhibition of student work. She also notes that each student will meet with a teacher the next day to go over his or her final product.
30 min- At the top of each map students will draw a compass rose to remind them of the directions. They might choose to make a realistic map of their home, school or apartment building, or a more imaginary map of an island or city. Each child is responsible for labeling the map and writing four step directions from one place to another, using each of the new terms at least once.
The drawing and personal connection of this lesson will be great to engage Danny, Kevin and Lee. Each student will work to the best of his ability to write out the directions with support from the teacher.

Day 4
40 min- Students will share their maps with others and allow them to follow the directions to hopefully get to the desired location described by the author.
In pairs, students will pass along their maps and read their directions to a partner who will trace with his or her finger on the map to see if he or she can get to the chosen spot. The creator of the map will check that his or her partner follows the directions properly. Then the two will switch roles and check the other map.
Kevin will have practiced reading his directions to a teacher, before reciting them to his partner, so that Kevin can be more prepared for the task.
Danny and Lee will both be allowed to draw on clear plastic covers on top of their partner's maps so that they are more engaged in the task and can stay focused and follow the sequence of directions with more accuracy.

Day 5
30 min- The teacher will meet with each child for 2 minutes to verify that his or her map is a neat copy. The student and teacher will discuss spelling, content, and presentation and both with discuss the importance of the work. This time of reflection will prepare the child for the school wide exhibition of his or her work.

Resources to Draw on:
http://www.gemsinisrael.com/mapofisrael.html

source for a map of Israel (English)

Attachments: Appendix
North, South, East and West- Directions p. 101

Materials Needed:

Paper
pencils
clip boards
colored pencils
markers
personal wipe boards
wipe board markers
glue
scissors
maps of Israel
transparency sheet
wipe board markers

Salt Crystals

Summary:
This science lesson allows students to see the processes of evaporation and the "growth" of salt as it forms into crystals from a solution of salt water. Students set up an experiment using hypotheses, observation and conclusions to notice change over time. It is embedded in a social studies curriculum because it relates to the desert environment of Israel and to the limited water supply there.

Subject(s):
Science, Social Studies

Rationale:
The eight and nine-year old students are in the Piagetian stage called "Concrete Operational." They are "capable of mental operations, internalized actions that fit into a logical system. Operational thinking allows children to mentally combine, separate, order and transform objects and actions. Such operations are considered concrete because they are carried out in the presence of the objects and events being thought about," (Cole & Cole, 2001, p.163). Therefore, a science experiment is developmentally appropriate for our children because it allows to students to experience the process of growing salt crystals in a concrete way. They will be able to actually see the process that they are learning about in class, which fits with their stage of thinking. This is a very concrete way to have the students gain a deeper understanding of scientific change and fits with the concrete operational stage of development.

According to Kohlberg's six moral stages, the students in this class are mostly in stage three called "Good-child morality," (Cole & Cole, 2001). Thus, a lesson focused on change, and cause and effect, which is grounded in the notion of interdependence and mutual relationships, is appropriate for both the students' cognitive and social development levels.

When choosing to work on salt crystals with this age range, NY science standards and private science curricula were consulted to make an informed decision. The NYC K-8 science scope and sequence standards from the NYC department of education (2007) suggest that second grade students study "Earth Materials" and as part of this unit a teacher should "make clear that nonliving things can be human-created or naturally occurring" LE 1.1d. This was essential to our creation of salt crystals in the classroom and comparison of these salt crystals to those naturally occurring in the Dead Sea.
The third grade unit "Matter" asks students to "Measure, compare and record physical properties of objects using:
- standard and non-standard units
- appropriate tools (rulers, thermometers, pan balances, spring scales, graduated cylinders, beakers" PS 3.1 b,c,d,e
Additionally, students are to "Describe and compare the physical properties of matter (size, shape, mass/weight, volume, flexibility, luster, color, texture, hardness, odor etc." PS 3.1 b,c
which was done during this science experiment.

II. STANDARDS/SKILLS/SUBJECTS/DISCIPLINES

Standards and Skills:

NY- New York State Standards

- **Subject:** Social Studies (1996)
  - **Learning Standard 3 :** Geography
    Students will use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth's surface.
    - **Level :** Elementary
      - **Key Idea :** Geography can be divided into six essential elements which can be used to analyze important historic, geographic, economic, and environmental questions and issues. These six elements include: the world in spatial terms, places and regions, physical settings (including natural resources), human systems, environment and society, and the use of geography. (Adapted from The National Geography Standards, 1994: Geography for Life)
        s draw simple maps of their communities or regions showing the major landmarks, industries, residential areas, business districts, transportation networks, health and educational facilities, and recreation areas
        s examine different kinds of maps to identify and define their components, including key, title, legend, cardinal and intermediate directions, scale, and grid
        s use cardboard, wood, clay, or other materials to make a model of their community or region showing their physical characteristics (Taken from National Geography Standards, 1994)
        s read about children living in other cultures to learn about their customs, beliefs, and traditions; natural resource use; food; shelter; socialization and schooling; and other important components of

culture
s draw maps and pictures showing how people make use of and modify their physical environments (e.g., land use for agriculture, mining, residential developments, transportation networks, recreation).

- **Performance Indicator :** Identify and compare the physical, human, and cultural characteristics of different regions and people

- **Performance Indicator :** Investigate how people depend on and modify the physical environment.

- **Subject:** Mathematics, Science, and Technology (1996, 2005 Math update)
  - **Learning Standard 4 :** Science

Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

- **Level :** Elementary
  - **Key Idea :** Physical Setting 3:

Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.

Compare the appearance of materials when seen with and without the aid of a magnifying glass. Investigate simple physical and chemical reactions and the chemistry of household products, e.g., freezing, melting, and evaporating; a comparison of new and rusty nails; the role of baking soda in cooking.

- **Performance Indicator :** Observe and describe properties of materials using appropriate tools.

- **Performance Indicator :** Describe chemical and physical changes, including changes in states of matter.

III. KNOWLEDGE

Essential Questions:
How do systems work together?

What factors contribute to a chemical change?

How does one change in a system affect other parts of that system?

Key Concepts/Understandings:

Interdependence: Parts of a system work together to reach a common goal

Cause and Effect: When one factor in a system changes, other changes take place as a result.

IV. ATTITUDES AND VALUES

Attitudes and Values:
When observing and creating the salt crystals student will inquire and demonstrate effective problem-solving skills.

Students will express curiosity about how the crystals grow.

Students will enjoy and be excited by engaging in the scientific process as they hypothesize and experiment with the materials.

V. CULMINATING TASKS AND ASSESSMENTS

Culminating Task:
Water usage plan- students explain how to remove salt from water and make a sketch along with a written paragraph to explain how they would help with Israel's water problem (an invention or a tool they would use)

Ongoing and Formal Assessments:
The observation sheet attached is a good indicator of student knowledge about the science experiment. As the students record their observations, the teacher will monitor their progress, asking questions about what they notice and why it is happening. These informal conversations will provide the teacher with information about the students' understanding.

The salt crystal rubric will be an assessment of student work during the experiment.

A final project rubric assessing students knowledge of the process of evaporation and critical thinking skills

related to problems of lack of water in a desert environment will be used. Further, students will present their projects (in the form of a poster, construction piece or written description with illustrations) to others, allowing a forum for sharing ideas and knowledge.

Rubrics: Appendix
Final Science p. 109
Salt Crystals p. 110

VI. LEARNING EXPERIENCES, RESOURCES, AND MATERIALS

Sequence of Activities With Accommodations:
Day 1 30-min
Social Studies
Students look at the map of Israel and identify water sources making a list on the board off all nearby water.

15 minutes- in pairs, students will discuss fresh vs. salt water and think about uses for each (i.e. washing, drinking, farming) Each pair will write a list in two columns, headed "Fresh Water" and "Salt Water" thinking of the uses of each.

Lists will be posted on the class bulletin board for further discussion.

Day 2 45-min
Science

15 minutes- teacher introduction (as per mini-lesson Appendix p. 105)

30 minutes
Students begin science experiment, making a salt water solution and recording initial experiment details and observations

Day 3-10 minutes
Science
Students record further observations of salt crystals on observation sheets each morning when arriving in the classroom before morning meeting.

Social Studies- 30-min
Students research water usage per family in the US and per family in Israel (comparison charts) using research from the internet. In partners, the students will read the information provided on the charts and answer the following questions:

Which country uses more water: Israel or America?
Why do you think one country uses more water?
How do you use water each day?

-group discussion of use of resources

Day 4
Science 10-min
Further observation of salt crystals

Social Studies
Brainstorm- 10 minutes: whole class using chart paper: What can people do to conserve water, or use available resources? (introduce idea of desalination)
record student suggestions and hang in classroom to use in tomorrow's activities

Day 5
Science -10 minutes
Final observation of salt crystals

Social Studies- 45 minutes
Student write and draw ideas for water conservation and ways to use available resources. They may make a poster, construction or written piece with drawings

Accommodations:

Kevin and Lee will do well with the observation recording in drawing form and the hands on experiences. Both students will be encouraged to describe their observations to a friend or teacher to add some detail to their drawings.

Lee may need a timer to decide how long he will observe and record, because he tends to get absorbed in drawing tasks and may spend too much time on it.

Danny will work well with the observation sheet to record his findings, but may need some help with the sequencing and discussing how to record change over time.

Resources to Draw on:
teacher resource: great presentation on desalination
http://www.gewater.com/equipment/membranehousing/desal.jsp

additional teacher resource on desalination
http://www.coastal.ca.gov/desalrpt/dchap1.html

teacher resources on water usage:

Israel
http://www.israel-mfa.gov.il/MFA/MFAArchive/2000_2009/2002/8/Israel-s%20Water%20Economy%20-%20Thinking%20of%20future%20genera
http://www.sviva.gov.il/bin/en.jsp?enPage=e_BlankPage&enDisplay=view&enDispWhat=Object&enDispWho=Articals^l2067&enZone=Water_Conservation

America
http://www.elmwoodpark.org/water/Facts.htm

Attachments: Appendix
Salt crystal experiment mini-lesson pp. 104-105
Salt crystal observation sheet p. 106
Water usage facts p. 107-108

Materials Needed:

16 glass jars
string
paper clips
kosher salt
water
hot plates
thermometers
observation sheets
plain paper
lined paper
magnifying glasses
pencils
colored pencils
computer
rulers
maps of Israel
chart paper
markers
Table Spoon
Measuring cup

Museum Exhibition

Summary:
This is the culminating project of the three-week Israel Ride school-wide project. It was a one hour exhibition of student work for all grades where parents and friends were invited to view student work on display. Students in second and third grade prepared final works from the gears unit, salt crystals unit, Hebrew maps, and charcoal drawings of bikes. These were put on display by teachers and students gave tours and explanations of their work.

Subject(s):
Language Arts (English), community building

Rationale:
With the work of Wiggins and McTighe (2000) and Backwards Design in mind, this culminating task was the synthesis of the projects done in all curriculum areas- including art, Hebrew, science, social studies and writing. Students were displaying work in an accessible and authentic way to reinforce their own learning and to share with the community what had been accomplished in this three-week project.
The book *Learning on Display: Student-Created Museums that Build Understanding* by Linda D'Acquisto (2006) also helped to inform the creation and execution of the museum-style culminating task. In her book, D'Acquisto asserts that a student museum is motivating, authentic, teaches valuable skills and provides opportunity for student collaboration and communal involvement (2006, pp. 1-6).

II. STANDARDS/SKILLS/SUBJECTS/DISCIPLINES

Standards and Skills:

NY- New York State Standards

- **Subject:** Career Development and Occupational Studies
  - **Learning Standard 2 :** Integrated Learning
    Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings.
    - **Level :** Elementary
      - **Key Idea :** Integrated learning encourages students to use essential academic concepts, facts, and procedures in applications related to life skills and the world of work. This approach allows students to see the usefulness of the concepts that they are being asked to learn and to understand their potential application in the world of work.
        - **Performance Indicator :** Demonstrate the difference between the knowledge of a skill and the ability to use the skill
        - **Performance Indicator :** Solve problems that call for applying academic knowledge and skills.
- **Subject:** English Language Arts (1996)
  - **Learning Standard 1 :** Language for Information and Understanding
    Students will listen, speak, read, and write for information and understanding.

    As listeners and readers, students will collect data, facts, and ideas; discover relationships, concepts, and generalizations; and use knowledge generated from oral, written, and electronically produced texts. As speakers and writers, they will use oral and written language that follows the accepted conventions of the English language to acquire, interpret, apply, and transmit information.
    - **Level :** Elementary
      - **Key Idea :** Speaking and Writing
        Speaking and writing to acquire and transmit information requires asking probing and clarifying questions, interpreting information in one's own words, applying information from one context to another, and presenting the information and interpretation clearly, concisely, and comprehensibly.
        - **Performance Indicator :** Present information clearly in a variety of oral and written forms such as summaries, paraphrases, brief reports, stories, posters, and charts.

■ **Performance Indicator :** Select a focus, organization, and point of view for oral and written presentations.

■ **Performance Indicator :** Use details, examples, anecdotes, or personal experiences to explain or clarify information.

■ **Performance Indicator :** Include relevant information and exclude extraneous material.

III. KNOWLEDGE

Essential Questions:
How do people work together to reach a common goal?

How does a community work together?

Key Concepts/Understandings:
Interdependence: People work together to reach a common goal

Community: People in a community work, share and learn together.

IV. ATTITUDES AND VALUES

Attitudes and Values:
The students will engage in cooperative behaviors and demonstrate effective social problem-solving skills.

The students will demonstrate an enjoyment in creative expression by their active and enthusiastic participation in producing various art forms.

The students will demonstrate an enjoyment in speaking and presenting knowledge and information that they have acquired throughout their learning.

V. CULMINATING TASKS AND ASSESSMENTS

Culminating Task:
The museum exhibition will serve as the culminating task

Ongoing and Formal Assessments:
For each piece of work in the exhibition, students will engage in a process of editing and revision to create final pieces worthy of show.

At different points before the exhibition, students will meet with a teacher to go over their work and assess it.

VI. LEARNING EXPERIENCES, RESOURCES, AND MATERIALS

Sequence of Activities With Accommodations:

Day 1- 10 minutes
The teacher will have a conversation with the class about what they are working towards in all of their Israel Ride projects. She will say:
"We have been working on so many different things learning about bikes, and Israel and the environment and we want to show all that you've learned to our community. At the end of our studies, in two weeks time, we will have a huge museum displaying our work to your parents and friends in the auditorium. Your parents will be invited to see your final projects from your work on gears, salt crystals, Hebrew maps and your charcoal bike drawings. You will be in charge of showing them around and explaining what you've worked on. You will have help preparing for this and as we work on the different projects we'll talk about final copies and written explanations that will accompany your work. This will be an exciting way to bring our community into our school and another way of working together in this big project."

Days 2 through 10 5-20 minutes a day of discussion or questions

As work continues on the different lessons, time will be given for editing of writing samples, neatening of art projects, and discussion of the exhibition. Time will also be given for students to ask questions and clarify. Reference will be made to the Christo Gates exhibit from the previous year so students can remember what a school wide exhibition is like.

Day 6- 20 minutes
As students began to write their explanations of the gear projects they worked in pairs to edit and finalize their work. Each person in the pair read his final draft to a partner, as he would read it to a museum guest, and his partner made comments on the clarity, content and style of the presentation. A simple checklist was provided

(attached) for students to give each other feedback. The partners then switched roles.

Day 7- 30 minutes
As part of the Hebrew lesson on maps students wrote final copies of their directions and rehearsed them with a partner. The teacher also assessed each work on a rubric and those students needing more time or help were given it to prepare a final copy for the exhibit.

Day 9- 1 hour
The day before the exhibit students had one hour to observe their four projects, make any final touches and discuss with a teacher or friend any questions or concerns.

The class also talked about welcoming guests to the school, how to engage in conversations and what to do when you are not showing someone around.
The class agreed that during the exhibition it was appropriate to:
Give a parent (yours or someone else's) a tour
Give another student a tour of your work
Ask another student for a tour of his/her work (from another grade)
Walk around and observe by yourself
Walk around with a parent or friend and observe.

This list was made for all of the students, but especially for Lee and Danny so that they would be able to stay focused and participate in the whole event.
The morning of the exhibition Lee and the teacher worked on a personal schedule for him for the hour museum. He said he was interested in seeing the work of the 4th and 5th graders, so he set up a meeting time with his older friend for a tour and gave himself some time to give his mom a tour as well. That way he stayed engaged and on task.

Day 10 (two weeks later) Exhibition- 1 hour (plus teacher set up the afternoon before for 2 hours)

At 12:30pm on a Friday afternoon parents were invited to the school to the auditorium where the exhibition was already in place. Students had helped to carry their projects and work downstairs on Thursday at the end of the day and teachers stayed late to set up. They mounted art pieces on the wall, placed salt crystals and gears on tables, and placed accompanying worksheets and written explanations for projects on the tables as well. Each second and third grade child had a final piece on display from the four lessons mentioned above (salt crystals, gears, Hebrew map, bike drawing)

Students were allowed to visit the exhibition at 12:15 before parents came to get their bearings and prepare for parent visits. Once parents arrived students walked around the entire exhibit (each class put their work on display)

Day 11- 20 min
After the exhibition, the following Monday students shared at morning meeting one highlight of the event. They were encouraged to think about their work, how they interacted with visitors, and what they enjoyed about the process. As they spoke, the assistant teacher jotted down student comments on a large sheet of chart paper in different colors so students could see their own reflections. These comments were hung on the class bulletin board as a source of discussion and continuation of thinking about the project throughout the year.

A teacher could extend this activity by making the chart interactive. For the rest of the school year students could add further reflective comments about the museum exhibition, or the Israel Ride project in general to keep students thinking about all that they'd learned.

Attachments: Appendix

Exhibition images pp. 111-112

Materials Needed:

tables
paper
pencils
construction paper
glue
tape
stapler
staples
table cloths
poster board
markers
chart paper

Along with letters to families and lesson plans, student work samples were gathered as indicators of understanding and growth through the Israel Ride project. A few samples are attached and will be fully explained from select activities to highlight concepts and processes that students were able to grasp through this project.

Work sample #1: Menu

This work sample was done by a fourth grade student studying nutrition. In class the students discussed the food pyramid, categories of food (grains, protein, fats etc.) and thought about balanced eating. Each day students kept record of their own food choices and assessed the calorie content of certain foods as well. This sample is a menu created as an ideal balance of food for me to have eaten on the bike ride. The student was asked to follow the guide lines of the USDA food pyramid, including proper servings of fruits and vegetable, grains, dairy and protein, and limiting sugar and fat intake. This student accounted for the required 5 servings of fruit and vegetables by including juice, vegetables, a banana and lemonade. She also included lean proteins such as fish and eggs. This student met the dairy requirement by serving yogurt and cream cheese and included grains such as pasta, bread and a "balance bar." This work shows understanding of healthy food choices and balanced eating which was the goal of the lesson. (appendix p. 113).

Work sample #2: Conversation

The students in the preschool worked to create a mural done with paint and different toy cars, trucks and bike tires. The learning goal in this activity was based on the process, helping students to notice the motion of the wheels, the movement of the paint,

and for students to reflect on their part in this group lesson. This activity ties in closely with the overall key concepts of the Israel Ride project. Students worked in collaboration to create a product that conveyed new meaning to them.

The transcript of the conversation students had about this experience, along with a teacher written summary of the activity is included. The comments of students, along with the prompting questions asked by teachers show the focus of the activity. Teachers asked important questions such as "How did we create this?" and "What does it remind you of?" Allowing students to express their feelings about the activity as well as to reflect on what they had done. One student mentioned that he "rolled it" while another said "we painted on it." The students were successful in experiencing the ways wheels move by using them to make a painting and to discuss the effects as a group, explicitly mentioning process. (appendix pp. 114-115)

Work sample #3: Map

In a math group for kindergarten and first grade students the teacher focused on "journeys" to work on skills of addition and multiplication. She asked students to think about breaking apart a trip into segments and adding those pieces together. She asked, "If you break a journey into little parts and know the length of each part how many miles are traveled in total? For this activity, students drew their own maps with a trip segmented into parts and were asked to calculate total miles traveled, miles traveled from one stop to the next, or even miles traveled between the second and the fifth stop. This allowed students to become comfortable with adding and subtracting the different numbers on their routes. Next, the teacher asked students "If two bikes go on the journey, how many

miles are traveled in total? How about three bikes?" This brought in a more difficult element of repeated adding or multiplication for those students who were ready.

The sample shown is done by a first grade student who chose to draw her route on the map of Israel. This student struggles with focus and attention in class and at times misunderstands an assignment because she did not hear the directions. In this instance, though, she was able to follow the directions and complete the task. This student was clearly inspired by the school-wide project of creating a map of Israel and made the connection between her math lessons and the ongoing project. Her comments are difficult to read on the side of the page, but she mentioned that she enjoyed her art work as well as the calculations she did. She calculated her total miles by adding each segment of the trip and double checking it. This activity was very successful for this student because of her attention to detail in creating the map, performing her calculations and relating the activity to the entire project. (appendix p. 116)

Work sample #4: Gears

Students in second and third grade did a study of the gears of a bicycle and created their own systems of gears to display at the school wide exhibition (discussed below). This work sample shows the process and product of one student's understanding of gears. This particular second grade student had a very limited understanding of the way gears worked before the activity but was able to grasp new concepts and use new terms in her final project. The first page of the work sample was done in the initial planning stages. It reflects what was taught during the teacher directed lesson on gears and how they move in a series. The second page asks the student to reflect on her work and comment on changes that she made.

On the first sheet, "Learning about Gears" the student made some correct assumptions about gears learned through observation and play. She noticed:

1. A large gear moves more slowly than a small gear
2. A large gear takes more time to complete a rotation than a small gear
3. Gears which are next to each other turn in opposite directions

These three principals are fundamental to understanding how gears work and how a system of gears moves and changes. This student showed growth in not knowing at all how the gears might move (She predicted that all gears would all turn the same direction and a bigger gear would move faster, since it was bigger) to understanding new concepts. The second sheet, "My Evaluation" shows a drawing of her final system of three gears and her comment at the bottom of the sheet about what she learned encompasses her previous misconceptions and new knowledge gained. She says that "One little spool can push one little spool and one large spool" which is to say that she learned even a small gear can be powerful and move in a system regardless of size. (appendix pp. 117-118)

Culminating tasks

For the end of the school-wide project two activities encompassed the learning. One aspect of culmination of the school-wide project was a school bike ride on a Sunday afternoon. This optional activity helped to bridge for students my experiences on a bike ride in Israel with their own bike riding experiences at home in Central Park. Further, this activity centered on the qualitative experience of the project with opportunity for discussion and reflection. The other culminating activity was a museum-style exhibition of student work and was much more quantitative and tangible for students and parents.

The bike ride in the park took place after the Israel ride exhibition as a group event of celebration. Further, it was a communal event where students of all ages, along with teachers and parents could socialize and share. This event was developmentally appropriate for a wide range of ages. Students were able to participate in the ride in the most suitable way for their needs. Some younger children who were not yet comfortable on bikes rode scooters and some parents wore roller blades or even walked along to join the group. Each child was able to have a hands-on experience that was in parallel with my own ride and could be brought back into the classroom through reflection and discussion.

This lesson took place with a wide range of students of many ages. According to Lev Vygotsky (1978) students working together of varied ages have an opportunity for scaffolding to take place where older students help younger students realize new concepts and abilities and reach higher potentials. These interactions are necessary for development according to Vygostsky (1978) and benefit both older and younger students. John Dewey's (1938) theory of education supports the experiential learning that takes place in this lesson. The authentic experience of going on a bike ride and working as a group is essential for learners. On a communal level, this type of experience was also powerful for the group. Each child riding alone would have been meaningful, but the community joining together, over 30 families, was a large representation of how the group supported and encouraged each person. Further, a goal of the bike ride was to show students that bike riding can be for a purpose beyond playing or exercise, and that when done in a group can build and strengthen community and the values of the community.

The Event

Students and parents met outside the school building on Sunday morning at 11am to bike together on a short route in Central Park and enjoy a picnic lunch together afterwards. Each person brought a bike and we talked briefly about bike safety and riding in a group. Some families sent one parent to the picnic spot while the other parent rode with the students. Our route was sent out on a map through e-mail ahead of time so anyone could join in or find the group once we had left.

In my second and third grade classroom students were prepared for the ride, even though it was optional, and given a way to frame the event as part of the interdisciplinary curriculum. The time for reflection and discussion after the ride was key to stress to the students the importance of a communal gathering and a way to include parents and families in our classroom learning. In this next section, the details of planning before, during and after the ride will be given, along with accommodations made for students with special needs (introduced in the lesson plans above). This outline of activities can be used as is or modified for another classroom setting.

Day 1- Thursday

In class students discussed bike riding and made a brainstorm list of all topics related to bike riding. The teacher encouraged them to think broadly. Students were asked:

Why do we ride bikes?

When do we ride bikes?

How does bike riding relate to community?

Day 2- Friday

The list was revisited and students thought of categories into which to classify words on the list. Some categories included:

Health

Sport

Machine

Travel

With this list and categories, students thought about why they bike ride and what it means to them.

The teacher used different color highlighters to circle words in different categories and then rewrote the list. This was helpful to Danny and Lee. Danny, because it helped him to better organize the information and for Lee, the colors and pattern were a point of focus.

Day 3- Sunday

The ride with the parents took place on a Sunday in the park. Families were encouraged to come, even if not riding, to be part of the experience. Additionally, those students who were not able to come were encouraged to bike in their own neighborhoods at some point on the weekend to be able to share on Monday in class.

Schedule:

10:30- Myself and two other teachers arrived early at Beit Rabban to meet and greet families

10:45- Families began to arrive

11:00- I formally welcomed everyone, reminded everyone of the route we would be taking and led the way through the park

11:30 – The ride finished and we ended up at the picnic spot where the school principal and some families were already waiting.

11:30-1pm – Families and teachers sat in the park with their lunches and enjoyed the afternoon

Day 4- Monday after the Sunday ride

Students had an opportunity to share as a group their experiences on the weekend. Even those students who did not bike ride at all were asked to share questions or comments, or memories of other rides.

Teachers asked:

What were the purposes of our bike ride?

What was the purpose of Ilene's bike ride?

The teacher guided the discussion towards community and working for a goal. Students talked about working together, being part of a group and the value of community. They made the connection that riding as a group can be a way to raise money, support a cause, raise awareness and participate in a communal event.

Along with the Sunday bike ride an exhibition of student work was decided upon as a culminating activity. Each class' work was displayed in a museum style setting where students could show their work to other students, teachers and community members both as a way to share their work and as a way to reinforce the learning that was

done. This exhibition took place at the end of the three week project and was held in the school social hall. Parents and friends were invited to visit on a Friday afternoon and some of the Israel bike ride participants also came to speak with the children. Over fifty parents and friends were in attendance, which for a school of 65 families is remarkable. Two ride participants besides me came as well and were excited to meet the students and families.

Linda D'Acquisto (2006) discusses the merits of a "student created museum" in her book *Learning on Display: Student-Created Museums that Build Understanding.* D'Acquisto asserts that a student museum is motivating, authentic, teaches valuable skills, and provides opportunity for student collaboration and communal involvement (2006 pp. 1-6). Students engage in a task that has an exciting outcome and can proudly share what they have learned. The Beit Rabban exhibition was a way for students to showcase the learning and to reinforce for the community how powerful the Israel Ride project was.

The museum projects that are mentioned in the book *Learning on Display* involve many of the same characteristics as the Beit Rabban school-wide Israel Ride project (D'Acquisto 2006). Students worked in groups to study a particular topic and focused their energy on creating pieces, which would represent their learning and be on display at a museum created by students in the school at the end of the project. Further, students were responsible for creating displays, presenting information and even guiding visitors through the exhibit as way to share learning and help students to verbalize their thoughts and opinions on their work. Finally, the exhibition was an opportunity for parents and friends to visit the school and reinforce the communal nature of such a project.

D'Acquisto defines the museum experience as "a dynamic environment significantly different from that of the typical classroom," (2006, p.172). The Beit Rabban Israel Ride project allowed students to explore a topic in an atypical way. Teachers suspended regular curriculum learning for the sake of creating this new and exciting environment. The novelty of such an experience, paired with the authentic and meaningful learning that took place surely added to the power of culminating activity. D'Acquisto mentions that through a museum project "students may see something new in themselves-their potential as independent and interdependent learners, leaders, creative thinkers, problem solvers, designers, builders, artists, and communicators," (2006, p. 172). By taking on these new roles students can gain confidence in their learning which will benefit any type of future studies, project based or not.

The museum style culminating task was successful for the students and families at Beit Rabban. The students participating in the exhibition met teacher set goals, such as being able to articulate what they had done and explain their projects, and met standards of the lessons provided below. The rubrics of assessment and informal assessment methods included in the lessons outlined within this curriculum were means to determine the success of the individual parts of the Israel Ride project as well as the final culminating task. Most notable as a means of determining the success of the culminating task are the photographs from the exhibition itself (included) which show the variety and plethora of work that was a product of this school wide project. The success of the event was evident in the enthusiastic participation of over 40 of the school's 65 families. Parents were so enjoying the exhibition that some stayed past the time of school dismissal at 1:30 until 2pm!

Reflection

Further indications of success include the willingness of the school community to support a school-wide project the following school year. At the start of the following school year students asked me if I would again be participating in the Israel Ride or if Beit Rabban would be having another school-wide project. These eager students had fond memories of the experience and were hoping to recreate them. I sadly told the students that I would not participate in another ride, but the Beit Rabban was working on a school-wide curriculum to implement that year. The year after the Israel Ride project, Beit Rabban took part in creating a curriculum with Hazon that was a focus of a school-wide project with the theme of food. It was a look at awareness, health and responsible eating. The curriculum was designed with Beit Rabban as the pilot school, focusing on second through fifth grade students, but incorporating many of the methods of the Israel Ride project to create a school-wide learning experience.

My experience of the Israel Ride project was meaningful and formative in my thinking about teaching and learning. I feel that communal learning and participating in rich and authentic experiences are essential for students of all ages. I have been able to see, through participating in these school-wide projects, how students adapt to new learning environments in wonderful ways. These projects are especially meaningful to students with special needs, particularly those students I identified in my lesson plans who struggled in the areas of attention, memory and language. Learning in a less formal, more hands-on way was beneficial to their growth and understanding of the topics covered. Students spent only a few weeks on this brief project but reaped tremendous gain. Finally, the sense of community and strong bond created by participating in a

school-wide project sets a positive tone for students and families in the school that encourages further support and involvement in years to come.

Writing this paper and has allowed me to see school-wide projects as an extension of progressive education and interdisciplinary learning. Grounded in the theories of Dewey, Delpit, Taba, Vygostsky, Levine and Gardner, student learning that is based on experience, community and values can be powerful and life changing. I mentioned in the introduction to this paper that there have been few school-wide projects noted in literature. This is troubling to me. Schools need to consider a variety of ways in which to reach out to their communities, and to their students, in educationally exciting and creative ways to cultivate a love of learning. I urge other teachers to take the lessons provided here, think about the model of a school-wide project, and get your school involved in planning and implementing a short-term school-wide learning opportunity. Change is often difficult and met with resistance but can be the source of endless inspiration and hope for many teachers, students and families.

References

Camp, S. (1997). Nature's pharmacy: A garden project. *Gifted Child Today Magazine 20*, 40-43.

D'Acquisto, L. (2006). *Learning on display: Student-created museums that build understanding*. Alexandria, Va.: Association for Supervision and Curriculum Development.

Delpit, L. (1995). *Other people's children: Cultural conflict in the classroom*. New York: New York Press.

Dewey, J. (1938). *Experience and education*. New York: The Macmillan company.

Gardner, H. (1993). *Multiple Intelligences: The theory in practice*. New York, NY: Basic Books

Johnson, R. & D. Johnson. (1994). *Creativity and collaborative learning*. Baltimore: Brookes Press.

Johnson, D., Johnson R., and M.B. Stanne. (2000). *Cooperative learning methods: A meta-analysis*. Minnesota: University of Minnesota Press.

Krasner, J. (2006). Jewish education and American Jewish education, part III. *Journal of Jewish Education 72* (1), 29-76.

Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education 60* (2), 73-85.

Leinsing, D.., Rosen, L. & Alan November. (1997). Building a community of excellence. *National Forum 77*(1), 31- 36.

Marcus, Y. (2005). *Pirkei avot: Ethics of the fathers*. New York: Merkos L'Inyonei Chinuch.

Miners, Z. (2007). Experts stress parent involvement. *District Administration, 43*(6), 17.

Pekarsky, D. (2006). *Vision at work: The theory and practice of Beit Rabban.* New York: Jewish Theological Seminary of America.

Short, G. (2005). The role of education in Jewish continuity: A response to Jonathan Sacks. *British Journal of Religious Education 27*(3), 253-264.

Singer, J., Goodman, C., Ridley, T., & A. Singer. (1999). Bridges and The City: An interdisciplinary project. *Childhood Education 76* (2), 100- 103.

Taba, H. Durkin, Fraenkel, and McNaughton (1971). *A Teacher's handbook to elementary social studies; an inductive approach.* Reading, Mass.: Addison-Wesley Publishing Company.

Vogel, C. (2006). Building a STRONG community partnership. *District Administration 42*(6), 66-72.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological process*. Cambridge: Harvard University Press.

Wiggins, G. & J. McTighe (2005). *Understanding by design*. Alexandria, VA : Association for Supervision and Curriculum Development.

Xitao, F. (2001). Parental involvement and students' academic achievement: A growth modeling analysis. *The Journal of Experimental Education 70* (1), 27- 61.

Websites consulted

http://www.dictionary.com retrieved on May 15, 2007

http://chd.gmu.edu/immersion/knowledgebase/theorists/constructivism/vygotsky.htm retrieved on May 8, 2007

http://www.hazon.org/go.php?q=/rides/2007IL/hazonAndTheAravaInstitute.html#1

http://www.hazon.org/go.php?q=/rides/2007NY/theCause_-_WhereTheRideProceedsGo.html retrieved on June 27, 2007

http://www.hazon.org/go.php?q=/rides/2007IL/hazonAndTheAravaInstitute.html#2a

http://www.wirednewyork.com/parks/central_park/christo_gates/ retrieved on June 26, 2007

http://www.christojeanneclaude.net/wr.html retrieved on June 26, 2007

http://explorerschools.nasa.gov/portal/site/nes/ retrieved on July 4, 2007

http://explorerschools.nasa.gov/portal/site/nes/ retrieved on July 4, 2007

http://www.nasa.gov/audience/foreducators/5-8/features/F_Leading_the_Way_to_Success.html retrieved on July 4, 2007

Appendixes

Consent Letter

Dear Parents,

I am a student at Bank Street College, a Graduate School of Education, located in New York City. In order to graduate, every student at Bank Street is required to complete what is known as an Integrative Master's Project.

For my project I have chosen to reflect on the school wide Israel Ride project done last spring at Beit Rabban. This project, along with lesson plans, student work, and theoretical explanation, will be documented.

As part of my study I would like to use photographs and work samples of the children engaging in some of the activities I have planned. The photographs and work samples will serve as documentation for my study. In order to use these photographs and work samples, I need your permission to do so. If you consent to my use of photographs and work samples of your child, please fill out the attached Consent Form and return it to me by_____. It should be noted that your child will be identified only by pseudonyms.

The study that results from this project will be housed in the Bank Street College Library. It will have a catalogue number and will be available to students and faculty at Bank Street and on Inter-Library loan.

If you have any questions about this project, please do not hesitate to contact me at _____.

Thank you in advance for your consideration.

Sincerely,

Ilene Harris

Consent and Release Form for Parent/Guardian

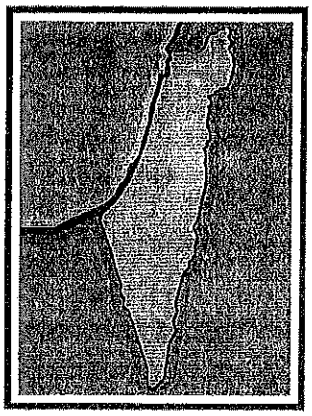
I am the parent/guardian of _____.

I have carefully read the information provided above and give my permission to _____ to use photographs of and work samples from my child. I understand that my child's name will be protected by pseudonyms throughout my paper. I also grant permission to Bank Street College to house this paper in the Bank Street Library where it will be available to students and faculty and on interlibrary loan.

I have read this release form and agree to its terms knowingly and voluntarily.

Name (Please print): _____

Signature: _____ Date: _____



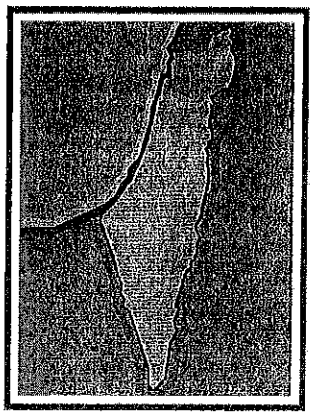
Israel Map

How did you help someone?

How did someone help you?

What did you like about working in a group?

What was hard about working in a group?



Israel Map

Which skills did you have that helped your group?

Which skills did others have that helped your group?

What challenges did your group face?

What would you do differently next time when working in a group?

Israel Map Images

Image #1

Image #2

Image #3

Learning about Gears

What I can see	What I think is happening

My Design

Resources

My Evaluation

A Picture of my Final Product

Things I kept the same:

Things I needed to change:

One thing I learned:

Gears Rubric

gears

Levels: / Criteria:	1	2	3	4	Score
Reflective Habits	Student does not carry knowledge over from one problem to the next. Does not look back over work when finished with a problem.	Student occasionally transfers knowledge from one problem to the next. Sometimes looks back over work.	Student often transfers knowledge from one problem to the next. Usually looks back over work.	Builds on prior knowledge and experience. Goes over work thoughtfully to make sure solution makes sense.	
Strategies and Representations	Student does not make use of problem solving strategies, models, or mathematical representations.	Student makes use of a single problem solving strategy, model, or mathematics representation.	Student uses a clear strategy to solve the problem and an appropriate model or representation to explain or enhance the solution.	Student uses multiple strategies and representations that clearly explain and enhance the solution.	
Attitudes	Student avoids problem solving, has little confidence, gives up easily.	Student does not approach unfamiliar problems with confidence, but feels comfortable solving problems with assistance. Student gives up when assistance is not provided.	Student approaches almost all familiar and some unfamiliar problems with confidence. Can overcome frustration and persist with minor support.	Approaches familiar and unfamiliar problems with confidence. Persists despite difficulty. Does not give up or become overly frustrated. Asks for assistance occasionally.	
Explanation	Explanation is unclear, confusing, and/or incomplete. No reference is made to underlying mathematics.	Explanation is incomplete. Alludes to underlying mathematics, but does not evidence full understanding.	Explanation is clear and complete. Alludes to underlying mathematics, but does not evidence full understanding.	Explanation is clear and complete. Student evidences understanding of mathematics behind problem.	
Planning	Student does not do any planning before starting the problem.	Student makes some cursory attempts at planning before beginning the problem. Student does not refer back to plan or make any revisions after the initial planning stage.	Student outlines a plan for problem solving, but is not able to revise plans that are not working.	Student makes a clear plan for solving problem before he/she begins. Demonstrates ability to revise plans that are not working.	

North, South, East or West?

(translated from original Hebrew)

1. Starting at the door, walk six steps forward towards the board.

Which direction are you facing? _____

2. Turn right towards the windows heading and walk ten steps.

Now you are facing _____

3. Turn left until you face the bookshelves and walk seven steps.

The bookshelves are _____

4. Turn left and walk three steps facing the cupboard.

Which direction are you facing? _____

I walked around the room starting

_____

_____

_____

_____

Hebrew map rubric

Hebrew map

Levels:	1	2	3	4	Score
Criteria:					
Written Skills in a foreign language	Has difficulty with spelling, accents, and simple sentences; limited vocabulary; difficulty with grammatical skills	Able to write simple sentences; understands basic grammatical concepts, vocabulary is developing; has some difficulty with spelling	Able to write complex sentences, understands intermediate grammatical concepts, enhanced vocabulary	Advanced vocabulary and grammatical skills enhance the composition of clear, focused, creative paragraphs	
Presentation of map	Unorganized and meets less than half the requirements; displays little to no creative thought, does not display basic understanding of the language or geography	Project meets half of the requirements; well-organized; some originality and creative thought; displays a basic understanding of the language or geography	Project is well- organized and meets most requirements; understanding of the language and geography is displayed through creative thought and use of materials	Project is well-organized and meets all requirements; exceptional understanding of the language and geography is displayed through creativity and varied use of materials	
Grammatical Skills	Has little command of basic grammatical concepts	Makes frequent errors when attempting to use new grammatical concepts; has difficulty retaining old concepts	Makes some errors when using new grammatical concepts; able to retain old concepts	Uses old grammatical concepts as a natural foundation for the layering of new concepts; experiments with new knowledge/ skills	
Verbal Skills	Monotone, stumbles over words, mispronunciation; lacks confidence with language, little effort	Some mispronunciation, expressive with familiar material, stumbles over newly learned vocabulary, occasionally makes noticeable effort	Clear articulation of familiar words; some mispronunciation of new vocabulary; displays ability to hold a basic conversation, makes solid effort	Exceptional confidence with vocabulary and pronunciation displayed through poise, clear articulation, and enthusiasm; able to engage in complex dialogue	
Artistic Fundamentals	Has difficulty demonstrating basic line, shape, and design; works of art do not demonstrate facility with basic skills	Has some difficulty demonstrating basic line, shape, and design; works of art demonstrate some knowledge of basic skills	Demonstrates confidence with line, shape, and basic elements of design; is able to create acceptable works of art with this knowledge	Demonstrates mastery of line, shape, and basic elements of design; is able to use this knowledge to create exemplary works of art	

Hebrew conversation skills rubric

Hebrew conversation skills

Levels:	1	2	3	4	Score
Criteria:					
Grammatical Skills	Has little command of basic grammatical concepts	Makes frequent errors when attempting to use new grammatical concepts; has difficulty retaining old concepts	Makes some errors when using new grammatical concepts; able to retain old concepts	Uses old grammatical concepts as a natural foundation for the layering of new concepts; experiments with new knowledge/ skills	
Verbal Skills	Monotone, stumbles over words, mispronunciation; lacks confidence with language, little effort	Some mispronunciation, expressive with familiar material, stumbles over newly learned vocabulary, occasionally makes noticeable effort	Clear articulation of familiar words; some mispronunciation of new vocabulary; displays ability to hold a basic conversation, makes solid effort	Exceptional confidence with vocabulary and pronunciation displayed through poise, clear articulation, and enthusiasm; able to engage in complex dialogue	
Clarity	No apparent logical order of conversation, unclear focus	Content is loosely connected, transitions lack clarity	Sequence of information is well-organized for the most part, but more clarity with transitions is needed	Development of ideas is clear through use of specific and appropriate examples; transitions are clear and create a succinct and even flow	

Salt crystals: A mini-lesson

Objective: Students will set up and execute an experiment

Students will use materials appropriately and effectively

Materials:
Glass jars
String
Pencils
Salt
Water
Paper clips
Observation sheets
Table Spoons
Hot plate

Time allotted:

Set up- 30 minutes

Observation- 10 minutes daily

Lesson intro:

The teacher will say to the class:

"We have been discussing the environment in Israel, especially thinking about water and how drinking water is in limited supply. We know that Israel has lots of ocean water and salt water, but very little fresh water. Our experiments this week will help us to better understand salt water, what makes salt water, and about the process of "desalinization, where salt is taken out of water to make it drinkable."

"You will set up an experiment where you make a salt water *solution* (write this word on the board) and then take the salt out of the water over time. You will be growing salt crystals from your *solution* and making observations about this process. On the board the materials you will need are listed as are the steps of your procedure. There is also a copy

of instructions printed for each student. Once you've taken your copy of instructions and a clip board and pencil check with a teacher for permission to get your supplies. You have the rest of our science lesson today to set up your experiment and throughout the next two weeks you'll be observing your salt crystals as they grow."

Procedure:

1. Pour warm water into your glass jar so that it's more than half full (*a teacher will be warming a large pot of water for students on a hotplate)*
2. Take your jar of water to your table
3. Pour one spoonful of salt into the cup of water and stir.
4. Keep adding salt by the spoonful until salt starts appearing on the bottom of the cup after stirring.
5. Take a pencil with string and paper clip tied to it from the pile (*the teacher will have prepared enough pencils with strings and paper clips for the entire class, plus a few extras just in case)*
6. Place the pencil over the top of the cup with the string and paper clip submerged in water.
7. Make your first observation of your experiment

Students will have their procedure steps with them during the experiment and can record their first observation on the actual sheet. In the days to come they will make observation notes on the observation and recording graph provided for all 10 days of the experiment.

Salt Crystals: Our Observations

Name _____

Date _____

Day 1	Day 2	Day 3	Day 4	Day 5
Day 8	Day 9	Day 10	Day 11	Day 12

Water saving facts

Average Water Consumption in Israel (based on 160 liters per person per day on average)

Toilet flushing	55 - 60 liters - 35%
Drinking, cooking and dishwashing	30 liters - 20%
Bathing	55 - 60 liters - 35%
Laundry and cleanliness	8 liters - 5%
Gardening	8 liters - 5%

Source: Israel Water Commission

Did You Know?

- Toilets may be the biggest water consumers in the home. Dual-flow toilets (using 4.5 or 9 liters of water per flush) may save up to 18 liters of water per person per day - about 12% of the daily consumption.
- Installation of low-flow household faucets throughout the house - kitchen, bath, shower - may save some 28 liters - about18% of the daily consumption.
- The Water Commission grants a special stamp of approval, known as the"blue label"- in the shape of a water drop - to water saving products.
- Water savings in the garden may be achieved by longer watering twice weekly rather than daily, using sprinklers throwing big drops of water, choosing drip irrigation, mulching, watering in the early morning and using drought tolerant plants.
- Washing the car with the help of a pail or in a car wash based on a system for recycling rinsing water will save 80% of the water. A car wash facility consumes 180 - 250 liters of clean water per vehicle while a car wash with a system for recycling the rinse water consumes only 15 - 40 liters of clean water per vehicle.

Source: Water Commission http://www.mfa.gov.il/MFA/MFAArchive/2000_2009/2002/8/Israel-s%20Water%20Economy%20-%20Thinking%20of%20future%20genera

America

Believe it or not, the average water usage per person per day is 200 gallons.

Here's how...

- Showering wet down, soap up, rinse off = 4 gallons
- Brushing teeth wet brush, rinse briefly, = ½ gallon
- Shaving, fill sink basin = 1 gallon
- Washing hands fill sink basin = 1 gallon
- Tub bath minimal water level = 10 to 12 gallons
- Flushing toilet using a smaller tank = 4 to 6 gallons
- dishwashing washing and rinsing in the sink = 5 gallons

- automatic dishwasher short cycle = 7 gallons
- washing machine short cycle with minimal water level = 27 gallons
- Outdoor watering average hose = 10 gallons per minute
- leaks - even a small drip can add up to 25 gallons per day

The above gallon usage is calculated minimally. You can count on using quite a bit more if you leave the water running while brushing your teeth, shaving, washing the dishes, using old toilets that require more water, running the dishwasher and washing machines on longer cycles and filling the bath tub to the top. Remember, water is not cheap or limitless. Please use this natural resource wisely and save on your water bill.

Retrieved from http://www.elmwoodpark.org/water/Facts.htm

Salt crystal rubric

salt crystals

Levels:	1	2	3	4	Score
Criteria:					
Data and Observations	Data and observations are incorrect or missing entirely. Relevant units or labels are missing.	Data and observations are incomplete or do not include sufficient details. Relevant units or labels may be missing.	Data and observations are complete and correct.	Data and observations are complete and correct, with all relevant units and labels included. Student provides a level of detail and organization that goes above and beyond requirements.	
Conclusions and Explanations	Conclusions and explanations are missing or do not make sense given student's data and observations.	Conclusions and explanations are incomplete not supported by sufficient details. Relevant data and observations are not referenced.	Conclusions and explanations are complete and supported by student's data. Relevant data and observations and referenced where appropriate.	Conclusions and explanations are complete and supported by student's data. Student provides a level of detail and depth that goes above and beyond requirements.	
Materials and Tools	Student is unable to identify many tools and materials. Student does not use materials and tools appropriately or responsibly.	Student is able to identify nearly all tools and materials. Student does not use all tools and materials appropriately or responsibly.	Student is able to identify all tools and materials. Student usually uses tools and materials appropriately and responsibly.	Student is able to identify all tools and materials. Student uses tools and materials appropriately and responsibly.	
Procedure	Student does not correctly follow many aspects of the procedure.	Student correctly follows some aspects of procedure, but makes crucial mistakes or skips some important steps.	Student follows critical aspects of procedure, but has difficulty responding effectively to problems.	Student correctly follows every aspect of the procedure and supplements procedure with effective and inventive additions.	

final science

Levels: / *Criteria:*	1	2	3	4	Score
Considers Methodology	Does not include reference to how observations or measurements were made and when queried, cannot speculate and or cite possible ways.	Does not include reference to how observations or measurements were made and when queried, can speculate, but has little knowledge of the process.	Shows knowledge of or reference to how observations or measurements were made when queried, but does not include and does not offer ways to test results.	As a matter of course, includes reference to how observations or measurements were made to validate or question data cited. Proposes ways to test or predicts results.	
Logical Consistency	Right or wrong, the explanation shows poor understanding of the process or issue and has misapplication of principles and evidence.	Right or wrong, the explanation is not well supported by principles, evidence and/or these may be applied without complete understanding	Right or wrong, the explanation integrates most principles, evidence, known to author(s), but has omissions and inconsistencies.	Right or wrong, the explanation integrates all principles, evidence, known to author(s) in a logically consistent way.	
Generalizes Explanation	No extension beyond specific explanation or extension is out side of the boundaries of science.	Little extension of explanation to other situations or phenomena or speculation is inappropriate, and or unsupported.	Speculates on a wider application of explanation, but does not apply to specific situations or phenomena.	Attempts to use explanation to make predictions in different situations. E.G., "If this is right, then maybe its how ... works."	
Scientific Method	Is unsure of the question and the answer. Recites an answer with little understanding of its meaning or need for supporting evidence.	Starts with a question, proposes the answer, but is unable to support the answer and cannot cite valid evidence.	Starts with a question, proposes the answer supported by valid scientific evidence, but does not consider multiple answers or tests.	Starts with the question, proposes multiple answers, confirms or denies each with valid evidence, proposes tests for remaining potential answers.	
Scientific Principles	No citation of scientific principles or cites wrong ones. Explanation is largely recitation of text or source material. Non -science processes included	Cites some relevant scientific principles, but misuses some. Understanding of cited principles incomplete. Non-science processes included.	Cites and accurately uses an array of relevant scientific principles from text or source material. May include irrelevant principles.	Cites and accurately uses an integrated array of relevant scientific principles, including ones not in text or other source materials.	

Exhibition Images

Image #1

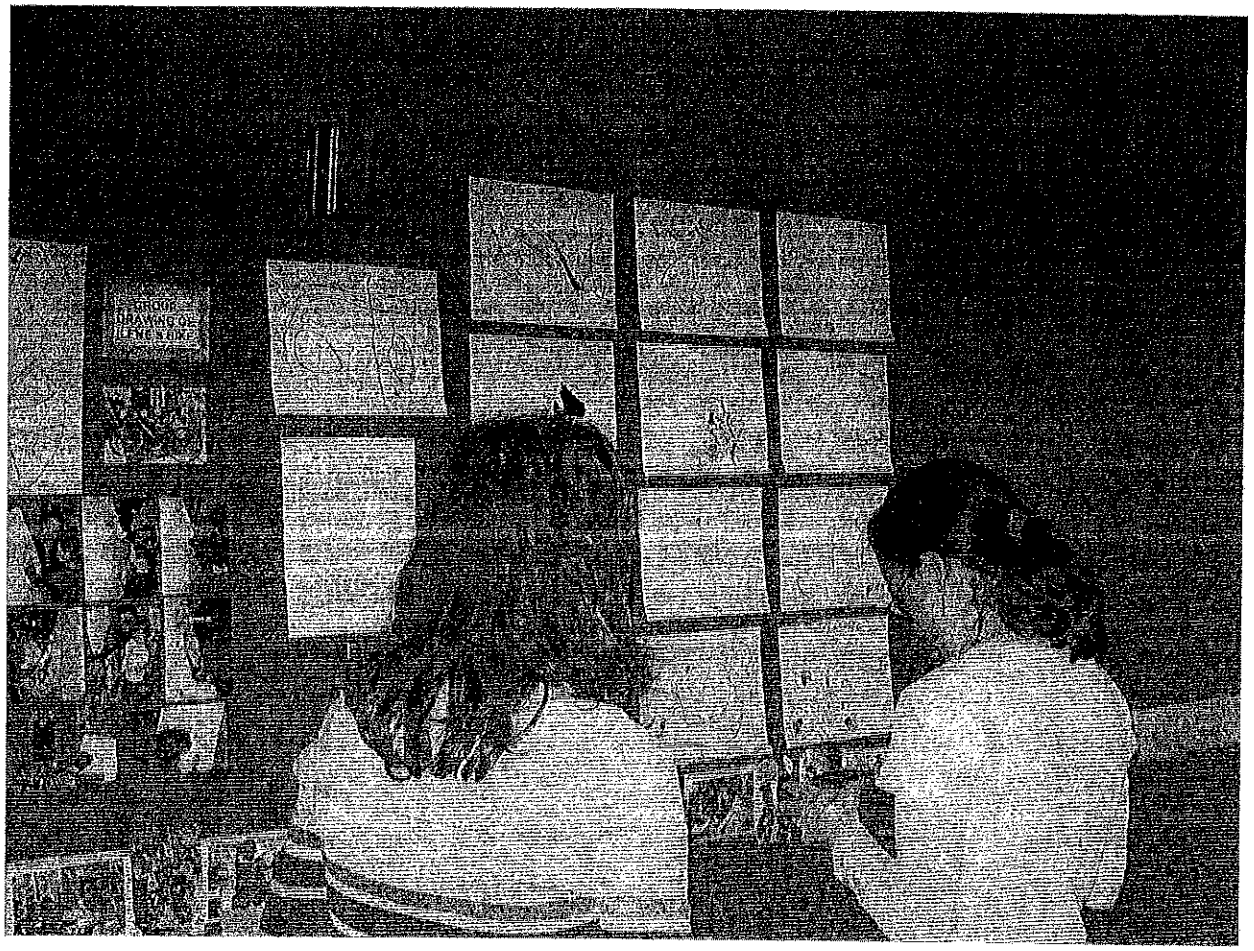
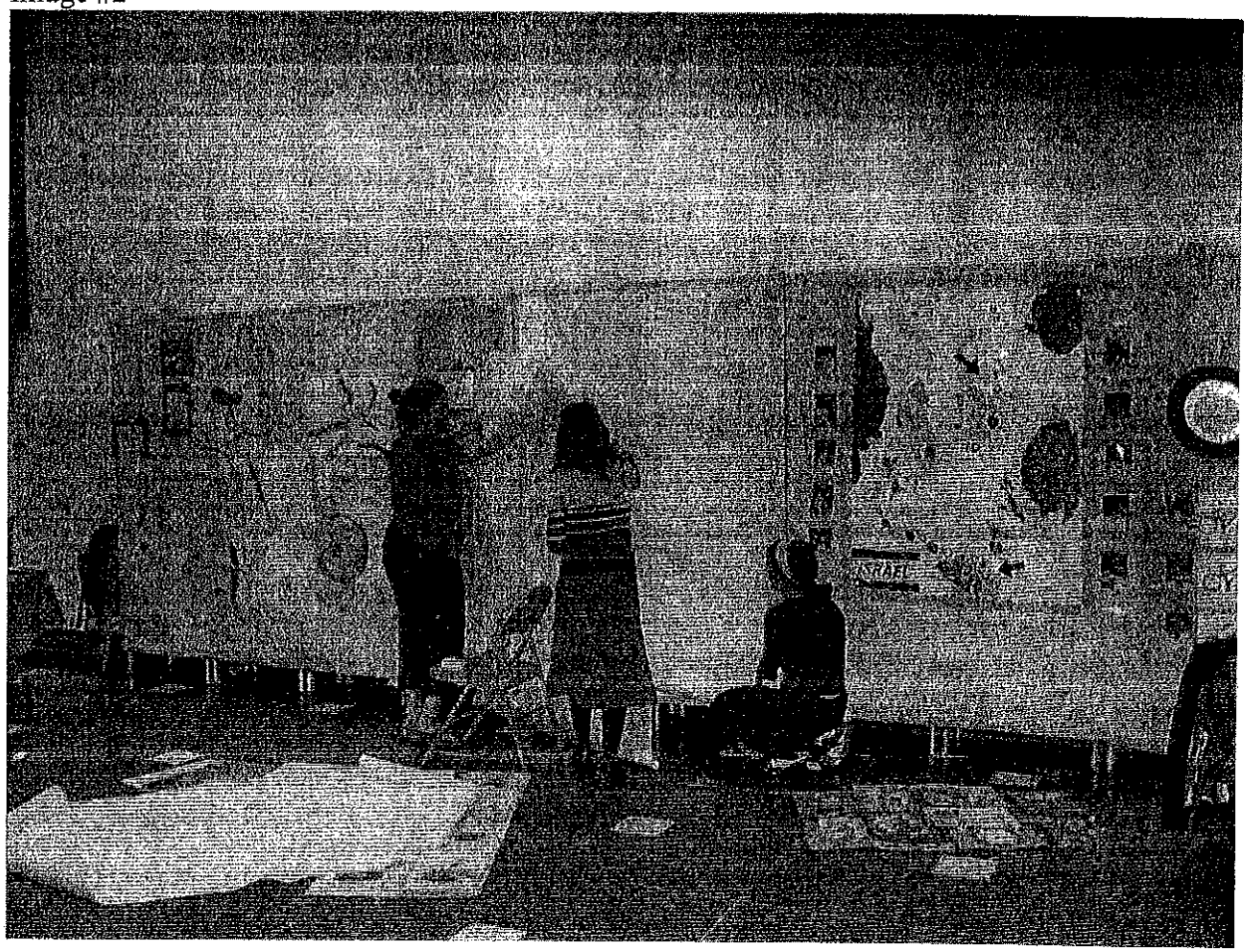


Image #2



Breakfast

Eggs, Bagel with cream cheese and Fresh squeezed orange Juice

Snack

Balance Bar and vitamin water

lunch

Pasta, vegetable, yogurt, fruit and Bread

Snack

Banana with Juice

Snack

yogurt and water

Dinner

fish, Soup, Bread and Lemonade (Fresh)

Work sample #2

Gan Aleph Adom's

Wheels and Tires Mural

Reflections and Observations
May 16, 2006

To create this collaborative mural the children dipped cars, trucks, and bike tires in paint and rolled them across the paper. The children enjoyed zooming the wheels towards each other and watching the various tracks appear. After the mural dried we hung it in our room and the children sat and reflected on their experiences. The teachers opened the conversation by asking questions such as: "How did we create this?" "What does it remind you of?" "How is it different from or similar to some of our other murals?" and "What do you think of the results?"

I think of a road. – Adin

I have a race car and I zoom it across. Then it falls down and I pick it up then it falls sideways. -Yaara

Who did that blue? -Shalom

We didn't do all the paper. -Yaara

Paint. Paint is slippery. If you step in it it's slippery. -Daniella

We did tires. -Tova

We rolled it. -Shalom

A pattern. -Tova

A track. -Shalom

I used a wheel. I rolled it. -Ben

We put paint on it. -Tova

We painted on it. (the wheel) -Yaara

It was bumpy. -Tzipora

The tires that we painted with. -Adin

Those are the squares and those are bumps. -Yaara

I love all the colors. –Ben

She's (Esther) also gonna love that I made it. -Yaara

I like the other side. The purple and the green. -Moshe

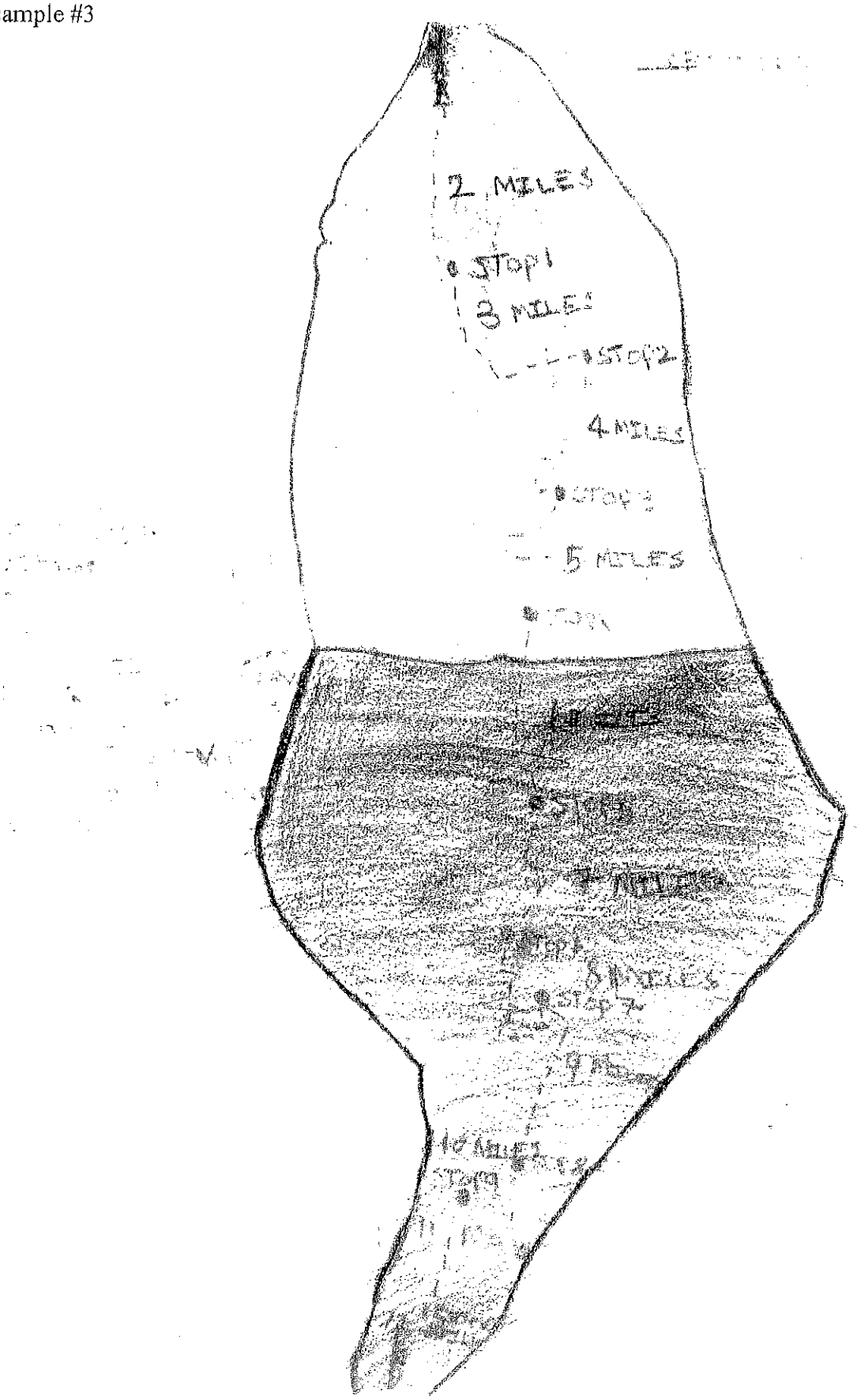
I did it because it's slippery. -Shalom

I like it so much. -Ben

It looks beautiful. -Tova

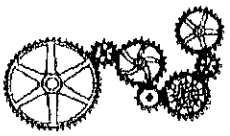
I like how it is. Good. -Tzipora

Work sample #3



Work Sample #4

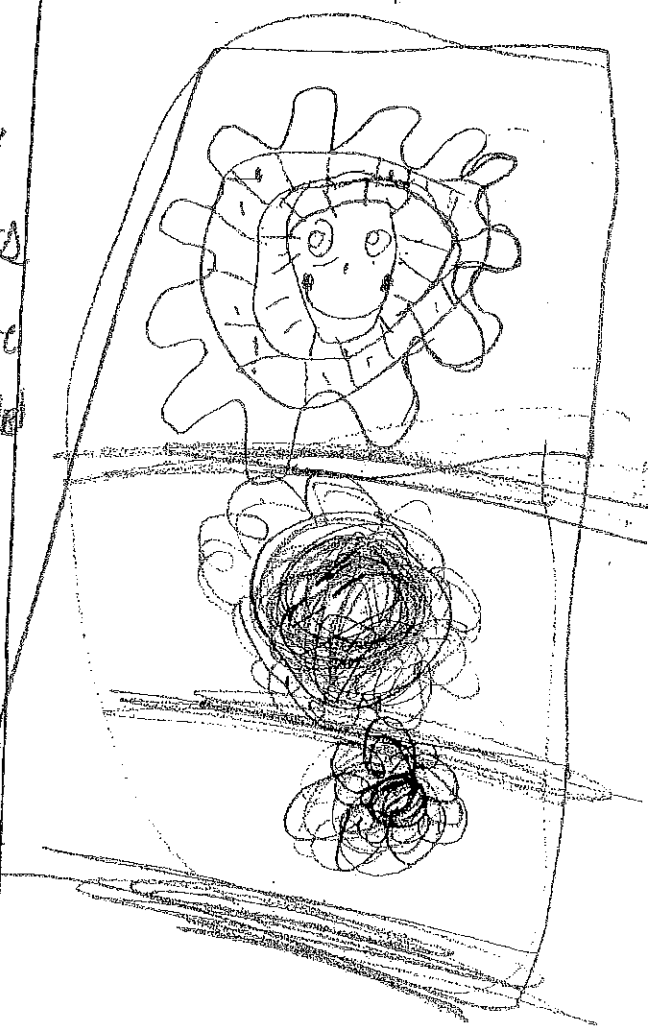
Learning about Gears



What I can see

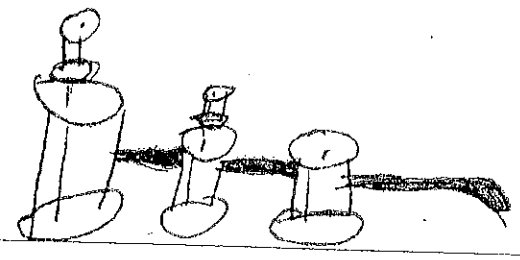
The bigger the slower. When the Big gear starts turning, the smaller one already finish its turn. ~~When~~ If you are using the ~~same~~ exactly ~~size~~ gear, they will turn opisit way. One little gear can push ~~the~~ big gears.

What I think is happening



My Evaluation

A Picture of my Final Product



Things I kept the same:

I kept the two little spools, and one large spool.

Things I needed to change:

I added things, I put two small spools. I took out the wooden sticks.

One thing I learned:

I learned that on little spool can push one little spool and one large spool.