Discovering Maori Culture

through Journeys in Film

Educating for Global Understanding www.journeysinfilm.org

Whale Rider

An Interdisciplinary Guide for Teachers

JOURNEYS IN FILM™
educating for global understanding

What people are saying about ***Journeys in Film***:

"***Journeys in Film*** has the potential for revolutionizing the way middle school children see the world. By introducing them to different cultures, religions and civilizations through easily accessible media, this project will make it natural for these students to be more accepting of differences throughout their lives. It promises to have a positive effect on students who are likely to confront an increasingly diverse America and an increasingly global world economy. Attitudes toward tolerance once formed at an early age tend to remain fixed. College, even for those who attend it, is often too late to influence deeply seated attitudes. This program is not propagandistic. It has no specific political agenda in mind. Its goal is simply to open minds at an early age so that students can decide important life issues for themselves based on a fuller perspective and more global information. This is one of the most important educational initiatives I have ever encountered."

ALAN DERSHOWITZ, Felix Frankfurter Professor of Law at Harvard Law School, best-selling author and a distinguished defender of civil liberties

"These are the first foreign language films many of the students in our classes had ever seen. The themes, cultural content, social-political context and pacing are totally unlike the media they are very familiar with. We are all looking forward to more ***Journeys in Film***!"

6th Grade Teacher, New York, NY

"***Journeys in Film*** offers a unique opportunity for our students to immerse themselves in another culture with a meaningful context supplied by the supporting curriculum. Currently implemented in a number of our schools, ***Journeys in Film*** teaches about both culture and the interpretation of culture. The students are guided to approach the films as an academic challenge. They take notes and tackle the symbolism, characterization and the narrative. At the same time, the students are introduced to film as a literary medium and begin to explore the role of the film producer and the choices he or she makes."

ARNE DUNCAN, Chief Executive Officer, Chicago Public Schools

"In today's ever-changing, ever-surprising global economy, everything flows so easily across borders – ideas, capital, products, people, and even problems. This brings international issues to Americans' doorsteps and makes cultural understanding a necessity for young people, just to navigate their neighborhoods let alone compete for the jobs of the future. "Knowledge work" is growing in importance, and there are millions of increasingly well-educated English-speaking graduates from other countries – India, China, Europe – seeking the best jobs anywhere. Schools must rise to the challenge of improving basic skills while enlarging horizons, broadening perspectives, and teaching about the whole world. ***Journeys in Film*** provides the means to explore other cultures virtually, to gain the knowledge and skills for effective relationship-building, at home or abroad."

ROSABETH MOSS KANTER, Arbuckle Professor of Business Administration, Harvard Business School, and best-selling author.

"This is a long overdue tool! It is necessary to educate our children about their own culture as well as that of others. The message of ***Journeys in Film*** is *the* message that American schools need to teach."

Educator-Workshop Participant, Tulsa, OK

"We are extremely pleased with the films used in the ***Journeys in Film*** program and the cultural sensitivity development explicit in the curriculum."

7th Grade Social Studies Teacher, Albuquerque, NM

"The students are quite interested in learning about other students in their exact age group from around the world. This is truly an international learning experience."

7th Grade Social Studies Teacher, Chicago, IL

"After four years of surviving the Khmer Rouge genocidal regime, I was plucked out of that war zone and placed in Vermont to start my new life. I was ten years old, didn't speak a word of English, and knew nothing about America. Although I was excited to learn as much as I could about my new country, this cultural exchange was rarely mutual among my new friends and neighbors. But I am grateful that there were people and groups out there who went out of their way to find me, reach out to me, and extend a helping hand. In doing so, they taught me to replace fear with friendship, hate with love, and ignorance with understanding. ***Journeys in Film*** is that helping hand for many young Americans today. Using international films, they bring the global world to local arenas and reach out to war-affected children living in our midst, letting them know they are not alone. With their thought-provoking educational materials, ***Journeys in Film*** opens up hearts and minds of those who have been cloistered in their sheltered environments and shows them the importance of learning about our global world. But ***Journeys in Film*** is more than an educational tool; it is a process that fosters compassion, kindness, and knowledge so that we all may live together in peace."

LOUNG UNG, Spokesperson for The Cambodia Fund, best-selling author of *First They Killed My Father*, and *Lucky Child*

"I think the ***Journeys in Film*** program is wonderful! I feel confident that I can present these goals and ideas to colleagues, and they will be welcomed and accepted."

Educator-Workshop Participant, Tulsa, OK

"It is a fascinating and valuable program that is opening up the eyes of our students to different cultures and different ways of life."

6th Grade Teacher, Chicago, IL

The authors of this curriculum guide are:

Bengt Johnson

Pat McCarthy

Eileen Mattingly

Deenah Dunkelman Mollin

Sarah Rainsberger

Dede Sinclair

Brad Woodward

Laura Zlatos

A special thanks to Roger Hirschland for his generous assistance in producing this curriculum guide.

Journeys in Film
50 Sandia Lane
Placitas, NM 87043
Tel: 505.867.4666
Fax: 505.771.1090
www.journeysinfilm.org

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Prologue

In January of 2002, while attending the Palm Springs International Film Festival, I experienced an eye-opening epiphany. After spending the week completely immersed in other cultures through film, I felt that I had traveled the world. Each film, itself a complete cultural learning package, presented a character or two who captivated my interest and evoked intense empathy. The films invited Hungarian orphans, tired Afghani workers struggling in Iran, sweet children living in Tehran, spunky Tokyo teenagers, savvy young Tibetan monks living in exile in India, a young boy in China and a group of coming-of-age French teenagers as welcome guests into my heart. Their stories opened my mind, and I realized how little information or insight most young Americans have about people from other nations. I imagined how students would benefit from seeing these movies, especially while learning the history, geography and culture of the country from which each film emerges.

Children seldom need to be coaxed into watching films, particularly if the story is good. Young students are visually attuned to cinematic images, and enthusiastically respond to stories that expand an awareness of their world and teach them about cultures different from their own. With this in mind, I decided to establish ***Journeys in Film*** and began to search for dynamic foreign films and the expert educators and specialists who could design a substantial, comprehensive international education curriculum around them.

As a first generation American, I was always aware of the differences and similarities between myself and other kids in my neighborhood. My parents, both Holocaust survivors, brought to the United States their Eastern European traditions and values, and I grew up crossing cultures daily. To understand my parents and their personal stories better, I read voraciously and visualized the land, the people, and the culture my parents came from. Eventually, films became an important source of my understanding about the vast diversity in our world. It was exciting for me to discover the world beyond my provincial hometown. I could reach out in my imagination and connect to countries so far beyond my own mental and physical boundaries, inspired by people so unlike me.

I believe students will experience this sense of living in another world, however temporarily, when offered the opportunity to study films and cultures of other children living in societies beyond their own neighborhoods. My hope is that the impressions and lessons from the films selected by ***Journeys in Film*** will continue to echo in their hearts and minds for years to come, inspiring today's students to become cross-culturally competent, productive and compassionate adults.

I dedicate ***Journeys in Film*** to my brave parents, Maurice and Julia Strahl. They taught me that education is the greatest tool we have towards understanding and accepting people of all cultures and traditions so that no one should ever be persecuted for being different.

Sincerely,

Joanne Strahl Ashe

Joanne Strahl Ashe
Founder & Executive Director
Journeys in Film

A Letter from Liam Neeson

The experience of playing Oscar Schindler in Steven Spielberg's film *Schindler's List* deepened my perception not only of the Holocaust, but of the importance of understanding the issues of intolerance and hatred. Being in the public eye has afforded me many opportunities to become involved with various organizations dedicated to teaching tolerance.

Occasionally something comes along that captures my attention and that speaks to my innermost values as a human being. In 2002, I met Joanne Strahl Ashe, who acquainted me with a new educational concept involving film. I was so impressed with the program, ***Journeys in Film – An Odyssey in Global Education***, that I eagerly consented to serve as its national spokesperson.

Journeys in Film is a non-profit organization dedicated to teaching cross-cultural understanding and media literacy to middle school students through quality foreign film, using the disciplines of social studies, geography, math, science, language arts and fine arts.

Journeys chooses films that speak to adolescent students and impart a relevant message. Through the shared experience of film viewing, an increased awareness and appreciation of different cultures can be achieved, and from this new understanding and familiarity, compassion among school-aged children for their peers in other cultures may be born. That, I believe, is a worthy objective.

Through this educational initiative, we are encouraging a new generation of documentary, independent, and world cinema lovers. As most of us can remember, we identified with certain films we saw as children. Film had a definite effect during our formative years. Most teenagers today will have similar experiences. ***Journeys*** can help make those experiences better and the effects more positive by providing quality films and dedicated educational material.

If we are committed to the dream of world peace, we must first educate our children and teach them understanding and compassion for other people, races, and cultures. I can't help but consider how wonderful it would be, if through our efforts at ***Journeys***, we help change attitudes about people who are different from us.

I want to help make teaching through films an institution in our children's education. Please share my vision of a more harmonious world where understanding and dialogue are key to a healthy and peaceful present and future.

Sincerely,

National Spokesperson
Journeys in Film

National Advisory Board

The ***Journeys in Film*** curriculum project is the work of many hands, minds, and hearts. We are very grateful to the members of our National Advisory Board, who volunteer their efforts on our behalf.

Liam Neeson
National Spokesperson

Brooke Adams

Diana Barrett, PhD

Sharon Bialy

Ted Danson

Janet Davidson

Professor Alan Dershowitz

Gary Foster

Professor Henry Louis Gates Jr.

Jill Iscol, EdD

Rosabeth Moss Kanter

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Captain Kevin Roache

Emily Shagley

Tony Shalhoub

Professor Richard A. Shweder

Mary Steenburgen

Walter Teller

Loung Ung

Sonia Weitz

Elizabeth Clark Zoia

Introducing *Whale Rider*

The award-winning feature film *Whale Rider* is a brilliant and sensitive adaptation of Witi Ihimaera's 1985 novel, depicting the challenges faced by a small rural New Zealand community as old traditions are challenged in order to keep Maori culture alive.

Witi Ihimaera wrote *Whale Rider* in a three-week period, from his New York City apartment overlooking the Hudson River. The inspiration for this story came to Ihimaera as the result of an accident in 1985, wherein a misguided whale found himself caught in the river. Watching the drama unfold from his window, Ihimaera witnessed the rescue attempts with helicopters overhead and emergency vehicles on the scene trying to avert a potential calamity. Ihimaera began to think back to his ancestral roots and to Whangara, the northeastern coastal village in New Zealand where he grew up. The famous Maori legend of Paikea tells of the first chief who was said to have been rescued and brought to the shores of New Zealand by riding on the back of a whale. According to folklore dating back over a thousand years, the Maoris are direct descendants of the legendary "whale rider."

Whale Rider reveals the struggle between Koro, the old chief of the community, and Pai, his young and determined granddaughter. The stern and very traditional grandfather tirelessly searches for his successor among the young boys of his village. Although none of the boys live up to his expectations, Koro refuses to accept that a girl, his own granddaughter, may in fact be the most capable new leader. Displaying unconditional love, courage, and wisdom far beyond her years, strong-willed Pai must gain his approval in order to fulfill her destiny.

It is no coincidence that just before Ihimaera started to write this story, his daughters asked their father why all the movies they were seeing seemed to champion boys and men as the heroes. The question of gender bias in film led Ihimaera to make the heroine of his story a girl. This story is an empowering example for girls around the world and has certainly contributed to *Whale Rider's* overwhelming popularity.

Keisha Castle-Hughes, a 12-year-old newcomer to film-acting, is dynamic and completely believable in her role as the young Maori girl. Director Niki Caro explains that she selected Castle-Hughes over thousands of other students who were auditioning for the role because of her unaffected style. Castle-Hughes was nominated for Best Actress in a Leading Role at the 76th Annual Academy Awards for her performance as Pai.

Both the director and the producers of *Whale Rider* were dedicated to representing the story as accurately as possible on film. So, when the decision of location for shooting was to be made, Whangara, the original setting of the novel, was an obvious choice. *Whale Rider* draws so much richness from the Maori culture that the actual location would have been very difficult to replicate. Hollywood-style movies are often shot on sets or locations that are "dressed" to resemble the authentic location. The natural settings, expansive beaches, traditional architecture and artifacts of Whangara provided a richness and realism that no other location could have offered. In addition this allowed the producers an opportunity to use actors from the local community to play many of the smaller roles and be on film as "extras."

Although several of the actors are relative unknowns, the crew includes some decorated members. Lisa Gerrard, winner of a Golden Globe for Best Score for the movie *Gladiator*, composed the film's score. Grant Major, the production designer, received an Oscar nomination for Best Art Direction for *Lord of the Rings: Fellowship of the Ring*.

Whale Rider has received many nominations and awards internationally for cast and crew.

For more information and a behind-the-scenes look at *Whale Rider*, visit **www.whaleriderthemovie.com**.

Producers: Frank Hübner, John Barnett and Tim Sanders
Director: Niki Caro
Cast: Keisha Castle-Hughes, Rawiri Paratene, Vicky Haughton, Cliff Curtis
TER/Associate Producer: Witi Ihimaera
Production Designer: Grant Major
Director of Photography: Leon Narbey
Composer: Lisa Gerrard
Country of Origin: New Zealand – Filmed in Whangara and Auckland
Running Time: 101 minutes

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To the Teacher…

What is *Journeys in Film?*

Journeys in Film is a non-profit organization dedicated to broadening global learning, fostering cross-cultural understanding and improving secondary students' academic performance by harnessing one of the most powerful forms of media – film. Members of ***Journeys in Film*** include filmmakers, cross-cultural specialists, research analysts and a team of U.S. and Canadian teachers with a common goal of preparing secondary school students to participate effectively in an increasingly interdependent world.

The ***Journeys in Film*** model strengthens existing school curricular framework by combining artful examples of a popular entertainment form with rigorous, standards-based lesson plans for core subjects including social studies, language arts, math, geography, science, the arts and media literacy. Through the use of engaging feature foreign films, ***Journeys in Film*** impacts today's media-centric youth and creates a dynamic learning opportunity in global education. The universal messages in the films combined with dedicated curriculum guides enable students to transcend regional, economic, ethnic, cultural and religious distinctions that often separate people from their fellow citizens. Moreover, foreign film has the ability to transport students mentally to locations and remote regions that they may never otherwise have the opportunity to experience.

The foreign films are selected based on age and content appropriateness of the subject matter, as well as the captivating storytelling. Prominent educators, filmmakers and cultural specialists are consulted in the creation of the curriculum guides, each one dedicated to an in-depth exploration of the culture depicted in a specific film.

Why use this program?

To participate in tomorrow's global arena, your students need to gain a deeper understanding of the world beyond their own borders. ***Journeys in Film*** offers innovative and engaging tools to explore other cultures, beyond the often biased images seen in print, television and other media.

For today's media-centric youth, film is an appropriate and effective teaching tool. ***Journeys in Film*** has carefully selected quality films telling the stories of young people around the world. Students travel through these characters and their stories. In this first collection of films, they drink tea with an Iranian family, play soccer in a Tibetan monastery, find themselves in the conflict between urban grandson and rural grandmother in South Korea, and watch modern ways challenge Maori traditions in New Zealand.

Through each film in this program, students gain a perspective on daily life. By identifying with the appealing (and occasionally not so appealing) protagonists, your students understand another culture far beyond the limitations of a textbook. These lessons not only bring the world into the classroom, but also allow students to explore the diversity of their own family, classroom and community.

Who can benefit from this curriculum?

The curriculum was written expressly for students in grades 6 to 9. However, older and younger students may be intrigued by the films as well, and the curriculum can be adapted for them.

How are the films selected?

Members of ***Journeys in Film*** have viewed dozens of films, both individually and at film festivals, in search of quality foreign films with storylines captivating enough to engage secondary students. The films must be rated G, PG or PG-13. All films must be set within the last 15 years in order to offer a "present-day" connection for the student, as opposed to period pieces with cultural traditions that may not seem real in today's youth culture.

But I'm supposed to be using the standards in my classroom....

Of course you are—any good teacher is meeting standards. Because this is a curriculum meant for a national audience, we chose to use the McRel standards rather than the standards for any particular state. Since 1990, the Mid-continent Regional Educational Laboratory (McRel) has been systematically collecting, reviewing, and analyzing state curriculum documents in all subject areas. McRel publishes a report on this work, called *Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education*, and also has these standards and benchmarks available on their website at **http://www.mcrel.org/compendium/browse.asp**. In the standards for each lesson plan, you will be able to recognize the corresponding subject-area standards for your state, even if the language is slightly different.

Will my students be able to read the subtitles?

There is an ancient Iranian proverb that says, **"He who wants a rose must respect the thorn."** Students are sometimes hesitant to watch a film with subtitles, but once they are hooked by the storyline of the film, reading the subtitles may become automatic and they may not even be conscious of doing so. We have a few suggestions to ease this transition.

Begin by asking the students how many have seen a subtitled film. Explain to them that we watch a subtitled film (as we do any film, for that matter) using not only the words, but also the sounds, the music, the actors' gestures, the locations and more. The whole film helps to tell the story; dialogue is just one of the many ways the story is told. Suggest that students don't need to worry about following every single word. They should just skim the words for a general meaning and watch the film as a whole.

You can also help your students by using the following tips from our pilot teachers:

- Whenever possible, use a large screen format, for better viewing of subtitles. If there is an LCD projector available at your school, by all means use it.
- Auditorium-style seating to simulate the film-going experience is ideal, but not necessary.
- As your school schedule permits, running the film in its entirety is preferable to breaking it into one-period chunks, unless the needs of your specific student group require viewing the film in smaller sequences. Offer a break to coincide with recess to stretch and possibly have a refreshment or go outside. See our suggestions below under **Suggestions for Implementation**.
- Bring in one or more older students to read subtitles aloud if your student group requires assistance in reading comprehension. This model also offers an opportunity for mentoring. Be sure to give the older

students the opportunity to view the film in advance and become familiar with the subtitles.

- For TESL students, use subtitles with all films including the English-language films like *Whale Rider* to offer the students an opportunity to follow along. Set the mode to English subtitles rather than hearing-impaired unless there is a student with this disability in the class.
- A DVD is preferable to a VCR for later lessons that call for showing particular scenes. Be sure that if you buy a used DVD over the Internet, it is formatted for North American DVD viewing.

Suggestions for Implementation

As a general rule, we believe that the teacher can best decide what methods of film viewing and lesson implementation are appropriate for each specific class. However, we recommend an interdisciplinary approach in order to make the greatest impact on the student; this curriculum guide makes this easy to facilitate. (It's much easier to bring other teachers on board if you can hand them a fully articulated, standards-based lesson plan to work with.) This also allows a group of teachers to share their efforts and class time for a truly comprehensive, immersive experience, instead of one or two teachers giving up one or two weeks of class time in this current climate of reaching benchmarks and quotas. ***Journeys in Film*** encourages you to share this curriculum with your colleagues to create a team approach to engage your entire school community. Your school's gym teacher might be a foreign film aficionado who could create culturally relevant athletic activities to join the fun.

Consider devoting an entire day or even several days to one film and its respective curriculum. Cancel all classes, prepare students by having already implemented the pre-film lesson plan(s), view the film together as one entire student body or in large groups, and design a round-robin rotational method for the remaining lesson plans that are deemed as "core" or essential by your school community. This full-impact, immersive method has resulted in very thoughtful dialogue between students, staff and faculty members.

Please note:

You do not have to follow these lesson plans in order, nor do you have to complete all of them. However, please notice that some lesson plans have been designed for use *before* viewing the film, as a means for engaging the students about the country and culture, and offering a context from which to connect with the film. The bulk of the lesson plans have been designed for use *after* viewing the film.

Here are some of our favorite suggestions from our pilot teachers:

- Collaborate with other schools in your district. Bring the skits, role-plays, art projects and other ***Journeys in Film*** lessons into elementary classrooms, offering older students the opportunity to act as teachers by presenting a culture they've learned about.
- Create an after-school foreign film club, either as a means to use this program if it doesn't fit into the regular class schedule or as an opportunity for interested students to further explore film from other countries.

- Create a quarterly "film night" or on-going "film festival," schedule the viewing in the evening or during the weekend, and invite parents to participate. This model will acquaint parents with the innovative programs being used in your school and encourage dialogue between parents and children. Serve popcorn!
- Designate a hallway or display case to ***Journeys in Film***. Enlist the assistance of parents, business leaders, and community members who may have some connection to the culture represented in the highlighted film in decorating the space.
- Invite parents, business leaders and community members from the culture of a given film to visit with students, share their stories, share traditional foods, etc.
- On a larger scale, your school can plan an annual "Global Village Day" as the kickoff or finale to the ***Journeys in Film*** program series.

Where can I get the films used in this program?

All of the films chosen for this first set of four ***Journeys in Film*** curricula can be purchased by you or your school by visiting our website – **www.journeysinfilm.org**

Most national chain rental and retail outlets carry all four films in their foreign film section. You can also check the Internet for other purchase options.

What else can I use to promote cross-cultural understanding in my classroom?

There is an almost limitless supply of cross-cultural materials available to teachers from organizations and the Internet. The one we have found that fits very well with the ***Journeys in Film*** approach is a free resource from the Peace Corps' Coverdell World Wise Schools. *Building Bridges: A Peace Corps Classroom Guide to Cross-Cultural Understanding* is designed for grades 6-12. Its thirteen lively, interactive lessons were created for the classroom from Peace Corps training materials, to help American students learn about culture, stereotyping, and the resolution of cross-cultural misunderstanding. If you wish, you can use this as a supplement or in place of the general cross-cultural understanding lessons from ***Journeys in Film***. You can obtain this book free by calling the Peace Corps at 1-800-424-8580, ext.1450, or by downloading it from **http://peacecorps.gov/wws/bridges/index.html**.

So welcome to Journeys in Film!

And above all, no matter which specific implementation methods you use as you begin your own ***Journeys in Film***, have fun with your students and colleagues while you're doing it!

Additional Suggestions for Assessment

Modern assessment methods have moved beyond the objective test given at the end of a chapter or unit; instead teachers look for ways to measure students' deeper understanding of ideas. We have included assessment techniques in each lesson in this unit. Here are some additional possibilities for you to consider as you plan your unit on this film. Be sure to brief students on what kinds of assessment you will do before you begin the unit.

1. Have students keep a journal throughout the unit. Based on the standards that you are working with in each lesson, create a series of open-ended questions for students to choose from. Depending on the ability of your class, determine and make clear the number of questions that they must answer, when each journal entry must be completed, and the length of each journal entry. Create a rubric on which to judge the journal as a whole and be sure to share the rubric with the students before they begin.

2. Have students create a class newspaper based on the film. Review the various parts of a newspaper with them (news report, news analysis, editorial, letters to the editor, obituaries, advice columns, sports, fashion, even comics and crosswords). Appoint student editors and then allow students time to brainstorm how to produce a newspaper based on the film. For example, the newspaper could include a review of Pai's class play by a theater critic, a letter to the editor from Koro, a food column about Maori cooking, an advice column with a question from Pai's grandmother, etc. If you have desktop publishing software, students can design the newspaper on computer, or they can do paste-ups on large sheets of heavy paper.

3. Conduct face-to-face interviews with individual students or student pairs. This can be done during study halls or lunch, as well as during class time. Make sure students know that the burden of the interview is on them to convey how well they understand the film and the lessons you have used to introduce and follow the film. Help them understand that they should prepare for the interview by reviewing what they have learned. Give them a rubric ahead of time to show how you will judge them on familiarity with the film, learning accomplished during the lessons, poise during the interview, respect for others' opinions (if conducting a joint interview), etc. You can use the standards in this unit as a starting place for your questions. And be sure you don't ask the same questions of each student or group, or the later interviewees will start limiting their preparation.

4. Have students create a portfolio of work that they have done in this unit. Have them arrange the work from the elements that they think are the best (in front) to those they think are the least effective. Then have them write a response to these or similar questions:

   Why do you think _____ is your best work?

   What problems did you have to face as you started this assignment?

   How did you overcome those problems?

   Why do you think _____ is your least effective work?

   What goals do you have for yourself as a learner for the rest of the year?

5. Play a game like *Jeopardy*. Have students come up with their own questions, perhaps splitting the class into two groups. Have each group split into 5-6 smaller teams and assign them a topic. Have them create six *Jeopardy*-style answers, each with the appropriate question. Then trade the questions and play the game with each large group. You can give a simple reward, like allowing the winning team to leave the room first at the end of the period.

Who Are the Maori?

Enduring Understandings:

- The Maori originally came from other islands and had to survive in a new land.
- Maori culture was essentially a warrior culture.
- Contact with the West changed Maori history and culture.
- Some contentions continue to this day between the Maori and people of European descent.

Essential Questions:

- Where did the Maori come from? How did they interact with their new environment?
- How did contact with the West change the Maori?
- In what ways were the European and Maori cultures different? In what ways were they similar?
- How can we understand someone whose worldview is very different from our own?

Notes to the Teacher:

While the study of the history of New Zealand brings up the well-known conquest of land and people by European explorers, it is important to recognize all the complexity of such an interaction of multiple peoples over many years. Maori (pronounced Maur´-ee) culture was essentially a warrior culture, as becomes clear in the film *Whale Rider*. The Europeans who reached New Zealand in the aggressive pursuit of empire also used military means and a very different technology to accomplish their goals. Across this cultural divide, people traded, carried out scientific observations, learned foreign languages, baffled each other, laughed at each other, stole from each other, made treaties, broke them, made war, wore themselves out, and made it into the modern age in better shape than many nations. With two essentially aggressive cultures meeting like that, it is amazing that they didn't fight with each other more than they did. The Maori lost land and power after the European settlers began to threaten their old way of life (a way of life which included the utter decimation or enslavement of their enemies).

Key words you will want to teach during this lesson are the geography terms *Oceania, Polynesia, Micronesia,* and *Melanesia* and the Maori words: *mana* (power/prestige), *utu* (revenge/retribution), *tapu* (taboo), and *marae* (open space in front of a temple or community building or *wharae*).

There is an excellent website called "100 Words Every New Zealander Should Know" at **http://www.nzhistory.net.nz/Gallery/tereo/words.htm**.

This gives not only a definition but also a recorded pronunciation of many words used in the film and this unit.

Try to print **Handouts 1** and **4** in color to increase legibility **(Handout 1)** and help students understand color symbolism **(handout 4)**. If you cannot reproduce these in color, try to print larger copies of the two flags to display in the classroom.

Duration of Lesson:

One or two periods

Assessment:

Journal entry
Skits
PMI worksheet
Class discussion

Geography Standards
Indicators addressed by this lesson:

Standard 3. Understands the characteristics and uses of spatial organization of Earth's surface

Level III (Grades 6-8)

1. Understands distributions of physical and human occurrences with respect to spatial patterns, arrangements, and associations (e.g., why some areas are more densely settled than others, relationships and patterns in the kind and number of links between settlements)

Standard 14. Understands how human actions modify the physical environment

Level III (Grades 6-8)

1. Understands the environmental consequences of people changing the physical environment *(e.g., the effects of ozone depletion, climate change, deforestation, land degradation, soil salinization and acidification, ocean pollution, groundwater-quality decline, using natural wetlands for recreational and housing development)*

3. Understands the ways in which technology influences the human capacity to modify the physical environment *(e.g., effects of the introduction of fire, steam power, diesel machinery, electricity, work animals, explosives, chemical fertilizers and pesticides, hybridization of crops)*

Standard 15. Understands how physical systems affect human systems

Level III (Grades 6-8)

1. Knows how humans adapt to variations in the physical environment *(e.g., choices of clothing, housing styles, agricultural practices, recreational activities, food, daily and seasonal patterns of life)*

Behavioral Studies Standards
Indicators addressed by this lesson:

Standard 2. Understands various meanings of social group, general implications of group membership, and different ways that groups function

Level III (Grades 6-8)

5. Understands that a variety of factors (e.g., belief systems, learned behavior patterns) contribute to the ways in which groups respond differently to their physical and social environments and to 6. Understands how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

Standard 4. Understands conflict, cooperation, and interdependence among individuals, groups, and institutions

Level III (Grades 6-8)

3. Understands how various institutions (e.g., banks, schools, hospitals, the military) influence people, events, and elements of culture and how people interact with different institutions

4. Understands how role, status, and social class may affect interactions of individuals and social groups

5. Understands how tensions might arise between expressions of individuality and group or institutional efforts to promote social conformity

Materials needed:

Pen or pencil
Notebook paper
Handouts 1 – 4

Procedure:

Activity 1: Polynesia: Spread of a Culture

1. Give all your students a copy of **Handout 1: The Map of Polynesia.**

2. Geographical vocabulary: Have them circle the islands labeled "Micronesia" and "Melanesia." Explain that the three sections of Polynesia, Micronesia, and Melanesia make up the region of Oceania, which includes some 20-30 thousand islands. These categories were adopted in the 1820s based on observations of physical and linguistic culture. If the root of these words "-nesia" means islands, what do these three words mean? (Before telling them that the Greek roots poly = many, micro = small, and melano = black, give hints by giving other words students might know with the same prefixes: polygon, polygamy, polytheism, microscope, microcosm, microwave, melanoma, melancholy.)

3. Explain that Polynesians from Hawaii to New Zealand all share a similar culture, including their language, physical characteristics, and mythology. For example, both Hawaiians and Maoris believe the god Maui created their islands by catching them on a fishhook and pulling them up from the sea. There have been various theories and lively debates about how people got to Oceania in the first place. Did they come from the direction of Asia, or from somewhere in South America?

   Explain to students that the generally accepted theory now is that people came through Melanesia to the

western region of Samoa and Tonga, around 1200 BC. Over a long period of time they developed their own culture, and then they spread relatively quickly across all of the islands of Polynesia. Between 500 and 700 AD they spread to Hawaii, Tahiti, Easter and Cook Islands, and by 1300 they reached New Zealand.

4. Discussion: Ask the students why they think the Polynesians kept leaving everything they had at home (each one an island paradise) to go exploring for new islands. What was the risk? What was to be gained? (Overpopulation, disputes, and wars are all possible reasons; but these are not sufficient to explain the consistent and sustained amount of expeditions. Did they develop a love for adventure? Was part of their culture an intellectual curiosity about the world, pushing them to explore? Research shows the voyagers who reached New Zealand were young, and so it was a planned attempt at colonizing other islands. They brought tools, plants, and domestic animals. However, they did not make a return trip, and so they ended up isolated.)

5. Assignment: Journal Reflection. Give students the following assignment:

   "Before the European empires were built, the Polynesians were the most widely dispersed racial group on earth. James Cook wrote in his journal in 1774, 'It is extraordinary that the same Nation should have spread themselves over the isles in this vast Ocean from New Zealand to this island [Easter Is.] which is a fourth part the circumference of the globe.' Brainstorm what you know about the Polynesian people, and what you can infer about them from their physical environment and accomplishments."

Activity 2: Warrior Culture Among the Maori *(Mana, Tapu, and Utu)*

1. Explain to the class that they are going to do an improvised skit to illustrate the experience of being part of a Maori tribe. (Note to teacher: Depending on your class size and time available, you may want to walk through this as a whole class in one session, or you may divide the class into smaller groups, and have each group prepare its own skit.)

2. Divide the class, or the small groups, into two tribes. Name them North and South, Big and Little, Coastal and Inland, or another creative pair of opposites. Then explain to the groups the following rules and motivations.

   a. You have many gods (polytheism) like the ancient Greeks did. You must keep them happy, by sacrificing to them to maintain the order of society. You build *wharae*, or temples, with open spaces called *marae* in front of them, where people come for religious ceremonies. Women, though normally subordinate to men, are the only ones who make the formal call to join at the *marae*. You have one chief and many commoners.

   b. You want to get *mana*. *Mana* is power, prestige and respect, and could be affected by your actions or those of others. Like a member of a modern gang, if you are disrespected you lose face, and if you allow this, your authority will be undermined.

   c. You must avoid what is *tapu* (taboo). Doing something *tapu* is strictly prohibited. Places and foods can be *tapu*, and different things are *tapu* for different classes of people. It is *tapu* to touch the

head of a chief, or his ornaments, weapons and clothes. In some islands it is *tapu* for a woman to get into a canoe.

d. Not only do you want to increase your *mana*, but disturbances in the order of things require *utu* to restore the balance so the gods won't be upset. *Utu* is payback or revenge. For smaller offenses like thefts or insults plunder of property is accepted. For serious offenses payback could be deadly. Of course that would require its own revenge, and because you may take *utu* on anyone in the offending tribe, not just the individual who committed the offense, your cycle of revenge will continue.

3. Give students time to write a skit based on these concepts.

4. Have each group perform its skit.

5. Discuss: Given these basic concepts, how often did the skits end in full scale war? Why?

ACTIVITY 3: Evaluation of historical events.

1. Provide the students with copies of **HANDOUT 2: PLUS-MINUS-INTERESTING** sheet and **HANDOUT 3: MAORI HISTORICAL EVENTS.**

2. Read through the list of events together with them, and then have them fill in **HANDOUT 2** individually. Have them write the names of the events in the first column, something that is positive about that event in the second, something negative in the third, and something that is interesting in the fourth column. (Note to teacher: PMI is a creative thinking tool that causes people to think from multiple points of view. Not only does it stretch them to see both a pro and con side to each idea or event, but then the third column "Interesting" allows them to go beyond pro and con to see farther reaching consequences, hidden analogies, and possible connections.)

3. Depending upon your time, you may have a discussion with the whole class about their observations while making the chart, or split them into small groups to let more of them share their ideas with each other, or you may simply collect the charts and assess them.

ACTIVITY 4: The New Zealand and Maori Flags

1. Explain to the class that over the years after the Treaty of Waitangi, Maori were often treated as second-class citizens in their own land. Some were cheated and lost their land. Their status in terms of education, wealth, and health statistics fell relative to the New Zealanders of European descent. In recent years, there has been a tremendous interest in reviving Maori culture, including language studies.

2. Give students copies of **HANDOUT 4: TWO FLAGS FROM NEW ZEALAND.** Have them read the information about the history and symbolism of the official national flag of New Zealand.

3. Ask them: If you were one of the people trying to promote Maori culture, how would you feel about this flag?

4. Now have them look at the Maori flag and read about the Maori symbolism that appears on it.

5. Explain that they are soon going to see a film about two people who care very much about the future of

the Maori people. One is an older man, a chief named Koro. The second is his granddaughter, Paikea or Pai. They have very different ideas, though, about how this future should be accomplished.

Extension Activities:

1. Read *Kon-Tiki* by Thor Heyerdahl. Because of the existence of the sweet potato (a food native to America) on Polynesian islands, he developed a theory that Polynesians migrated from South America rather than Southeast Asia. In 1955 he built a raft in South America and floated across the Pacific to some of the easternmost islands in Polynesia. It was an amazing adventure and accomplishment. Does this *prove* that Polynesians originally came from the South American continent? (It shows the possibility, but that is initself not proof. The overwhelming bulk of Polynesian foods come from Southeast Asia; their language is in the same family – Austronesian – as that of their neighbors, and so most scholars still believe they came from the west, not the east.)

2. Compare tribal warfare with the gang rivalries in the news, such as the Bloods and the Crips, or with the drama *West Side Story*. Or compare to a family feud, such as the one Shakespeare made famous in *Romeo and Juliet.* (To tie this to the modern gangs, see the version set in California with Leonardo DiCaprio.) For more mature students, compare to international relations, with border and territory disputes, ethnic wars and genocide, and carefully worded statements aimed at saving face.

3. Essay questions:

   a. What key traits characterize Maori culture? How are the Maori similar to other Polynesians?

   b. How was their history affected fundamentally by outsiders?

   c. Why did they finally welcome the Treaty of Waitangi?

Additional Resources:

A. Print Materials (books, magazine articles, etc.)

Chambers, John H. *A Traveller's History of New Zealand and the South Pacific Islands* (New York: Interlink Books, 2004)

Stafford, D. M. *Introducing Maori Culture.* (New Zealand: Reed Publishing, 1997)

B. Internet Resources

http://www.pbs.org/wayfinders/polynesian.html
An extensive and well-researched website on the Polynesian migrations and culture

http://www.nzbooks.com/nzbooks/author.asp?author_id=witiihimaera
A list of additional books by Witi Ihimaera

http://encarta.msn.com/encnet/refpages/RefMedia.aspx?refid=461533002
Hear an authentic Maori chant

http://www.maori.org.nz/
An extensive collection of Maori cultural links

http://www.nzhistory.net.nz/Gallery/tereo/words.htm
A glossary of Maori words with pronunciation audiofiles

http://history-nz.org/maori.html
A history of the Maori from prehistoric times

HANDOUT 1

Polynesia

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HANDOUT 2 PMI: Plus, Minus, Interesting

EVENT	PLUS	MINUS	INTERESTING

HANDOUT 3 ▸ P.1 Events in Maori History

1. **Adapting to the Environment. AD 1300.** New Zealand has a much different environment from the one the early Maori had known. (Imagine the warm, lush tropical climate of Hawaii or Tahiti and then compare that to the landscape in the film *The Lord of the Rings*, which was shot in New Zealand.) The differences found by the Maori affected plant life (some of their plants would not survive in the temperate climate), trees (New Zealand had taller and stronger trees than tropical trees, so Maori could make even more amazing ocean canoes), houses (they needed walled houses rather than open-sided ones), and clothes (they needed to fashion more clothing). They had no words for the snow that covered the mountains or the lakes in the middle of the islands.

2. **Affecting the Environment. AD 1300-1500.** The early Maori in turn affected the environment they found. It was rich with fish and shellfish, sea lions, and moa birds. These large flightless birds, cousin to the emu and ostrich, evolved together with a large eagle that was their only predator, and they lived in a balance. The birds were so plentiful that the Maori had the nickname of moa hunters. But they wasted the moa, killing the birds and their eggs in much greater number than was necessary. By 1500 moas were scarce, and sometime in the 1500s the moa became extinct. This caused their predator, the great eagle, to vanish as well. Maori also hunted the sea lions there to extinction. Loss of these protein sources made life much harder, and there were times of famine.

3. **First Contact. AD 1642.** Abel Janszoon Tasman, a Dutch sea captain, came upon the northern part of the South Island of New Zealand. Maoris attacked their small landing craft and killed several Dutch sailors. Tasman named the island after the province Zeeland in the Netherlands.

4. **Second Contact. AD 1769.** The British Captain James Cook came to New Zealand looking for a Southern Continent that Europeans thought was somewhere in the South Pacific. By circling and mapping New Zealand, and sailing farther south, he showed there was no other large continent out there. But he sparked interest in New Zealand.

5. **White Potato. AD 1769.** Captain James Cook introduced the white potato, which solved the Maori food problem. It grew earlier and with less careful attention than the more common sweet potato. One writer even says, "It is likely that the introduction of the white potato by early European explorers such as Cook saved many Maori from starvation." (Chambers 76)

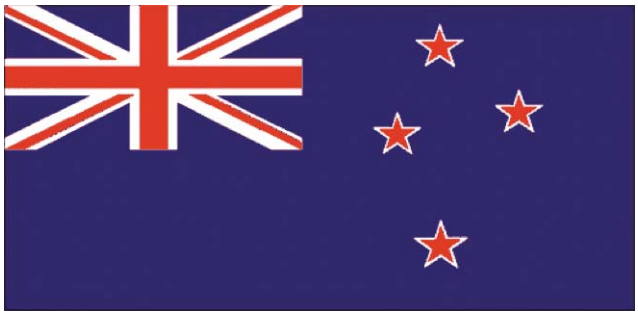
6. **Whaling and Seal Ships. AD 1800s.** Increasingly whaling ships and seal hunters visited the island, and Maori coastal tribes worked cutting timber, loading ships, and even sailing in whalers. Food and services were traded for blankets, knives, and any iron tools, which were valued by the Maori.

7. **Musket Wars. AD 1818-1840.** Trade allowed Maori to get cheap muskets from Westerners, and muskets allowed the warriors more powerful ways to get *mana*. However, this made their tribal warfare more deadly than ever. During these decades of fighting, tens of thousands of Maori died, possibly a third to a half of the total Maori population.

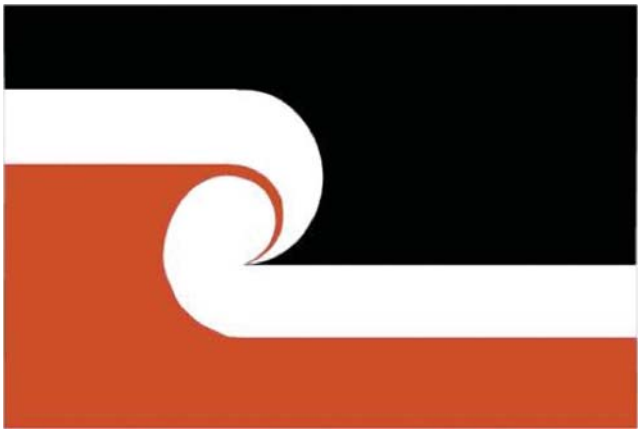
8. **Destruction of the Moriori. AD 1835.** Perhaps 400 years earlier a group of early Maoris sailed to the Chatham Islands, 500 miles south of New Zealand. Later known as the Moriori, they had lost contact with New Zealand until Maori sailing on European ships found out about them. They had developed a peaceful hunting and gathering society, and controlled their population to prevent famine. In 1835 two tribes of Maori sailed there to escape the Musket Wars. The Moriori had no warrior tradition, and no real weapons, so they offered to share the islands peacefully. But the Maori attacked, killed many and took others prisoner, according to their warrior tradition. It is estimated the Moriori population went from 1600 to about 160.

9. **Treaty of Waitangi. AD 1840.** Tired of their own wars, and vulnerable to the increasing number (now thousands) of European settlers, many Maori chiefs signed the Treaty of Waitangi with Captain William Hobson of the British Navy. It gave Britain sovereignty or control over New Zealand in exchange for providing law and order, and protecting all Maori rights, including property rights.

HANDOUT 4 Two Flags From New Zealand



The modern New Zealand flag was adopted in 1902. The flag is based on the British blue ensign flag, which has the Union Jack (the flag of Great Britain) in the upper left-hand corner; the New Zealand flag adds four red stars laid out in the pattern of the Southern Cross. The traditional flag measures twice as wide as it is high.



In 1990, a contest was held to create a Maori flag. The winning flag (above) has colors representing Maori beliefs:

- **BLACK** represents the darkness from which the earth came and is associated with *Rangi*, the god of the sky.
- **RED** represents coming into being and symbolizes *Papatuanuku*, the earth-mother.
- **WHITE** represents the realm of being and light, the physical world, purity, harmony, enlightenment and balance. The white is in the shape of a curling fern frond, representing the unfolding of new life. It also symbolizes a white cloud rolling across the face of the land; the Maori name for New Zealand is *Aotearoa* ("Land of the long white cloud").

Viewing *Whale Rider*

Enduring Understandings:

- A well-made film is a powerful way to help one understand another culture.
- Filmmaking is dependent on cultural and economic variables.

Essential Questions:

- What does *Whale Rider* tell us about life among the Maori of New Zealand?
- How does the geographic location affect the process of film making?

Standards
Indicators addressed by this lesson

Standard 9. Uses viewing skills and strategies to understand and interpret visual media

Level III (Grades 6-8)

1. Understands a variety of messages conveyed by visual media (e.g., main concept, details, themes or lessons, viewpoints)

6. Understands how symbols, images, sound, and other conventions are used in visual media (e.g., time lapse in films; set elements that identify a particular time period or culture; short cuts used to construct meaning, such as the scream of brakes and a thud to imply a car crash; sound and image used together; the use of close-ups to convey drama or intimacy; the use of long camera shots to establish setting; sequences or groups of images that emphasize specific meaning)

Notes to the Teacher:

If this is the first film in your ***Journeys in Film*** program, please refer to the information in "To the Teacher…" on preparing students to watch a subtitled film (p. 11).

The beginning of the film is a bit confusing and the students tend to get caught up in the emotions and miss a key point. So you may find it necessary to pause the film and let them know, after the fact, that the twin baby who dies is supposed to be the next chief, and now Koro, the grandfather, doesn't want to welcome his granddaughter Pai into the family.

Duration of Lesson:

Approximately two hours, of which 101 minutes is spent viewing the film.

Assessment:

Post-viewing discussion

Materials needed:

DVD (preferred) or videotape of *Whale Rider*
VCR, DVD player, or computer with LCD hookup

Procedure:

1. Remind your class of what they have learned about the Maori in the previous lesson and ask if they have any questions. Explain that this is neither a true story nor a documentary. However, it is based on Maori folklore and traditional beliefs that have been passed down from generation to generation. So, even though the story isn't true, the depiction of the cultural traditions in the film is authentic.

2. Give your students a brief introduction to the film based on the background information on page 9. Be sure to share the following additional information with your class:

   a. Tell the students that the original story was written as a book by Witi Ihimaera, a native Maori living in New York City. Explain that many films are adaptations from books. Ask if they can name some recent ones. (*Harry Potter, The Grinch, Willy Wonka, Lord of the Rings,* etc.)

   b. The film was shot on location in New Zealand. Ask: Who knows another film that was recently shot there? (*Lord of the Rings*)

3. Divide the class into six groups. Ask each group to take notes during the film on just one aspect of Maori culture:

   a. the appearance and use of community spaces, such as meetinghouses
   b. Maori song and dance
   c. greetings
   d. woodcarving and tattoos
   e. gender issues (the roles of boys and girls, women and men in the culture)
   f. oratory (public speechmaking)

4. Show the film, giving a brief recess in the middle if you think it advisable.

5. When the film is over, take a few minutes to invite the students to share their immediate thoughts, feelings and questions about the film.

6. Ask the students if they think that Witi Ihimaera would have written this film if it weren't for his daughters' complaints about the lack of young female heros in the movies. Do you think those complaints are justified? Are there really few films that have girls as heroes? If you agree with his daughters, explain why this situation might exist. If you disagree, give examples from contemporary films to support your position. Point out that it is important to look at the things around you with a critical eye. If something seems unjust, it's a good thing to question it and look for other solutions. No voice is too small to make a difference. (The story was written because of the comments of small children.)

For homework, assign students to talk to others in their cultural groups and finalize their notes.

The World Outside, The Spirit Within

Enduring Understandings:

- Traditional Maori belief is based on the idea that human beings are part of a spiritual community that includes nonhumans: animals, plants, places and inanimate objects. This belief is sometimes called animism.
- Humans who believe this way try to live respectfully toward all other beings (in this spiritual community).
- The practice of animism is still active around the world as a faith, or as cultural traditions, or frequently as a combination of both.

Essential Questions:

- What is animism?
- How could a belief system based in animism change one's life?
- What are some of the beliefs that shape Maori culture and traditions?

Notes to the Teacher:

After a brief introduction, the lesson uses selected scenes from the film to draw conclusions about Maori beliefs and traditions. (Almost any scene from the film could be selected, because the film is infused with the basic ideas of this ancient tradition.) You might wish to point out that the film was made in the village of Wharangi, where the ancestor Paikea was supposed to have landed, riding on the back of a whale after his canoe capsized on the journey from Hawaiki. The tiny island in the bay (seen numerous times in the film, particularly in the scenes when the children are diving for the whale's tooth) is considered to be the fossilized remains of the ancestor Paikea's whale.

The second part of the lesson uses a poem by Ross Himona to introduce students to the larger world of Maori belief. Himona was a soldier in the New Zealand army for twenty years, including service in Borneo and Vietnam. Since then, he has become a writer and poet, using his work to advance knowledge of his Maori culture. The poem, valuable in itself as literature, becomes a springboard for students to explore some traditional Maori stories that are part of their belief system.

Duration of lesson:

Three or four periods

Assessment:

Class discussion
Handout 1: Observations
Illustrations, reports and skits

World History
Indicators addressed by this lesson

Standard 4. Understands the physical and human characteristics of place

Level III (Grades 6-8)

1. Knows the human characteristics of places (e.g., cultural characteristics such as religion, language, politics, technology, family structure, gender; population characteristics; land uses; levels of development)

5. Understands the factors that affect the cohesiveness and integration of countries (e.g., language and religion in Belgium, the religious differences between Hindus and Moslems in India, the ethnic differences in some African countries that have been independent for only a few decades, the elongated shapes of Italy and Chile)

Standard 6. Understands that culture and experience influence people's perceptions of places and regions

Level III (Grades 6-8)

3. Knows the ways in which culture influences the perception of places and regions (e.g., religion and other belief systems, language and tradition; perceptions of "beautiful" or "valuable").

Language Arts
Indicators addressed by this lesson

Standard 4. Gathers and uses information for research purposes

Level III [Grade: 6-8]

4. Uses a variety of resource materials to gather information for research topics (e.g., magazines, newspapers, dictionaries, schedules, journals, phone directories, globes, atlases, almanacs)

Standard 5. Uses the general skills and strategies of the reading process

Language Arts (continued)
Indicators addressed by this lesson

Level III [Grade: 6-8]

1. Establishes and adjusts purposes for reading (e.g., to understand, interpret, enjoy, solve problems, predict outcomes, answer a specific question, form an opinion, skim for facts; to discover models for own writing)

2. Uses word origins and derivations to understand word meaning (e.g., Latin and Greek roots, meanings of foreign words frequently used in the English language, historical influences on English word meanings)

4. Uses specific strategies to clear up confusing parts of a text (e.g., pauses, rereads the text, consults another source, represents abstract information as mental pictures, draws upon background knowledge, asks for help)

5. Understands specific devices an author uses to accomplish his or her purpose (e.g., persuasive techniques, style, word choice, language structure, context)

6. Reflects on what has been learned after reading and formulates ideas, opinions, and personal responses to texts

Standard 6. Uses reading skills and strategies to understand and interpret a variety of literary texts

Level III [Grade: 6-8]

1. Uses reading skills and strategies to understand a variety of literary passages and texts (e.g., fiction, nonfiction, myths, poems, fantasies, biographies, autobiographies, science fiction, tall tales, supernatural tales)

7. Understands the effects of an author's style (e.g., word choice, speaker, imagery, genre, perspective) on the reader

Standard 9. Uses viewing skills and strategies to understand and interpret visual media

Level III [Grade: 6-8]

1. Understands a variety of messages conveyed by visual media (e.g., main concept, details, themes or lessons, viewpoints)

Materials needed:

A personal memento, lucky charm, or talisman
DVD of *Whale Rider* and DVD player
Handout 1: The Spiritual World of *Whale Rider*
Handout 2: Reflections on Running

Procedure:

1. Write the word ANIMISM on the board and discuss its root word, which is the Latin word *animus* or "spirit." Use this to explain such vocabulary words as *animate*, *inanimate*, *animation*, etc.

2. Explain that since before recorded history, some cultures have believed that humans are only some of the people that inhabit the universe. Animals, plants, places and even things all can be persons with spiritual qualities as well.

3. Display your personal memento, lucky charm, or talisman and explain to the class the story or belief that leads you to attribute some sort of spiritual power. (Examples: the love you feel from your wedding ring, the strength you can get from your father's watch, the luck you believe is in that old coin or rabbit's foot, the plant or animal you feel peace from, etc.)

4. Explain that the Maori religion sees a kinship between humans and other living creatures, and that there is a special bond with whales. Their tradition holds that the first Maori ancestor to come to New Zealand was a man named Paikea, who arrived riding on the back of a whale.

5. Distribute **Handout 1: The Spiritual World of *Whale Rider***. As you show students selected scenes from the film, ask them to write down what they learn about the traditions and beliefs of the Maori. (This will take most of one period but will provide an opportunity for students to look at the film more analytically than the first time they viewed it.)

Suggested Responses:

Scene 1: The scene begins with the idea that the land "felt a great emptiness" and was waiting for someone to come and love it, and to be a leader. Land is therefore alive and sentient. The scene tells that ancestor Paikea came on back of a whale. Koro is waiting for a new chief, who by custom must be a male. His fight with his son over the baby Paikea's name indicates how sacred this tradition is to him.

Scene 6: The discussion between Paikea and Koro centers on the history of the ancestors, who by tradition came from Hawaiki. He uses the rope as a symbol of all the ancestors. It is ironic that he breaks the rope and she is the one who mends it.

Scene 10: Although only boys are allowed at Koro's "sacred school of learning," the call to the *marae* (the complex of sacred buildongs or plaza in front of them) must come from a woman. In this case it is Nannie, helped by Paikea, who leads the boys. The carving on the roof of the *wharae* shows the ancestor Paikea, riding the whale.

Scene 14: Pai has broken the *tapu* by fighting with the fighting sticks on the sacred ground of the *marae*.

The whole effort to find a leader may fail as a result. (Be sure to explain that *tapu* refers to things that are forbidden.)

Scene 17: Both Koro and Pai call to the ancient ones for help. The whales respond and turn toward land, implying that the ancestors are intimately connected with the whales.

Scene 24: Pai greets the whale as a person, using the same *hongi* (touching noses) that other characters have used to greet long-absent relatives. She talks to the whale and it responds to her. Like her ancestor, she actually rides the whale out to sea.

Scene 26: Scene shows a revival of Maori traditions. Pai's father has returned and finished carving his canoe (*waka*); he is shown with traditional tattooing (*moko*) which acknowledges the village and his genealogy. Many of the villagers have learned the chants and have put on traditional dress for the ceremonial launching of the *waka*. The spirit of the culture is reborn, with Pai and Koro leading the way together.

6. Discuss students' findings, emphasizing the connections between the whale and the Maori people and the numerous times in the film when they call and respond to each other.

7. Explain to students that there is much more to Maori belief than just the relationship with the whale. Distribute **Handout 2: Reflections on Running**. Tell students that this is a poem written by a New Zealander who is writing about the world as he sees it.

8. Have the students read the poem silently first and then read it aloud yourself as they follow. Ask them to identify the aspects of nature that the runner identifies as living, spiritual beings. They should come up with the following list:

   Ranginui – Sky father
   Tawhirimatea – cousin, god of the winds
   Tangaroa – cousin, god of the ocean
   Tane – god of forests, creator of mankind
   Papatuanuku – Earth mother
   Tane-te-wananga – brought knowledge to mankind
   Maui-tikitiki-a-Taranga – trickster god
   The ancestors – the poet's own genealogical ancestors and perhaps those of other Maori
   Io-Matua-Kore – parentless, first creator

9. Put students in nine groups of two or three students and assign each group to research the story of one of these figures in Maori religion on the Internet. They can find numerous versions by typing the name (carefully!) into a search engine.

10. Have students present their findings by illustrating the stories they discover. Then have them tell the story to the class when they share their illustrations or create a skit to portray the story.

11. Bring students back to the poem for one more reading. This time, focus discussion on the last line of the poem: "And I discover myself." What does this mean in relation to the rest of the poem?

HANDOUT 1 ▸ P.1 The Spiritual World of *Whale Rider*

DIRECTIONS: As you watch the scenes that your teacher will play for you from *Whale Rider*, write down what you learn about Maori traditional beliefs.

Scene 1:

Scene 6:

Scene 10:

Scene 14:

Scene 17:

Scene 24:

Scene 26:

HANDOUT 2 ▸ P. 1

reflections on running

by Ross Himona

On a warm sunny day, I run
through sun filled valley,
bathed in the healing glow of Ranginui,
ancestral Sky Father.

In a southerly storm I run the hills:
gale rain lashed, Thunder growled,
Lightning flash-warned;
at play with Tawhirimatea, ancestral cousin,
God of the Winds.

I run the sea shore
serene in calm stillness,
powerful in mighty display;
in all the moods of Tangaroa,
Cousin God of the Oceans.

I run with all the children
of Tane, procreator of humankind
God of the mighty forests,
ancestral shelter, provider.

My feet caress the soft gentle skin
of Papatuanuku, Earth Mother;
and I am enfolded by Her,
in love.

I run in an Inner World,
led there by Tane-te-wananga;
he who ascended the upper realms
to Tikitiki-o-rangi the Uppermost,

gained there for all mankind
three baskets of knowledge
from Io-Matua
Parent of all that there is
in this and in every realm.

I run with Maui-tikitiki-a-Taranga,
Trickster Shaman.
We play, adventure, seek challenge;
pit ourselves against ourselves,
and all who would play with us.
With Maui I laugh at the World.

I run the hills and valleys and shores
where once the Earthly ancestors ran,
bathed in the spiritual fire
that once bathed them;
and still does.

I run from Te Korekore, Potential,
Womb of all Creation
whence Universe birthed itself,
through Te Po, long darkness of Unfolding,
to Te Whai-ao, first glimmer of dawn,
into Te Ao Marama, bright light of day;
Universe revealed.

I discover the Universe
of Io-Matua-Kore the Parentless
And I discover myself.

Maori Roles and Relationships

Enduring Understandings:

- Family dynamics and conflicts exist in all cultures.
- Traditional roles for women are often limited, compared with those of men.
- Many traditions are eroding in the face of modern progress.
- Often traditions must change and adapt over time to survive.

Essential Questions:

- How do some cultures adapt their traditions to succeed in the modern world?
- What effects do changes in tradition have on members of the group and their relationships with each other?

Notes to the Teacher:

This lesson explores the power of family expectations and cultural roles (especially gender roles) in affecting relationships. Additionally, it introduces the possibility of change in these cultural mores and asks students to think about how individuals handle cultural change.

Students process more when they speak their thoughts out loud, which is the basis of the Socratic method. However, they also benefit from some time to prepare their thoughts, or to interact with the issues involved before discussion begins. (The Touchstones Discussion Project, which was developed out of the St. John's College "Great Books" program, uses this method successfully with middle school students when they tackle selections from great writings.) This is the rationale behind the order of this lesson: starting with individual reflection, then moving to small group work, and finally moving into the fishbowl activity.

In this lesson, students begin by putting themselves in the shoes of different characters in the movie, imagining their feelings, and comparing what they learn to their own situation. Then, in a small group they study a particular character in depth. Their job is to create talking points that will express the feelings and opinions of their character. In the fishbowl activity, one person from each group joins a role-play in the middle of the circle (or in front of the room). They discuss various issues from their different perspectives. After 6-8 minutes they return to the circle and five new people (one from each group) replace them for further role-play and discussion.

Duration of Lesson:

One period

Assessment:

Student discussions
Reflections from **Handouts 1 and 2**
Role-playing

Standards
Indicators addressed by this lesson

Standard 1. Uses the general skills and strategies of the writing process

Level III (Grades 6-8)

12. Writes in response to literature (e.g., responds to significant issues in a log or journal, answers discussion questions, anticipates and answers a reader's questions, writes a summary of a book, describes an initial impression of a text, connects knowledge from a text with personal knowledge, states an interpretive, evaluative, or reflective position; draws inferences about the effects of the work on an audience)

Standard 8. Uses listening and speaking strategies for different purposes

Level III (Grades 6-8)

1. Plays a variety of roles in group discussions (e.g., active listener, discussion leader, facilitator)

3. Uses strategies to enhance listening comprehension (e.g., takes notes; organizes, summarizes, and paraphrases spoken ideas and details)

4. Listens in order to understand topic, purpose, and perspective in spoken texts (e.g., of a guest speaker, of an informational video, of a televised interview, of radio news programs)

7. Uses appropriate verbal and nonverbal techniques for oral presentations (e.g., modulation of voice, inflection, tempo, word choice, grammar, feeling, expression, tone, volume, enunciation, physical gestures, body movement, eye contact, posture)

Standard 9. Uses viewing skills and strategies to understand and interpret visual media

Level III (Grades 6-8)

1. Understands a variety of messages conveyed by visual media (e.g., main concept, details, themes or lessons, viewpoints)

Materials needed:

Pen or pencil
Notebook paper
Index cards
Handouts 1 and **2**

Procedure

1. Give every student **Handout 1: Individual Reflection**. Read the questions out loud if necessary. Direct students to write their own answers, and give them about 6-8 minutes to finish.

2. Read the directions first from **Handout 2: Small Group Work**. Then divide the students into five small groups and have them relocate to different parts of the room so each group has its own space and doesn't disturb the others.

3. Give one copy of **Handout 2** to each group. Give each group a character to consider: the main character Paikea, her grandfather Koro, her grandmother Nanny Flowers, her uncle Rawiri, and her classmate Hemi (the boy who trains in Koro's school and cries about his father). Assign one student in each group to be the secretary, who will write down the talking points for their character.

4. Move around among the groups, making sure that all students are contributing and that someone is writing down their character's ideas. Make suggestions when necessary. Again, give them about 6-8 minutes, or continue until you sense they are all ready.

5. For the fishbowl discussion, have your students put five chairs in the middle, facing each other, and move all the other chairs into a circle. Have one student from each group go into the middle to represent the character for which his or her group made talking points.

6. Ask students to role-play as if they are the character they represent: speaking in his or her voice, expressing his or her feelings, and trying to think as that character would think. They may certainly disagree with one another, but remind them to continue to treat each other with respect.

7. After about 6-8 minutes, stop the discussion and get new students (one from each group) to go into the center of the fishbowl. Continue the discussion. The discussion may go off the specific questions on the handout, which is fine, but if it wanders off topic or if they get stuck, you may bring them back by asking a new question to consider.

8. When the fishbowl activity is finished, each student gets an index card to use as a "3-2-1" card to complete before he or she can leave class. Ask students to write down 3 things they learned about the characters from the discussions, 2 questions they would still like to ask, and 1 major understanding from the lesson as a whole.

Extension Activities:

1. While many societies favor the firstborn male child, in this film the girl was chosen by the supernatural powers, against the cultural expectations. Have students compare this with the way the patriarchs, prophets and kings were chosen in the Torah (Old Testament). (Many times God disregarded the cultural norms and favored the younger son – consider Abel, Isaac, Jacob, Joseph, and all the way to David – often making the older brothers angry.)

2. Have students research to find out why certain roles in Maori life were performed only by women. For example, how did it come to be that a woman had to perform the formal call onto the *marae* (the temple ground)? Compare that to the role of women as priestesses or oracles in the ancient Greek religion.

3. Have students research the impact of modern legislation like Title 9 on opportunities for girls and women. Many of your students may take relatively recent changes for granted, since the laws were passed before they were born.

4. Have students write a journal entry or essay about one or more of the following questions:

   a. Why did Koro call Paikea "wise leader" at the end of the film? What does that show about her, and about him?

   b. In what ways is Koro the boss of the family, and in what ways is he not?

   c. Why couldn't Paikea leave town with her father?

Additional Resources:

A. Print materials (books, magazine articles, etc.)

Chambers, John H. – *A Traveller's History of New Zealand and the South Pacific Islands* (New York: Interlink Books, 2004)

B. Internet resources

http://maaori.com/

http://www.nzmis.org.nz/lib/links/index.htm

HANDOUT 1

Individual Reflection

1. List 3 qualities that are important in a leader.

a.

b.

c.

2. Are any qualities in your list found only in boys? Only in girls?

3. What are some things in our society that have *traditionally* been done just by boys or men? Note down two of them here. Next to each one, write a reason why that is; if you don't know one, make your best guess why it might be. Does it make sense? Is it fair?

a.

b.

4. What are some things in our society that have *traditionally* been done just by girls or women? Note down two of them here. Next to each one, write a reason why that is; if you don't know one, make your best guess why it might be. Does it make sense? Is it fair?

a.

b.

HANDOUT 2 ▸ P. 1

Talking Points for _____(Your character)

Names of your group members:

_____

_____

DIRECTIONS: Work with your group to write "talking points" for your character about each of the following issues. In other words, how would your character answer each question?

- Can women and girls be leaders just as well as men and boys?

- Should parents tell children what they can do with their lives?

- Should boys and girls be raised differently?

- Should every boy be raised to be a chief, or only the firstborn?

- Does crying disqualify you from being chief?

HANDOUT 2 ▸ P. 2

- Should the Maori try to do everything in the old ways?

- What can young people possibly teach their elders?

- Who is the boss of the family?

- What is the best way to keep the Maori people strong?

- Why have so many Maori people been moving away?

- Who is to blame for the Maori troubles?

- What is your greatest hope for your people? Your greatest fear?

Insights Into Maori Culture

Enduring Understandings:

- Societies have unique cultural traditions that they strive to preserve.
- Cultural traditions tend to reflect underlying values that are shared by many societies.
- Modern technology and globalization can cause cultures to undergo change.

Essential Questions:

- What are traditions and values depicted in the film *Whale Rider*?
- What do these traditions symbolize?
- Do equivalent traditions exist in my own culture?
- How does a traditional culture survive and experience change?

Notes to the Teacher:

Through small and large group discussion, students will focus in this lesson on key topics that will help them understand some of the unfamiliar aspects of the culture presented in *Whale Rider*. Students will learn to identify both general and specific similarities and differences between Maori, North American and their own family cultural values, traditions, customs and language. They will also be able to explain socio-cultural concepts such as gender roles and culture change.

Specifically, students are asked to look more closely at six specific areas of culture that were presented in the film: the use of community space, Maori song and dance, greetings, woodcarving and tattoos, gender issues, and oratory. After reviewing what they learned as they watched the film, students discuss these topics in expert and home groups, and then present their knowledge creatively, in skits about Maori culture.

As always in studying a culture different from one's own, it is important to remind students to be respectful of other people's traditions.

Materials needed:

Flip chart or chalk board
Paper and pencils
Enough student copies of the handouts for each expert group

Duration of lesson:

Two or three class periods

Assessment:

Completed **Handouts 1-6** on culture
Skit planning sheets **(Handout 7)**
Presentation of skits, to be assessed with the rubric on **Handout 7**

Geography Standards
Indicators addressed by this lesson:

Standard 10. Understands the nature and complexity of Earth's cultural mosaics

Level III (Grades 6-8)

2. Knows ways in which communities reflect the cultural background of their inhabitants *(e.g., distinctive building styles, billboards in Spanish, foreign-language advertisements in newspapers)*

Behavioral Studies Standards
Indicators addressed by this lesson:

Standard 1. Understands that group and cultural influences contribute to human development, identity, and behavior.

Level III (Grades 6-8)

1. Understands that each culture has distinctive patterns of behavior that are usually practiced by most of the people who grow up in it
2. Understands that usually within any society there is broad general agreement on what behavior is "unacceptable," but that the standards used to judge behavior vary for different settings and different subgroups and may change with time and in response to different political and economic conditions
4. Understands that technology, especially in transportation and communication, is increasingly important in spreading ideas, values, and behavior patterns within a society and among different societies

Procedure:

ACTIVITY 1: Jigsaw

1. Ask students to take out the notes that they took while watching the film *Whale Rider*. Divide students into six "expert" groups based on the topic on which they took notes.
2. Give each group copies of the appropriate handout on the topic. Allow them sufficient time to complete the handout and discuss the significance of what they have learned. They will therefore become "experts" in this area.
3. Rearrange the classroom into small "home groups" so that each group is made up of at least one member from each expert group. Allow time for each member to teach the others what he or she has observed and learned from discussion in the expert groups.

ACTIVITY 2: Skits

1. Distribute **HANDOUT 7** to all students and go over the necessary components for planning a skit.
2. Review the assessment rubric with the class so that they will know how their skits will be scored.
3. Give groups sufficient time to create a skit about which will showcase what they have learned about Maori culture.
4. For homework, have students collect props that they will use in their skits and practice their parts with appropriate gestures.
5. The following day, allow time for performance and assessment of the skits.

ACTIVITY 3: Concluding Discussion

1. Have a general class discussion about how modern technology is affecting the Maori. Is this good or bad for them as a society?
2. Discuss: If you were a Maori who wanted to preserve as much as possible about your culture, how would you do it in an increasingly modernized country like New Zealand?

EXTENSION ACTIVITIES:

1. Students tend naturally to see the events of the film through the eyes of the 12-year-old Pai. Ask them to write a journal entry about one or more of the events in the film from the perspective of Pai's grandfather Koro.
2. **Essay:** Have each student write an essay about an elder person who is significant in his or her life. Ask students to include a description of the person, how the person is related to the student, and how the older person views the way culture has changed in the last 20 years in our society. Alternatively, you may wish to have students interview the subject of the essay and write up the interview as an oral history project.

Additional Resources:

A. Print resources

Ihimaera, Witi. *The Whale Rider.* (New York: Harcourt, 2003)

H. G. Robley. *Maori Tattooing.* (Mineola, NY: Dover Publications, 2003)

Sinclair, Karen. *Maori Times, Maori Places.* (Lanham, MD: Rowman & Littlefield, 2003)

B. Internet

http://www.nzmaori.co.nz/

This commercial site by Te Puia includes information about the New Zealand Maori Arts and Crafts Institute and a glossary of Maori words.

http://www.nzettours.co.nz/protocol.asp

Another commercial site prepares visitors to New Zealand by teaching the protocol of Maori greetings.

http://www.boneart.co.nz/meanings.htm

Commercial site with illustrations and explanations of traditional carving symbols.

HANDOUT 1 ▸ P. 1

Community Space

The *marae* is the complex of buildings in a Maori village, typically surrounding the *whare whakairo* (the central meeting house). The *whare whakairo* traditionally functions as a meeting place for christenings, weddings, funerals, tribal reunions and other celebrations. Community members may be called to a *hui* at the *marae*. *Hui* means "to congregate" or "to gather together" when important decisions need to be made or to help resolve a dispute between two parties by reaching a group consensus. It is inside the *whare whakairo* where Maori traditions are expressed in their most sacred form, and this has remained the place of greatest spirituality and community identity.

Generally, before actually entering the *whare whakairo*, people remove their shoes. Visitors usually stand outside for a few minutes to honor those who have died. If they are receiving hospitality such as food or lodging, visitors usually offer a *koha* (donation) toward the maintenance of the buildings. The *whare whakairo* is decorated with ornate wooden carvings representing ancestors and cultural deities depicted as human figures, usually with enlarged heads, mouths and eyes.

A typical Maori village consists of different groups that are assigned specific tasks for daily routines as well as for holidays and special events. Members of the *tangata whenua* make decisions concerning the *marae*. For example, if the village is expecting guests, the *tangata whenua* organizes the event and ensures that proper hospitality is extended to all visitors. Children and young people are also expected to work at the *marae*.

QUESTIONS ABOUT *WHALE RIDER*:

Where do Pai, her family and members of her village gather for community events?

What kind of special gatherings and events do you see in the movie?

What are the rituals performed before entering these gatherings?

What do you notice about the artwork in the community buildings?

Handout 1 ▸ p. 2

Class discussion questions:

Can you think of a building in your community that has a function similar to that of the Maori *whare whakairo*?

What are the special traditions or rituals performed in this building?

Where is this building located in your community? Why?

What are the common factors that bring people together as a group in a community building in your town or culture?

How are responsibilities shared among the members of this group? What are those different responsibilities?

How is this aspect of Maori culture similar to or different from housing / community space seen in other ***Journeys in Film*** movies?

HANDOUT 2 ▸ P. 1

Traditional Maori Song and Dance

Traditionally Maori history was not recorded in written form; it is an oral history which was maintained through *waiata* (songs) and *oriri* (chants) until more modern times. Each *waita* is used at a specific event such as welcoming guests into the *marae* (central village buildings) or during religious rituals such as a weddings or funerals. Maori *waitas* are also used for everyday occasions such as lullabies, games and teaching about cultural traditions and history. Continuous singing without a break is the goal for Maori singers; they take breaths at different times to maintain constant flow. *Oriris* (chants) are used by the people to express support of what has been said by a speaker.

In many traditional Maori dances, the movements include moving the arms, making quivering motions with the fingers and hands, and stamping feet. *Haka* is the word used for any form of Maori dance, but it has become associated with the ritual traditionally performed before a battle. The *haka* usually involves aggressive posturing, shouting, grimacing and sticking out the tongue. Sometimes swinging *taiaha* (fighting sticks) are also integrated into the dance.

The term *kapa haka* includes most forms of Maori performing arts including dance, singing and speeches, often all combined into one performance. *Kapa haka* could be considered sign language as each action has specific meaning which ties into the words that are being sung.

QUESTIONS ABOUT *WHALE RIDER:*

How do the boys enter through the gate when they arrive for their first meeting with Pako?

When are songs and dances performed? At which specific events or celebrations?

What specific movements do you notice when men or women sing and dance?

Handout 2 ▸ p. 2

Class discussion questions:

What kind of traditional songs and dances do you use for special occasions?

Do men and women in your culture always perform the same songs and dances, or does each group perform specific rituals? Why or why not?

What is the purpose of these rituals? Do you consider rituals like this important? Why or why not?

Do you know of any other cultures that remained without written history until more modern times? How are they similar to the Maori culture?

HANDOUT 3 ▸ P. 1

Greetings

When visitors arrive at the *marae*, they approach their hosts at a slow, respectful pace while remaining close to each other. The women welcome the visitors by singing "*Haere mai, Haere mai*." This means, "Come forward, visitors from afar. Welcome, welcome!"

The traditional Maori greeting called *hongi* means "the sharing of life breath." It is expressed by touching of noses in a single press or in some regions, press – release – press. The *hongi* never involves the actual rubbing of noses despite popular belief. In Maori folklore, woman was created by the ancient gods who were molded her figure out of the earth. The god Tane (meaning male) embraced the figure and breathed air into her nostrils. She then sneezed and came to life. Her name was *Hineahoune* (Earth-formed Woman).

After you have been greeted by your host with the *hongi*, you are no longer considered a guest but rather one of the people of the land. It is said that for the remainder of the stay you are expected to share in all the responsibilities and duties of the home.

QUESTIONS ABOUT *WHALE RIDER:*

What kinds of greetings do you see and hear in the film?

Handout 3 ▸ p. 2

Class Discussion Questions:

What are some greetings used in other cultures? How are they similar to or different from the *hongi*?

How would you feel if you were greeted by new hosts with a *hongi*? Why?

Is it helpful to learn about customs like the *hongi* before meeting people from other cultures? Why or why not?

HANDOUT 4 ▸ P. 1 Wood Carvings and Tattoos

One of the main traditional Maori art forms is *whakairo* (wood carving), which has developed over the centuries. Buildings, canoes, musical instruments, coffins and weapons were all skillfully decorated with animals and human figures. When the Europeans arrived with new cultural ideas they also introduced new, more effective tools with which men could carve even more elaborate designs. Ornate meeting houses were built with intricate, powerful wood carvings depicting ancestors and the oral traditions of the tribe. Although the Maori did not have a recorded history in the form of alphabet and books, the carvings themselves contain surface patterns that can be read as recordings of events and people. Beautifully carved war canoes were and still are a great source of pride for a Maori tribe.

The practice of *moko* (tattoos) is another art form of the Maori people. Practiced for over a thousand years, it was traditionally used as a form of identification to show genealogy, rank, tribal history, eligibility to marry and marks of beauty and/or strength. Typically, only the higher ranking members of the tribe such as chiefs and warriors were decorated with the very intricate designs. Women had *moko* only on their chins and lips as full blue lips were considered the "epitome of Maori female beauty." Men were permitted to have the entire face tattooed as well as other parts of the body. Probably no other people in the world are tattooed as much as the Maori.

Since Maori wasn't a written language, *moko* was also practically used as a form of identification. Chiefs drew their *moko* as their signature on official documents such as land grants or treaties. Furthermore, *mokos* communicated what generation of the family people belonged to, their position within the tribal family, and their eligibility to marry. As their position within the tribe or family changed, the *mokos* would be modified to convey those details. Although many peoples' *mokos* looked similar, no two were ever exactly the same. The designs weren't just tattooed with ink; they were finely chiseled into the skin with specially crafted tools.

The choosing of a design typically took months of planning and approval by the elders and other family members. The process took into account the tribal history and whether or not one was worthy of and committed to wearing the tribal mark for the rest of one's life. Getting a *moko* was not taken lightly; it was approached as a sacred cultural rite and a spiritual experience.

QUESTIONS ABOUT *WHALE RIDER:*

What kind of wooden crafts do you notice in the film?

What shapes or forms do you see most? Where are they located?

HANDOUT 4 ▸ P. 2

How do the Maori people decorate themselves for special occasions?

Specifically, how does Pai look different during the school/community assembly?

CLASS DISCUSSION QUESTIONS:

Can you think of any crafts or arts that are specific to your culture or your family? Do they have any specific meaning or symbolism? Do they serve a practical purpose?

What are symbol systems used by other cultures to communicate stories, status, etc?

Can you think of other times in history when symbols were used to convey a person's identity?

Imagine the process of designing a tattoo that represented your family history, your characteristics and your status within your community. What would your tattoo look like? Why?

Considering this lengthy planning and approval process, how do you think a Maori man feels when he shows his *moko* publicly?

HANDOUT 5 ▸ P. 1 Gender, Tradition, and Change

The *kaumatua*, or elders of the tribe, are very respected and given authority over all community matters. Whether male or female, their role is to teach young people Maori customs such as traditional songs, dances and creation stories in order to ensure that these important cultural elements are not forgotten. The people of the tribe decide who they consider their *kaumatua*. If people haven't remained involved with the community over the years, they typically will not qualify as it is not certain that they have the right traits, knowledge and skills to fulfill this important role. A *kaumatua* usually has a specialty such as history, storytelling, genealogy, etc. *Rangatira* (hereditary chiefs) provide the overall leadership for a tribe.

Pai's grandfather, Koro, has one goal; that is to preserve the tribe's existence and appoint a *rangatira* to replace him in time. Even though he loves his granddaughter Pai, Koro's commitment and loyalty to the teachings of his ancestors prevent him from seeing Pai's potential as a leader. Koro's stubbornness won't allow him to accept this option because a woman has never held this position in the history of his ancient line.

The author of the novel *The Whale Rider*, Witi Ihimera, had taken his daughters to a number of action films. They repeatedly asked him why in all of those stories the girl was the helpless one while the boy was the hero. "So I decided to write a novel in which the girl is the hero, and I finished *The Whale Rider* in three weeks," he said.

QUESTIONS ABOUT *WHALE RIDER:*

Carefully observe the relationship between Pai and her grandfather, Koro. How does Koro express his love for Pai?

How does Pai demonstrate the leadership skills Koro hopes to find in one of the boys of the tribe?

HANDOUT 5 ▸ P. 2

CLASS DISCUSSION QUESTIONS:

Explain why you think Koro excluded Pai from the lessons he gave to the boys about how to be a tribal chief.

How do you think this made Pai feel?

Why did Koro so desperately want a male leader to succeed him?

Why does Pai continue to love and respect Koro as he continues to ignore her leadership qualities?

Can you think of other ancient or modern-day cultures that have similar rules regarding lineage and male leadership? Why might this tradition have come about?

Can you remember a time when you felt your special skills or talents were being ignored by someone you love and respect?

HANDOUT 6 ▸ P. 1

Oratory Skills

Oratory skills, the art of speaking in public, and storytelling were considered two of the most important talents in traditional Maori culture. As a culture with an oral history, until more modern times it was the only way stories and histories were passed from generation to generation.

Strong public speaking skills were essential for the tribal chief, who would often dance up and down, cast a spear and intersperse his speech with songs or chants. Speechmaking remains an integral part of contemporary Maori gatherings. Maori people learn to give *mihi* (speeches) publicly from an early age to show reverence for ancestral lineage.

When meeting someone for the first time, or when entering the *marae*, everyone gives a short speech about their *whakapapa* (family tree) including who you are, who your parents are and where your ancestors come from. Other topics covered in *mihi* include tribal history, sayings, and commentary on aspects of daily life.

QUESTIONS ABOUT *WHALE RIDER*:

At what point in the movie does Pai express herself to her family and community in a most memorable way?

What are other examples of skillful speech-giving and storytelling throughout the film?

Why are oratory skills so important to the Maori people?

Handout 6 ▸ p. 2

Class discussion questions:

How important are oratory skills in the United States?

What famous speeches have made a difference in U.S. history?

How are you taught oratory skills as a member of your culture and/or family?

HANDOUT 7 ▸ P. 1 Planning Sheet for Maori Skits

1. How will you get across important points about culture to your audience? (Be sure to include at least one element from each topic covered in class: community space, Maori song and dance, greetings, woodcarving and tattoos, gender issues, and oratory.)

   a.

   b.

   c.

   d.

   e.

   f.

2. What is the basic story line of your skit?

3. Who are the characters in your skit? Which students will play each character?

4. What kind of props will you need?

Your skit will be judged by the following scoring rubric:

Standard	1	2	3	4
Knowledge of Maori culture	Does not understand Maori culture	Has a vague knowledge of Maori culture	Demonstrates understanding of at least 4 aspects of Maori culture	Demonstrates understanding of 6 aspects of Maori culture
Script	Poorly worded script without much thought	Script is unimaginative but sufficient to convey story	Good script with clear plot line and characterization	Strong script with clear evidence of imagination and careful writing
Performance	Actors are not familiar with characters or script	Actors seem to know storyline but not very well-prepared; some mumbling of lines	Good knowledge of lines and clear presentation with appropriate props and gestures	Excellent presentation: voices clear and with emotional content; appropriate gestures and props

Culture and Gender

Enduring Understandings:

- Strength comes in all shapes and sizes.
- Our culture and tradition influence our beliefs about gender roles
- A culture requires both grounding and resiliency to survive or handle adversity

Essential questions:

- How does our society define gender roles?
- How easily do we give up or adjust those definitions?
- How do our definitions and assumptions about gender affect both our personal development and society's progress?
- What qualities help to make a strong and wise leader?

Notes to the Teacher:

In this lesson, students will look at gender issues as they are influenced by culture and tradition. They will challenge assumptions about gender roles and abilities, and will be encouraged to broaden their understanding of what constitutes the definition of "being a girl" or "being a boy." They will also look at examples from the film *Whale Rider* to see how hanging on to stereotypes can limit personal and communal growth.

Before **ACTIVITY 1**, move the desks in your room to allow for walking around and mingling, as if at a party. In this exercise, the students will identify their heroes. They will demonstrate what kinds of people they admire and what qualities they feel are worthy of imitation. They will also learn what qualities the rest of the group values, as they meet and exchange information about their heroes.

In **ACTIVITY 2**, students recall the descriptions that they heard about the "guests" at the Festival. They discover whether or not there were attributes that were assigned exclusively to men or women. They will be asked to look more closely at their heroes and heroines to see if qualities on the "male" list could apply to people on the "female" list, and vice versa.

ACTIVITY 3 works best outdoors or in the gym. If you can do the activity on a dirt or sand surface, you can draw the circle with a stick. The lines on a traditional gym floor will also do. In this exercise, the students will physically explore the notion of being very grounded in their values, while being flexible enough to consider

another point of view. Through the techniques of Greek wrestling, they will see that a solid base and wide stance must be combined with a flexibility that allows you to bend a little and even to fall back sometimes in order to stay in the game. This would be a great way to involve a physical education teacher in the project.

Duration of Lesson:

Two periods

Assessment:

Class discussion
Journal entry

Behavioral Studies Standards
Indicators addressed by this lesson

Standard 1. Understands that group and cultural influences contribute to human development, identity, and behavior.

Level III [Grade: 6-8]

1. Understands that each culture has distinctive patterns of behavior that are usually practiced by most of the people who grow up in it.
2. Understands that usually within any society there is broad general agreement on what behavior is "unacceptable," but that the standards used to judge behavior vary for different settings and different subgroups and may change with time and in response to different political and economic conditions.

Standard 2. Understands various meanings of social group, general implications of group membership, and different ways that groups function.

Level III [Grade: 6-8]

4. Understands that people sometimes react to all members of a group as though they were the same and perceive in their behavior only those qualities that fit preconceptions of the group (i.e., stereotyping) which leads to uncritical judgments (e.g., showing blind respect for members of some groups and equally blind disrespect for members of other groups).
5. Understands that a variety of factors (e.g., belief systems, learned behavior patterns) contribute to the ways in which groups respond differently to their physical and social environments and to the wants and needs of their members.

6. Understands how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture.

8. Understands that a large society may be made up of many groups, and these groups may contain many distinctly different subcultures (e.g., associated with region, ethnic origin, social class, interests, values).

Standard 3. Understands that interactions among learning, inheritance, and physical development affect human behavior.

Level III [Grade: 6-8]

1. Understands that all behavior is affected by both inheritance and experience.

Standard 4. Understands conflict, cooperation, and interdependence among individuals, groups, and institutions.

Level III [Grade: 6-8]

4. Understands how role, status, and social class may affect interactions of individuals and social groups.

5. Understands how tensions might arise between expressions of individuality and group or institutional efforts to promote social conformity.

Materials needed:

Blackboard and chalk or large chart paper
Markers

Procedure:

Activity 1: The Festival (Warm-up)

1. Ask each student to think of a special person he or she would like to invite to a community festival. Students should keep this character secret until they are asked to reveal who it is. The guest may be a hero or heroine, a popular personality, or someone whom they really admire (such as a teacher, grandparent, etc.)

2. On your signal, have students walk about the classroom space as if they were at a party. They can mime eating snacks, drinking pop, etc. Tell them that the hero they have chosen will accompany each student, like an "imaginary friend."

3. When they meet another person at the party, students are to introduce the hero by name and briefly describe his or her most important qualities. (For example, "I am Pat, and this is my guest, Marie Curie. She was a caring person who taught nurses how to X-ray soldiers during the First World War.") The other person responds by introducing his or her chosen hero. ("Great to see you, Pat. Have you met John Glenn? He was an astronaut, who took great risks to explore outer space.")

4. The students then exchange heroes and go on to meet new students and guests. Example: "Hey Pat, why don't you talk to John Glenn, and I will take Marie Curie to meet some of the others."

5. The students continue meeting and exchanging "guests" until the teacher signals everyone to form a circle.

6. The students now go around the circle, and say the name of the "guest" that they have with them at the end of the game. Tell students to listen for the name of the guest they brought. They will notice that some of the original "guests" have disappeared, while others have multiplied.

7. Ask students why some "guests" may have been more memorable than others. Typical responses may be "Because they're famous" or "Because what they did was so great." Tell students that it is not a personal reflection on them if their guest "disappeared" from the party. All it does is show which traits stand out and are most valuable or memorable to the community of the class: the characters with descriptions that were most valued by the class as a whole were the characters who were "unforgettable" and were kept around longest at the party. (You may want to use this idea to describe how legends about people can form and grow.)

8. Ask the class to describe what your class, as a group, must value based on the remaining "guests."

Activity 2: Qualities and Gender

1. Write two headings on the blackboard or chart paper: Male and Female

2. Ask students to call out the qualities that were used to describe the various heroes and heroines introduced at the party, and whether this description was of a male or female.

3. Write the quality under the appropriate heading.

4. When the list is complete, ask students to examine whether there are specific qualities that seemed to be applied only to males or only to females. Ask them to discuss why this happens. Some responses could be history, tradition, culture, stereotyping, etc. Ask them to share expectations in their own family or culture which influence their ideas about roles of men and women.

5. Now ask students to think more carefully about their heroes and heroines and see if they can take words from both lists to apply to that person.

   Example: Marie Curie was very **nurturing** when she took care of soldiers during the war. However, she was also very **courageous** in working in the field of science and medicine at a time when it was difficult for women to do so. She **took risks** with her safety to go to the front to x-ray soldiers to diagnose their injuries.

6. As the students update their descriptions, write the new qualities in the appropriate list under the words Male or Female. At the end of the activity, ask the students to reexamine the lists. They should notice

that gender-assigned words could very easily apply to both women and men, boys and girls.

Activity 3: Rooted in the Earth or Stuck in Mud

1. Have the students stand in a circle. Ask the students to take a stance that they think is strong and balanced, that is, a stance that would be solid enough to defend themselves from the force of an attacker, a strong wind, etc.
2. As the teacher, walk around the circle. As you reach each student, lightly push each one off balance. If there are any whom you cannot move, take note, as you will want to use them for demonstration purposes.
3. Now demonstrate the correct stance for Greek wrestling (feet about shoulder width apart, knees slightly bent, upper body erect, hips to the front and slightly forward).
4. Invite one or two students to try to knock you off balance. Encourage them to push as hard as they can. They will discover that they cannot put you off balance.
5. Ask them to imitate your stance, and then check each to see if they have created a stable base.
6. Explain to the students that this stable stance is the same in life: Many cultures believe that we must be rooted in the earth, as in our beliefs.
7. Remind the students that, at the same time, we don't want to be just "stuck in the mud" or so stubborn that we don't change our thinking when we should.
8. Ask the students to think of characters from the film *Whale Rider* who were grounded in tradition. Which characters were stronger because of their grounding? Which characters were "stuck in the mud" and unable to bend? (If necessary, help the students remember that the grandfather was stuck in the old ways, so he was thrown off balance when his son didn't train to be the next leader, and when his granddaughter did. Pai, on the other hand, was not stuck in tradition. She could see other alternatives even though she was strongly rooted in her culture and she believed, perhaps more than anyone, in the power of their myths and legends.)
9. Demonstrate how easy it is to unbalance someone who is too inflexible by once again taking your proper stance, while keeping even the upper body very rigid. Explain to the students that this is called "Rock." Invite students to try to put you off balance, by holding both your hands (outstretched in front of you) and pushing or pulling. They should find that they can do it.
10. Then let your upper body be very flexible. Demonstrate that some flexibility actually creates more balance, by waving arms, torso, and shoulders loosely. Tell students that this position is called "Water." Let the students try to push and pull you again, as your fingers are locked, arms in front of each of you. They will find that they can't because your upper body can "roll with the punches" without affecting your solid stance.
11. Explain that they can push the rock, because it is rigid and it has no give. They can't push or pull the water,

because it is flexible. It can give and take. It can even fall back, and give into the other person, thus causing the person to come toward them.

12. Let the children experience this by working in pairs. Each student will take the stable stance, but alternate being rock or water with the upper body. Each student should hold his or her hands out in front and pairs should lock fingers and push or pull the other person. Students will see the difference when someone takes their hands and tries to put them off balance. Ask them to explain what happens to the rock, when the water pushes slowly and gently, but persistently. What happens to water, when it receives a force?

13. Relate this to life, by talking about how this would apply to a conflict situation, where one person stays entrenched in their position, while the other is able to give a little, and take a little. Compare it to the game of Rock, Paper, Scissors,* where the weaker paper can cover the rock. Also, think of how the sea wears away at rocks with patience and time.

14. Relate this discussion to the film by talking about how the grandfather's rigid stance made him ill, harmed the leadership of the community, and alienated his own son and wife. Pai on the other hand, did not argue. She listened, and then tried to show with hard work and courage how she could be a good leader for the community.

15. Conclude by asking students to write a journal entry about what new insights they have gained from this lesson.

Extension Activities:

1. Have students write a convincing letter from Pai to her grandfather, asking him to consider her as the new leader.

2. Have each student write a speech to present to the class explaining why he or she would be a good class leader, librarian, attendance monitor, gym assistant, mediator, etc. Encourage the students to use adjectives describing aspects of their abilities that they may not have considered (or typically felt comfortable) presenting to their peers.

3. Have the students bring in magazines and newspapers and clip images of boys and girls, women and men, words, objects and so on. Working individually or in groups of two or three, students can make a collage to express their feelings and observations relating to gender bias in the media.

* Rock, Paper, Scissors is a children's game in which two children begin by each holding one hand behind his or her back. Then they chant together, "Rock, scissors, paper!" and simultaneously put out the hidden hand to reveal either a fist to represent rock, a firm and outstretched hand to represent paper or only the index and middle fingers to represent scissors.

The winner is determined in the following way: Rock breaks (beats) the Scissors, Paper covers (beats) Rock, Scissors cuts (beats) Paper

Special Effects and Music:
How Filmmakers Evoke Emotion in an Audience

Enduring Understandings:

- Filmmakers use media techniques (camera shots, sound, lighting, special effects) to create certain emotions in the viewers of the film.
- Special effects used to make a story believable or entertaining can deceive the viewer.
- Music has the power to influence our emotions.

Essential Questions:

- How and why are special effects used in films and other media?
- What is a score and what effect does it have on the experience of the viewers?

Notes to the Teacher:

This lesson deals with the use of special effects, music and sound in films in order to elicit an emotional response from the viewer. In the first activity, students review the film by listing things they liked or disliked, by asking questions about things they didn't understand, and by identifying repeated patterns that appear in the film.

In the second part of the lesson, students will have an opportunity to become more analytical as they view films, learning to decode and deconstruct the messages and images that are being presented. The lesson looks at the use and value of special effects in films: moving the story along, adding to the credibility of a story, and providing entertainment value. This activity allows students to realize that some of the things they viewed in the film are not real, but are instead special effects. It is important to allow the students to discover this for themselves, through question and answer.

For **Activity 3**, you will need to explain how a film score is written. The film score is usually created by one main writer, and songs may be added by other contributing writers. Prior to writing any music, a composer will usually read the script and then meet with the director and producers to discuss the overall vision of the film. This will include how much music to include, the budget for music, the emotions the director is trying to convey throughout the film, the instrumentation, etc. During this time the composer will take notes to record all of the requests and expectations of the team. Then the

composer will begin to write his or her music for the film. Music is usually one of the last pieces of the film puzzle, which puts a lot of pressure on the composer to tie all of the elements together and get the final message across to the audience. Once the music is completed and approved, it is placed into the final mix by a sound mixer to work with the film.

Duration of Lesson:

Two periods

Assessment:

Student discussion

Materials needed:

Video recorder or DVD player
Copy of *Whale Rider*

Procedure

Activity 1: Deconstruction Exercise

1. Place the four titles, "Likes," "Dislikes," "Puzzles" and "Patterns" across the top of the chalkboard.
2. Define these titles as follows:

   Likes: What did you like about the film? (Examples: The students may like the fact that Pai was finally acknowledged, the way she performed her speech, or the fact that she became the chief.)

   Dislikes: What didn't you like? (Examples: How sad the movie was when the mother and baby died or how Koro [Pai's grandfather] ignored Pai.)

   Puzzles: What parts did you not understand? (Examples: Why wasn't Pai allowed to join in the training for chief? Where did her father go?)

   Patterns: Did you notice any patterns in the film? Which images, sounds, props, film techniques, etc., were used repeatedly in the film? (Examples: Whales and the whale calls were used repeatedly in this film as a spiritual reminder of the connection to the ocean and the Maori ancestry; narration throughout the film by Pai who was telling her people's story; storytelling to pass along the traditions and folklore

of Maori culture; repeated chanting in the soundtrack; repeated shots of Maori carvings.)

3. If one item appears in more than one column, have students discuss their different points of view. For example, one student may dislike the fact that Pai got to be the chief but another may find it puzzling that Pai's father didn't become chief. This process leads to a rich discussion and clears up questions. It gives you your first opportunity to assess how well the students understand the text and subtext of the film.

ACTIVITY 2: "But they look so real!"

1. Ask the students: "How do you think the whales got on the beach?" Some students may answer that the director might have used bait, that the film crew changed the water temperature, that they roped the whales and led them, etc. Hopefully one student will volunteer the real answer. . .THEY AREN'T REAL!

2. Discuss special effects and how they can play tricks with our imagination, especially when they are juxtaposed with reality. Let your students know that even adults can be tricked into believing the whales were real because everything else in the movie is so real. For example, if the movie were a cartoon and we saw "live" whales on a cartoon background, we might believe that the whales were simply a different form or style of drawing. But, since *Whale Rider* is filmed in a real setting (not a Hollywood creation) with members of the Maori community (not trained actors), we tend to assume that the whales are also real.

3. Explain to the students that in some movies, the budget will limit production values like special effects, elaborate costumes, make-up, etc. You can talk about *The Cup* and *Children of Heaven* as examples of lower budget and less visually elaborate films if you have already viewed them as part of your film curriculum. But the makers of this movie, shot in New Zealand where *Lord of the Rings* was shot, were able to hire the same special effects person for *Whale Rider*. Ask: So Pai didn't ride the whale after all?

4. Show Scene 22 (Pai's close-up scene with the beached whale) and stop the action as Pai is close to the whale, touching his head, etc.

5. Give the students time to examine the details of the head, eye, and barnacles crusting the whale's face and think about what materials may have been used to make the whales look so real. It is possible that many real-life materials were added to the original whales to help make them look authentic. For instance there may have been real shells and barnacles glued onto a fake whale's face. Real water may be pumped out of his blow hole.

6. Ask students: "Why are we so quick to accept these fake things as real?" You may get some of the following answers – we want to believe; they are so believable; you aren't concentrating on the details when you watch a movie. There are many tricks and technologies that fool our senses such as airbrushing, adding props with blue screens, changing backgrounds in photographs, etc.

7. If you have a DVD of *Whale Rider*, watch the "Behind the Scenes" section on how the film was made to learn more about the special effects.

Activity 3: Music and Emotions

1. Ask students to suggest some of the elements used in the making of a film that play on our emotions. (Camera shots, acting, editing, special effects, sound effects, lighting, music.)

2. Explain that music used as background for the film is called a film score. Ask students to recall what they remember about the score: instrumentation, volume, repeating notes, voices, chanting, etc. Tell the students that this score was composed by a woman named Lisa Gerrard, who is well known as an award winning musician and composer.

3. Talk about how a film score is written, using information in Notes to the Teacher, above.

4. Watch the clip of Scene 17 from *Whale Rider* (the scene where Pai calls the whales) without sound and with subtitles. What did you notice? (Camera focusing on one thing, then moving to next character or object; scene is like a big collage with little to tie it all together; the scene feels a little bit slow and empty, without too much emotion.)

5. Re-play scene 17 with the music. Then discuss the following questions:

   a. How did the music change your viewing experience?

   b. What does music add to a film? (Movement, drama, emotion, continuity)

   c. When we hear Pai, what does her voice add? (Her voice is haunting, sad, spiritual)

   d. When the whales were shown, what did the music add to the moment? (More hopeful, less sad, powerful)

   e. Why do we like music so much? (It touches us emotionally.)

6. Ask students to think of a song that conveys a particular emotion. Give one student a chance to name the song and the feelings evoked by it. Do other students agree? Repeat for several students and songs.

7. Ask: Why do most people agree on the feelings evoked by a song? (Music is a common language.) Explain that when we see a film with all of these creative contributions (or any medium–a television show, for example), we should remember if one person is feeling the mood of the music, chances are others are having a similar reaction to it.

8. Discuss the idea that these common reactions to music are intentional on the part of the filmmakers. The music is strategically placed to set a certain mood or help convey a message. (The underlying purpose of this lesson is to teach students that we as viewers have an emotional response based on the intentional techniques used to produce that response. Music in particular plays a huge role in getting an emotional response from the audience.)

9. If you have a DVD of *Whale Rider*, watch the "Behind the Scenes" section on how the film was made to learn more about the film score.

10. Assignment: Ask students to watch television that uses music (programming, advertising, etc.) and take notes on how music and sound play a role in creating an emotional response. Ask students to report for the following day's class.

Extension Activities:

1. Explain that when we take something artificial and place it in the middle of real things, it begins to look more real. Our mind's eye just wants to believe it. We have no reason to doubt that it is real. Ask the students to use their imagination and create a special effect to make something appear real that is not. Some examples are:

- a fake fruit mixed with real ones in a photograph
- a fake flower in a real vase with real water
- a picture of a person with a fake background
- a flickering flashlight and a bell chime to indicate the presence of fairies
- ketchup on a piece of cloth next to a fake weapon or on a piece of clothing
- a sculpted model of food in a fast food wrapper, etc.

Have fun with this and share the ideas with each other. Students might choose to create photographs, collages, videos, drawings, sculptures or other media to demonstrate how easy it is to deceive the viewer by slipping a fake item in with a real item.

2. If a music teacher at your school can elaborate on teaching about music scores, students can be encouraged to write their own mini score (3 or 4 minutes). Have the whole class look at the same scene and time it with a stopwatch, recording the action and dialogue with exact duration from one thing to the next on the board. Students will have to copy this information carefully as they may not have the film available at all times. Then the students should compose (on an instrument or on paper) and perform or record their film scores. Afterward students can screen their films with music for the class and request comments from their peers regarding any emotional responses, etc.

3. Put a short scene from *Whale Rider* to different music. As a class, pick a short scene from the film and show it in its original form. Now using available music CDs, either as one large group (repeating the exercise once or twice) or in groups of five or six (sharing with the class), pick a different style of music to accompany the same scene. Evaluate: How did it work in the film? Did the viewer feel differently about the same scene with different music? This is an opportunity for students to share their taste in music or express their creativity.

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Echolocation

Enduring Understandings:

- Some animals communicate, navigate and interact with their environment using senses different from those used by humans.
- Although we think it's easiest to navigate through our environment by "seeing" what's in front of us, not all creatures would find it practical to use their "eyes" like we do.
- We can organize the information we know about our environment by mapping.

Essential questions:

- What is a whale? What are some basic facts about whales?
- How does the process of echolocation work, and under what situations is this process useful?
- Why doesn't every animal "see" as we do?
- How do we create a scale map of our environment?

Notes to the Teacher:

Whales are fascinating animals about which students generally have little understanding. Are they fish or are they mammals? Do they breathe in air or in water? Studying whales gives the students the opportunity to examine the definition of a mammal and see how an animal so different from humans in fact falls into the category of mammal. In addition, the blue whale is the largest animal that has ever lived on earth, automatically making it an exciting species to study!

Understanding an animal is the first step to caring about its survival and welfare. Many species of whales are currently classified as endangered. Seeing these majestic marine animals suffering at the hands of man allows students to think about the powerful effects that we humans have over the environment and over creatures that completely dwarf us. It is only when students realize that even the largest of animals needs our compassion and assistance that they can truly appreciate the serious responsibilities that accompany the privileges man enjoys.

Activity 1 is intended to allow students to learn about species of whales and dolphins found in the South Pacific Ocean and express their learning /understanding/ feelings through an artistic medium. The key idea behind this activity is not to accumulate a checklist of facts, but to learn about whales almost effortlessly, simply by learning to read better! This lesson involves reading for information. Yes, you can see your students' eyes glazing over already, right? Wrong! This activity will allow you to explain to your students that sometimes it's natural to be bored by pages of "information" so you are going to give

them some tricks so that each group can self-monitor their "information intake." These "tricks" are really the things that curious, involved, inquisitive readers instinctively say (aloud or in their head) when they read. Many students are weak readers, and even more do a sub-par job of reading for information. By allowing students to model the internal behavior of successful students, they will learn how to interact with text, how to stop and think about what they are reading in order to make the connections necessary for comprehension and memory, and how to enjoy reading.

Activity 2 asks the students to perform precise measuring within the context of a chaotic environment, which simulates the experiences of whales in an ocean full of man-made noise pollution. The goal is not necessarily to perform the most accurate calculations, but to understand the issues that arise when one attempts to perform accurate calculations amid a "sea of noise."

To prepare for **Activity 2**, read through the activity to understand what the students will be doing. Decide how you would like to introduce students to the topic of echolocation. You may choose to photocopy the introduction for each group, or you may wish to begin with a whole-class introduction to echolocation and its social context.

Decide ahead of time which size of group is appropriate for your classroom. This activity can be done in a number of ways: smaller groups will take longer to develop their maps; larger groups will allow students to appreciate issues surrounding the "timing" of sending out clicks (i.e., if too many signals are returning at once, then it is more difficult to incorporate all the information received by the echoes). Ideal group size is likely 4 – 6 students, but groups could be of any size.

Place objects around the room as desired for students to "discover." You may wish to move traditional desks to the perimeter of the room and instead create an artificial ocean environment with, for example, one desk representing a "food source" and another desk representing an "ocean cave." If you have access to the school gym, or if weather permits for an outside lesson, you may wish to take advantage of the naturally open space.

Note: Groups will likely be able to "see" whatever objects are in their environment and will send messengers out accordingly. If you have the opportunity to place less visible objects (i.e., Ping-Pong balls in longer grass or small stickers on the gym floor) around the environment, then the task will become a little more difficult, and perhaps more fun.

Duration of Lesson:

Two periods

Assessment:

Student discussion
Student maps
Student calculation of distances and scales

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Standards
Indicators addressed by this lesson

Standard 5. Understands the structure and function of cells and organisms

Level III [Grade: 6-8]

4. Knows that multicellular organisms have a variety of specialized cells, tissues, organs, and organ systems that perform specialized functions (e.g., digestion, respiration, reproduction, circulation, excretion, movement, control and coordination, protection from disease)

5. Knows that organisms have a great variety of body plans and internal structures that serve specific functions for survival (e.g., digestive structures in vertebrates, invertebrates, unicellular organisms, and plants)

6. Knows how an organism's ability to regulate its internal environment enables the organism to obtain and use resources, grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment

7. Knows that organisms can react to internal and environmental stimuli through behavioral response (e.g., plants have tissues and organs that react to light, water, and other stimuli; animals have nervous systems that process and store information from the environment), which may be determined by heredity or from past experience

Standard 6. Understands relationships among organisms and their physical environment

Level III [Grade: 6-8]

2. Knows factors that affect the number and types of organisms an ecosystem can support (e.g., available resources; abiotic factors such as quantity of light and water, range of temperatures, and soil composition; disease; competition from other organisms within the ecosystem; predation)

Standard 9. Understands the sources and properties of energy

Level III [Grade: 6-8]

7. Knows that vibrations (e.g., sounds, earthquakes) move at different speeds in different materials, have different wavelengths, and set up wave-like disturbances that spread away from the source

Standard 10. Understands forces and motion

Level III [Grade: 6-8]

3. Knows that an object's motion can be described and represented graphically according to its position, direction of motion, and speed

5. Knows that an object that is not being subjected to a force will continue to move at a constant speed and in a straight line

Standard 12. Understands the nature of scientific inquiry

Level III [Grade: 6-8]

5. Uses appropriate tools (including computer hardware and software) and techniques to gather, analyze, and interpret scientific data

7. Knows that scientific inquiry includes evaluating results of scientific investigations, experiments, observations, theoretical and mathematical models, and explanations proposed by other scientists (e.g., reviewing experimental procedures, examining evidence, identifying faulty reasoning, identifying statements that go beyond the evidence, suggesting alternative explanations)

Materials needed:

For each group, you will need:

- Pencils/erasers
- Ruler
- Protractor
- At least one stopwatch or watches/clocks that display seconds
- **Handout 1: Fact Sheet – What Is a Whale?**
- **Handout 2: Student Introduction to Echolocation**
- **Handout 3: Instructions for the Echolocation Activity**
- **Handout 4: Average Walking Speed**
- **Handout 5: Establishing a Scale**
- **Handout 6: Calculating Distances**
- 3-4 sheets of blank paper

(**Note:** Depending on the time available and the ability level of your students, you may wish to follow the instructions on **Handout 5** yourself and provide ready-made copies of map templates with pre-made scales (instead of blank paper). More advanced groups or groups with more time should be able to create their own maps directly from blank sheets of paper with the aid of this handout.)

Procedure

Activity 1: Learning About Whales

1. Introduce the topic of whales by asking students what they already know about whales. ("Who can tell me something about a whale?" or "What do you think of when you think of whales?" are two possible questions to get the discussion started.)

2. Distribute **Handout 1: Fact Sheet – What Is a Whale?** and allow students to read the information together in groups. As it can be easy for students to simply gloss over printed information, each group should be encouraged to read *for information*, that is, with the goal of truly understanding and taking in the information presented. Explain to your students that sometimes it's natural to be bored by pages of "information" so you are going to give them some tricks so that each group can self-monitor their "information intake." The tricks are:

   a. Really?!?! – encourage group members to periodically stop after reading a fact and exclaim, "Really?!" This will force the group to stop and think about what they've just read. Upon hearing a group member say, "Really?!" the entire group must stop and think about the significance of what they've just read. Is it surprising? Is it cool? Is it scary? Is it disgusting?

   b. I never knew that! – Any student at any point in time may say, "I never knew that!" at which point the rest of the group must, in turn, say whether or not they knew that. If students know something

related to the fact, they should share what they do know, and how they know it/where they learned it.

c. What does that mean? – Students should be encouraged to ask, "What does that mean?" whenever they find themselves thinking it. Then, the group must stop and try to come to a conclusion so that everyone understands what the phrase or sentence means.

d. That makes me think of . . . – At any point during the reading activity, a student may call out, "That makes me think of. . . " at which point, at least two or three group members should share what tangential thoughts come to mind as a result of what the group just read.

Let the students know that reading doesn't necessarily have to be a *quiet* activity. In fact, when reading for information, the more dialogue the better. The more students discuss the information, the better opportunity for comprehension and later recall.

3. If a final product is desired, each group can create something to hang on the wall that represents their experience during the activity. It can be a word map, an artistic creation, a list of facts . . . anything that can be displayed visibly as a reminder of what they have read. The product can represent facts, new vocabulary, or even emotions associated with the day's learning.

4. Allow groups to present their product, if desired, or simply display the products and allow "viewing time" so that groups can look at each other's work.

ACTIVITY 2: Echolocation

1. Place the class into groups. Each group should have a "center" from which to create their maps with all student materials at the center.

2. Introduce the topic of echolocation using the material in the **Notes to the Teacher** section. This may be done as a whole-class activity (teacher-led introduction) or by giving copies of **HANDOUT 2: STUDENT INTRODUCTION TO ECHOLOCATION** to each group. Encourage questions and discussion at this stage. Explain to your students that they will be imitating the process of echolocation by each becoming "clicks and echoes" and navigating through an "ocean environment" for the purpose of creating a scale map of the ocean.

3. Go through **HANDOUT 3: INSTRUCTIONS FOR THE ECHOLOCATION ACTIVITY**. Depending on the ability of your class, you may wish to read through the instructions with the class as a whole or let each group read the instructions on their own. Invite them to ask for help or clarification as they need it.

4. Calculate Average Walking Speed. Groups will begin by determining each member's average walking speed, as instructed on **HANDOUT 4: AVERAGE WALKING SPEED.**

5. Decide who does what. Each group should choose a main "navigational coordinator" who will be responsible for sending out the clicks. Depending on the size of the groups, you may wish to have two students work together in this role, taking turns. Students may wish to assign different tasks to different group members (one calculates distance, one converts to a scale distance, one locates on the map) or the group can

work as a team to accomplish these goals with any division of labor that seems appropriate.

6. Establish the timing routine. The navigational coordinator will select messengers and tell them in which directions to travel. The navigational coordinator (or an assistant) will record the exact time the messenger leaves the center (including seconds). Alternatively, students can use a stopwatch to determine the length of time between a messenger's departure and arrival. If you choose to have students keep track of arrival and departure times, then several messengers can be out at the same time; however, students will have to perform the added calculation of determining the length of time the messenger was away from the center. If you choose to have students use stopwatches (recommended only if the added calculation is seen as too difficult or time consuming), then one stopwatch per messenger is required. Students will then not need to calculate elapsed time.

7. Send out the "clicks." Messengers acting as "clicks" must travel in a straight line until they hit an object (any object, including another messenger) at which point they turn around and head back along the same path. As they are walking back toward the center, they represent echoes.

8. Have the navigational coordinator record the exact time (including seconds) of the echo's return. The echo will inform the navigational coordinator, to the best of his ability, what object he hit that forced him to bounce back. (NOTE: Some objects may be unknown, especially if it was another "messenger" that reflected the click.)

9. Have students calculate the distance traveled by the click. The navigational coordinator (or the messenger) can be responsible for determining the distance between the whale center and the object, using the equation *distance = speed x time*

10. Convert the actual distance to a scale distance. Instructions are on **Handout 5: Establishing a Scale** and **Handout 6: Calculating Distances**.

11. Have students plot their findings on the map. The group should place the object on the map at a suitable distance and direction from the whale center.

12. Continue to send out multiple clicks. The group continues mapping the environment by sending out multiple messengers in all directions. The group may wish to send messengers out in the same direction more than once to "double check" their findings. The group can experiment with the timing of sending out messengers – too many messengers at once can lead to confusion when they all return at the same time; too few messengers leads to a very slow accumulation of data.

13. You may specify a time limit to this activity, in which case students will map as much of the environment as they can. Alternatively, you can decide that students are "finished" when they have mapped a minimum number of objects, or a certain defined list of objects. (Although the map is a key component of this exercise, remember that the goal is to experience the process of mapping through echolocation. Having a few items mapped accurately and having gained an appreciation of the form of mapping is just as desirable an outcome as having a completed map.)

14. Allow students the opportunity to discuss, either in small groups or as a whole class, their experiences. Be sure to cover the Discussion Questions at the end of **Handout 3**.

Extension Activities:

1. Have students research the problem of noise pollution as it relates to whales and their environment. Students can write a concerned letter expressing the need to control noise pollution.

2. Have students research other animals that rely on sonar-type communication and/or navigation systems (e.g., bats).

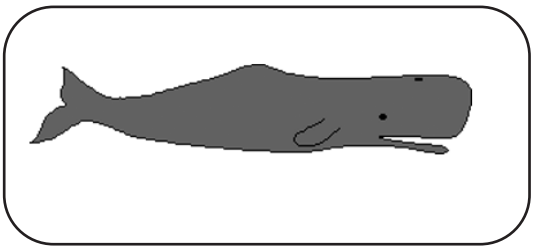
3. Have students hold a debate on the issue of government/military use of water space (for defense or for research) that negatively affects marine life.

4. Not all whales use echolocation. Students can research to compare and contrast those that do vs. those that do not use echolocation. What specific features do echolocation whales have that other whales do not? Where do whales with echolocation live compared with where other whales live? Why might they have developed this way, in this area?

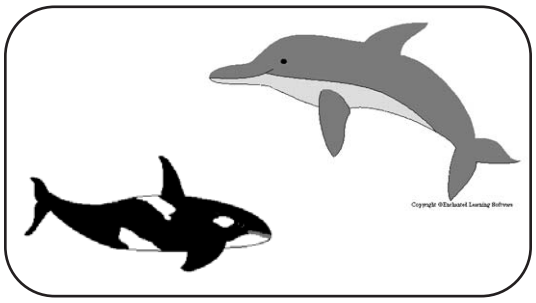
HANDOUT 1 ▸ P. 1 FACT SHEET – What Is a Whale?

Living in the Ocean

Whales are large, magnificent, intelligent, aquatic mammals. They breathe air through blowhole(s) into lungs (unlike fish, which breathe using gills). Whales have sleek, streamlined bodies that move easily through the water. They are the only mammals, other than manatees (seacows), that live their entire lives in the water, and the only mammals that have adapted to life in the open oceans.



Whales breathe air. They are NOT fish. They are mammals that spend their entire lives in the water.



Cetaceans are the group of mammals that includes the whales, dolphins, and porpoises.

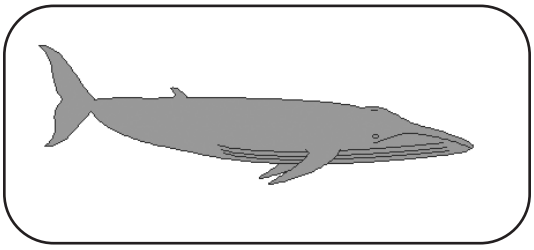
Like all mammals:

- Whales breathe air into lungs.
- Whales have hair (although they have a lot less than land mammals, and have almost none as adults),
- Whales are warm-blooded (they maintain a high body temperature).
- Whales have mammary glands with which they nourish their young.
- Whales have a four-chambered heart.

Size

The biggest whale is the blue whale, which grows to be about 94 feet (29 m) long – the height of a 9-story building. These enormous animals eat about 4 tons of tiny krill each day, obtained by filter feeding through baleen. Adult blue whales have no predators except man.

The smallest whale is the dwarf sperm whale, which as an adult is only 8.5 feet (2.6 m) long.

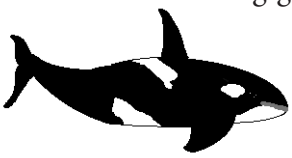


The blue whale is the largest animal that has ever existed on Earth. It is larger than any of the dinosaurs were. It's also the loudest animal on Earth.

HANDOUT 1 ▸ P. 2

Two Types of Cetaceans

Cetaceans include the whales, dolphins and porpoises. There are over 75 species of Cetaceans. Whales belong to the order Cetacea (from the Greek word "ketos," which means whale), which is divided into the following groups:



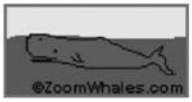
Toothed whales (Odontoceti) – predators that use their peg-like teeth to catch fish, squid, and marine mammals, swallowing them whole. They have one blowhole (nostril) and use echolocation to hunt. There are about 66 species of toothed whales.

Baleen whales (Mysticeti) – predators that sieve tiny crustaceans, small fish, and other tiny organisms from the water with baleen. Baleen is a comb-like structure that filters the baleen whales' food from the water. Baleen whales are larger than the toothed whales and have 2 blowholes (nostrils). There are 10 species of baleen whales.

Swimming and Other Water Activities

Whales have a streamlined shape and almost no hair as adults (it would cause drag while swimming). Killer whales and Shortfin Pilot whales are the fastest, swimming up to 30 miles per hour (48 k/h).

Whales swim by moving their muscular tails (flukes) up and down. Fish swim by moving their tails left and right.



Breaching: Many whales are very acrobatic, even breaching (jumping) high out of the water and then slapping the water as they come back down. Sometimes they twirl around while breaching. Breaching may be purely for play or may be used to loosen skin parasites or have some social meaning.

Spyhopping: This is another cetacean activity, in which the whale pokes its head out of the water and turns around, perhaps to take a look around.

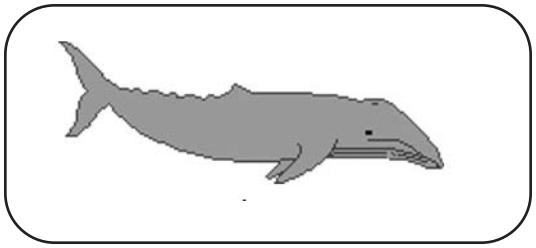
Lobtailing: Some whales stick their tail out of the water into the air, swing it around, and then slap it on the water's surface; this is called lobtailing. It makes a very loud sound. The meaning or purpose of lobtailing is unknown, but may be done as a warning of danger to the rest of the pod.

Logging: Logging is whate a whale does when it lies still at the surface of the water, resting, with its tail hanging down. While it floats motionless, part of the whale's head, the dorsal fin or parts of the back are exposed at the surface.

HANDOUT 1 ▸ P. 3

Migration

Many ceteaceans, especially baleen whales, migrate over very long distances each year. They travel, sometimes in groups (pods), from cold-water feeding grounds to warm-water breeding grounds.



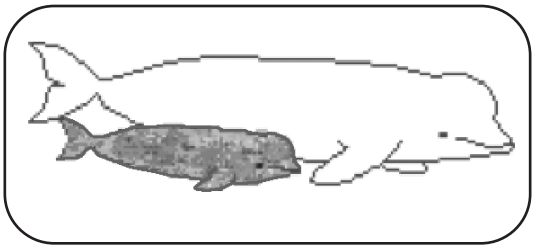
Gray whales make the longest seasonal migration of any of the whales. They travel about 12,500 miles each year

Social Behavior

Cetaceans have very strong social ties. The strongest social ties are between mother and calf. A social group of whales is called a pod. Baleen whales travel alone or in small pods. The toothed whales travel in large, sometimes stable pods. The toothed whales frequently hunt their prey in groups, migrate together, and share the care of their young.

Reproduction

Cetaceans give birth to live young, which are nourished with milk from their mothers – they don't lay eggs. Cetaceans breed seasonally, usually in warm tropical waters, and females usually have one calf every 1-3 years. The gestation times range from 9 to 18 months. Whale calves can swim at or soon after birth. Mother whales care for their young for an extended period of time, usually at least a year, feeding them milk and protecting them.



Young cetaceans are frequently mottled in color, camouflaging them from predators. Newborns have a sparse covering of hair, which they lose as adults.

Whale Songs

Complex whale songs can be heard for miles under the water. The humpback's song can last for 30 minutes. Baleen whales sing low-frequency songs; toothed whales emit whistles and clicks that they use for echolocation. The songs are thought to be used in attracting mates, to keep track of offspring, and, for the toothed whales, to locate prey.

Classification of Cetaceans

Handout 1 ▸ p. 4

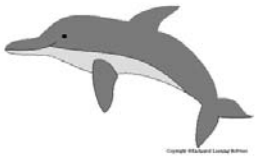
Cetaceans are divided into the following suborders:

killer whales or orcas

beluga whales

Odontoceti (toothed whales) narwhals

sperm whales



the beaked whales, dolphins , and porpoises

Mysticeti (mustached whales) or baleen whales - blue whales

humpback whales

gray whales

bowhead whales

minke whales

Primitive Whales and Evolution

Primitive whales evolved during the mid-Eocene period, about 50 million years ago. Fossil remains indicate that whales evolved from hoofed land mammals – perhaps the shore-dwelling, hyena-like Mesonychid that returned, bit by bit, to the sea roughly 50 million years ago.

Another possible step in whale ancestry is the otter-like Ambulocetus, an extinct mammal the size of a sea lion, 10 feet (3 m) long and about 650 pounds. Its limbs allowed it to swim and could also support it on land. It had long, powerful jaws with shark-like teeth, a small brain, and a pelvis fused to its backbone (like land-dwelling mammals but unlike whales).

Basilosaurus, a very primitive, extinct whale had a tiny head and pointed snout with teeth, unlike modern-day whales, which have large heads and a blunter snout. It was about 82 feet (25 m) long.

Endangered Whales

There are many species of whales that are in danger of going extinct. Most baleen whales (the huge whales targeted by commercial whalers) are listed as endangered or protected species. These large whales are filter feeders and are among the largest animals on earth. They have baleen plates instead of teeth, which are used to filter tiny organisms, like krill and small fish, from the water. They use their tongue to dislodge the food from the baleen and swallow it. Baleen is made of keratin, the same protein that our hair and nails are made of. Most other whale species are doing well and are not endangered.

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Handout 2 Student Introduction to Echolocation

Background: Echolocation is the way in which some species of animals see, hear and speak. These animals are able to send out signals and time how long it takes for them to receive an echo back. Whales send out sounds called "clicks" which transmit easily through water until they hit an object. At that point, the click is reflected back to the whale in the form of an "echo." When whales receive echoes, they are able to determine the position, size and nature of objects in their environment. Echolocation compensates for the difficulty whales have seeing in the dark, dim oceans.

Social Context: Researchers often use the unique skills of other species to improve our own technology. Human-made echolocation is known as sonar. Organizations like the U.S. Navy use sonar to monitor the oceans for submarine activity. The types of frequencies that are best able to detect foreign submarines at a great distance are the same types of frequencies emitted by whales to navigate, communicate and find food. Some believe that whale communities are suffering because this "noise pollution" distorts the whale's own signals and leads to miscommunication and an inability to navigate properly. Human activity such as drilling, shipping and submarine activity has also led to noise pollution in the oceans. In addition to affecting a whale's navigation system, this ocean noise may be severely damaging to a whale's hearing system.

Lesson Objective: This lesson is intended to allow you to experience the process of echolocation as a navigation tool. As our ears are not designed to make the fine distinctions that other species can, you will imitate the process by acting as sound waves.

You and your group members will be sent out from the "whale center" as "clicks" and will continue traveling in a straight line until you are reflected back by an object in the environment. You will return following the same straight line, and your total time away from the center will be used to determine how far away you were when you hit an object. Then, this information will be used to create a scale map of the environment.

As you go through this activity, keep in mind that some whales send out several clicks per minute, and therefore they receive back several echoes per minute. A whale's brain has to interpret all these data at once, in its head, to understand what is in its surrounding environment. You will probably find that it is difficult enough with your own group out walking around – but you'll be competing for information with other groups, too. It won't always be real objects that send you back to your center – it could be other clicks that you run into. And, if you run into another student as you're on your way back to your center, then you will be forced to turn around and walk *away* again. Talk about a confusing message to bring back to the whale center!

Scientists always talk about the wonders and skills of the human brain, but after this activity, you'll certainly come to respect the abilities of whales.

HANDOUT 3 ▸ P. 1

Instructions for the Echolocation Activity

1. **Calculate Average Walking Speed.** Use the "Average Walking Speed" handout to determine the average walking speed of each member in your group.
2. **Choose a "whale brain."** Your group should choose a main "navigational coordinator" who will be responsible for sending out the clicks.
3. **Keeping Time.** The navigational coordinator will select messengers to act as "clicks" and will tell them in which directions to travel. He or she (or an assistant) will record the exact time the messenger leaves the center (including seconds) on the "Calculating Distances" handout using a watch or a clock. If your group has been told to use a stopwatch instead, then start the stopwatch as soon as the messenger leaves the center.
4. **Send out the clicks.** Messengers acting as "clicks" must travel in a straight line until they hit an object (any object, including another messenger) at which point they must turn around and head back along the same path, as "echoes."
5. **The echoes return.** The navigational coordinator will record the exact time (including seconds) of the echo's return, or will stop the stopwatch and record how much time has passed on the "Calculating Distances" handout.
6. **The echo reports.** The echo will inform the navigational coordinator, to the best of his ability, what object he hit that forced him or her to bounce back.
7. **Calculate the distance traveled by the click.** The navigational coordinator (or the messenger) can be responsible for determining the distance between the whale center and the object using the equation *distance = speed x time*
8. **Convert the actual distance to a scale distance.** The group must then convert the actual distance into an appropriate distance for the scale map. Instructions are on the "Establish a Scale" handout.
9. **Plot on the map.** The group should place the object on the map at a suitable distance (using a ruler) and direction (using a protractor) from the whale center.

10. **Continue to send out multiple clicks.** Continue to map your environment by sending out multiple messengers in all directions. Your group may wish to send messengers out in the same direction more than once to double check your findings. What happens if you only send out one messenger at a time? What happens if you send everyone out at once?

11. **Discussion and Conclusion.** Discuss the following questions with your group:

    - Although echolocation seems like a difficult and complicated method for humans to figure out what's in their environment, this doesn't mean that echolocation is a less effective means for gathering information. It just means that it's not effective for humans in their daily life. In fact, humans have designed technology to allow them to use echolocation in certain environments. In what ways is echolocation a good method for whales to "see" their environment? Why do you think whales developed this skill?

    - Did your group have any difficulties with this activity? If so, what interfered with your ability to use echolocation? What kinds of difficulties would whales encounter as they use echolocation? What are the possible effects of receiving corrupted information from echoes – for example, misinformation about where food is located, about where the pod is going, about where danger lies?

HANDOUT 4

Average Walking Speed

When whales use echolocation, they figure out how far away objects are, based on how long it takes their clicks to return back to them as echoes. Whales instinctively know how fast their sound waves are traveling in water. In fact, the speed that sound travels in water is approximately 1500 m/s.

To perform your echolocation activity, you will first need to figure out how quickly your sound waves (that is *you*!) travel through the environment. To do that, you will calculate your *average walking speed* as instructed below.

1. Find a clear spot in the room.
2. Mark a starting point on the floor.
3. Have another member of your group time you as you walk in a straight line for 5 seconds. Don't try to walk too quickly or too slowly. Walk at the same speed you plan to walk for the rest of the activity.
4. Measure how far in meters you walked in 5 seconds. Write this number down in your "Distance" column.
5. In your "Time" column, write down 5 seconds. (Note: If you ran out of space walking for 5 seconds, then you can always walk for a shorter time. Just make sure that you write down the actual number of seconds you walked in the time column.)
6. Fill in the "speed" column using the formula *speed = distance ÷ time*
7. Find the speed for every member of your group.

Name	Distance (m)	Time (s)	Speed (m/s) = distance ÷ time

HANDOUT 5 ▸ P. 1 Establishing a Scale for Your Map

Your map can't be life-sized, but it can be *proportional*, or *to scale*. This means that your map will be a miniaturized version of the classroom. So, if the "food source" is twice as far away from your whale center as the "Navy Submarine" in your classroom, then the "food source" will also be twice as far away from your whale center as the "Navy Submarine" on your map.

Scales are used in all maps, because no map can be life-sized. For a map of a country, 1cm on the map might represent 100 km. For a map of a city, 1 cm might represent 1km. For your map, 1cm will probably represent 1 to 3 meters, depending on the size of your "ocean." Some quick calculations can help establish a good scale for your map.

In your groups, or with the help of your teacher, you will need to measure:

1. The length of your "ocean" in meters
2. The width of your "ocean" in meters
3. The length of your piece of paper in centimeters
4. The width of your piece of paper in centimeters

Remember, although you will want to show your whole ocean on your page, you do not have to use your entire page. For example, if your ocean is 20 m long and 8 m wide, then it would be really convenient to have a map that is 20 cm by 8 cm. In that case, one real-life meter would be represented by one centimeter on your map. What could be easier?

Here's how we will use the size of your ocean and the size of your paper to determine the best scale for you.

1. Perform the following calculations
   - **a.** Length of ocean (m) ÷ length of paper (cm)

     _____ ÷ _____ = _____

   - **b.** Width of ocean (m) ÷ width of paper (cm)

     _____ ÷ _____ = _____

2. Compare your answers in (a) and (b). You want to choose a number that is as close as possible to these numbers. If possible, choose a whole number (like 4) or a number with one decimal place (like 2.3). Choose 3 numbers that seem close to your answers and write them here:

   i. _____

   ii. _____

   iii. _____

HANDOUT 5 ▸ P. 2

3. For each of those 3 numbers, we will work backward to see which one gives us the best "fit" for our paper.

i. Length of ocean (m) ÷ first number

_____ ÷ _____ = _____ ⋯ this is # of cm needed on your map

Width of ocean (m) ÷ first number

_____ ÷ _____ = _____ ⋯ this is # of cm needed on your map

ii. Length of ocean (m) ÷ second number

_____ ÷ _____ = _____ ⋯ this is # of cm needed on your map

Width of ocean (m) ÷ second number

_____ ÷ _____ = _____ ⋯ this is # of cm needed on your map

iii. Length of ocean (m) ÷ third number

_____ ÷ _____ = _____ ⋯ this is # of cm needed on your map

Width of ocean (m) ÷ second number

_____ ÷ _____ = _____ ⋯ this is # of cm needed on your map

4. Decide which combination, i, ii, or iii fits best on your piece of paper. If none of these numbers seem to work, you can try additional choices. You will know you have made a "good" scale if *most* of your paper is used. If you are still having trouble finding a good fit, you can ask your teacher if it's possible to tape two pieces of paper together.

5. Once you have determined your ideal number and know what dimensions in cm are needed on your map, use those dimensions to draw a border for your ocean.

6. On the bottom right corner of your paper (outside your ocean), you should write your scale legend. It should read "1 cm = ____ m" In the blank, put the scale number your group decided to use.

7. When your "echoes" return to the whale center, the group will fill in information on Handout 6: Calculating Distances. Once you know, in meters, how far away certain objects are, you will need to convert them into distances for your map. You can do this using the following formula:

Actual Distance (m) ÷ scale number = Map distance (cm)

8. Using a ruler, and a protractor if necessary, mark the objects on your map.

HANDOUT 6

Calculating Distances

This handout will help you determine how far away objects in your "ocean" are from the whale center. Use this sheet to keep track of all the trips of each messenger.

Time Left (if using a clock)	Time Returned (if using a clock)	Seconds Messenger was away	Seconds just to get to object (half)	Walking Speed of messenger	Actual Distance to object from center	Direction (degrees) to the object	What kind of object was hit?

Counting the Uncountable

Enduring Understandings:

- Numbers can be grouped into orders of magnitude.
- Estimation is useful and meaningful, especially in situations where an exact answer is too difficult to calculate.
- Seemingly impossible questions can be tackled by breaking them into smaller, reasonable questions.

Essential questions:

- What is an order of magnitude?
- Why do we employ the technique of estimation, and when is it particularly useful?
- How do we even begin to think about overwhelming questions that seem to be impossible to answer, both in math and in life?

Notes to the Teacher:

This math lesson is concerned with orders of magnitude and estimation, and how they can be used to tackle seemingly impossible problems.

Enrico Fermi (1901 - 1954) was an Italian physicist who loved to pose, and then attempt to answer, seemingly impossible problems. The kinds of problems he asked seemed to lack enough information to solve. But Fermi used reasonable guesses and estimation to approximate the answers to questions such as, "How many pieces of popcorn would it take to fill this room?" and "How many drops of water are in the Great Lakes?" "Fermi Problems" are questions that are meant to be answered to the closest order of magnitude, because an exact answer would be generally impractical to find.

Fermi problems are an excellent way to demonstrate the problem-solving nature of mathematics. In Fermi problems, students are encouraged to reason their way through problems, making approximate calculations based on reasonable assumptions. Obviously, their answers will not be exact, but they will learn the process of walking through a problem step-by-step to arrive at an answer that is "close enough" to be meaningful. Through Fermi problems, students learn how to put a seemingly impossible problem in a real-life context. These skills are transferable to putting social and environmental problems in an understandable context: At what rate are endangered species disappearing? How much greenhouse gas is in our atmosphere? What is the current population of the Maori? At what rate are speakers of the Maori language declining? How many

whales are in the South Pacific Ocean at any given moment? How many "sonar clicks" would a whale transmit on an average day? How much noise pollution is in our oceans, and how many whales are affected by it? It is not only important for students to know that many of these calculations are, in fact, estimated to the closest magnitude. It is also important for students to understand the process behind making these estimates.

The objective of the lesson is to introduce students to the problem-solving methods of reasoning and estimation. Students will use logic, reason and estimation in addition to basic computational skills to solve problems that have exact answers that are practically impossible to calculate. To prepare for this lesson, familiarize yourself with the nature of Fermi questions. (See **http://mathforum.org/workshops/sum96/interdisc/classicfermi.html** for a sample solved Fermi problem.)

You should also familiarize yourself with the "order of magnitude" handout for students and review the suggested Fermi questions included in this plan. If desired, create your own for use with the class.

Some common examples of Fermi problems are:

1. How many piano tuners are in New York City?
2. How many kernels of popcorn would it take to fill the room you're sitting in?
3. How many grains of sand are on the beach?
4. How many drops of water are in the ocean?
5. How many times do you blink in a year?
6. How many hours does the average person spend sleeping over his or her lifetime?

To create Fermi problems in support of the film *Whale Rider*, consider using these basic ideas:

1. How many of something very small can fit into something very large?
2. How large is a certain population/group of people?
3. How often could something happen in a given time period?
4. How much time in total do you spend doing a repeated activity over a long period of time?

Examples of Fermi problems to be tackled in this lesson could include:

1. How many frames of film were in the movie *Whale Rider*? How long would the roll of film be from end to end?
2. How many people have watched the movie *Whale Rider*?
3. How many songs does a whale sing in a year?
4. How many drops of water are in the South Pacific Ocean?
5. How many trees are in Mount Cook National Park?
6. How many boats have been carved by the Maori since they first reached Aotearoa in AD 800?
7. How many strands of hair are on Pai's head?

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Duration of Lesson:

One period

Assessment:

Student estimations of answers to Fermi problems

Mathematics Standards
Indicators addressed by this lesson

Standard 1. Uses a variety of strategies in the problem-solving process

Level III [Grade: 6-8]

1. Understands how to break a complex problem into simpler parts or use a similar problem type to solve a problem.
2. Uses a variety of strategies to understand problem-solving situations and processes (e.g., considers different strategies and approaches to a problem, restates problem from various perspectives)
3. Understands that there is no one right way to solve mathematical problems but that different methods (e.g., working backward from a solution, using a similar problem type, identifying a pattern) have different advantages and disadvantages
4. Formulates a problem, determines information required to solve the problem, chooses methods for obtaining this information, and sets limits for acceptable solutions
7. Constructs informal logical arguments to justify reasoning processes and methods of solutions to problems (i.e., uses informal deductive methods)

Standard 3. Uses basic and advanced procedures while performing the processes of computation

Level III [Grade: 6-8]

1. Adds, subtracts, multiplies, and divides integers, and rational numbers
4. Selects and uses appropriate computational methods (e.g., mental, paper and pencil, calculator, computer) for a given situation
8. Knows when an estimate is more appropriate than an exact answer for a variety of problem situations

Standard 4. Understands and applies basic and advanced properties of the concepts of measurement

Level III [Grade: 6-8]

8. Selects and uses appropriate estimation techniques (e.g., overestimate, underestimate, range of estimates) to solve real-world problems

Standard 9. Understands the general nature and uses of mathematics

Level III [Grade: 6-8]

1. Understands that mathematics has been helpful in practical ways for many centuries
2. Understands that mathematicians often represent real things using abstract ideas like numbers or lines; they then work with these abstractions to learn about the things

Materials needed:

Student copies of **Handout 1 – Order of Magnitude**
Pens/pencils
Calculators

Procedure

1. Put the class into groups of approximately 4 students. While groups can be of any size, this activity requires creative thinking and a few more brains will make the process go more smoothly. Too many students in a group will not give each group member the opportunity to be heard and to participate fully.

2. Introduce Fermi and the types of questions now known as "Fermi questions" to the class as a whole.

3. Ask students why someone might be interested in asking questions that are practically impossible to solve. (Responses might include for the fun of it, for a challenge, or to work your brain.)

4. Ask students: What good is an answer if it isn't exact? Under what circumstances is a "close" answer good enough to be useful and meaningful?

5. Introduce the concept of order of magnitude, either by direct instruction to the whole class or by having students read the introduction on **Handout 1**, Page 1 on the "order of magnitude" in their groups. This handout will lead students through a very short, simple example of a Fermi question.

6. Distribute or write on the board the Fermi question(s) you would like the students to tackle. These questions, like the suggested questions included at the end of this lesson, should relate to the movie *Whale Rider* in some way. Give students adequate time to work on the problem.

   Note: While not every group must do the same questions, having at least 3 or 4 groups working on the same question will allow the group to verify Fermi's observation that, regardless of the estimates used, most reasonable estimates will result in final answers of the same order of magnitude.

7. Compare questions and answers from the various groups. Invite students to share their experiences in estimating answers.

8. Relate Fermi's technique to other, perhaps even non-mathematical questions. Ask students to discuss how we can employ the techniques of "starting small" or "focusing on something we *can* answer" to try and solve a problem that seems impossible to answer. Try using Fermi's technique on a question like, "How do we solve world hunger?" or "How do we put an end to war?" (A possible answer might be: We can start small; we can solve a smaller problem first, like taking care of the hungry people in our city or stopping violence in our neighborhood.) Point out to students that strategies that help us in quantitative (number-based) problems can also help the world in qualitative (non-number-based) situations.

Extension Activities:

5. Have students create their own Fermi problems to solve, and exchange them with other students in the class.

6. Research Enrico Fermi's life and his contribution to mathematics and physics.

7. Create a piece of artwork that conveys an understanding of the concept of order of magnitude.

8. Research other scales that measure items by orders of magnitude.

9. Write a letter or film a video for your math teacher in which you use what you have learned in this lesson to explain why your homework doesn't always have to be perfect.

HANDOUT 1 ▸ P. 1

Order of Magnitude

"Magnitude" is a word meaning size. But more than just simply using the word "magnitude" as a synonym for size, we usually use the word magnitude when we talk about *comparative sizes* or *relative sizes*, that is, sizes in comparison to other sizes.

When we use the phrase **order of magnitude**, we mean a general size level. For example, the numbers 5, 50 and 500 are all different orders of magnitude – they are really on different *levels* of size. However, 500 and 600 would be considered on the same order of magnitude because they are both "in the hundreds."

CHECK YOUR UNDERSTANDING:

For each number given below, list one other number that is on the *same* order of magnitude, then a number on a *smaller* order of magnitude, and finally a number on a *higher* order of magnitude.

a) 2000 same: _____ smaller: _____ higher: _____

b) 40 same: _____ smaller: _____ higher: _____

c) 10,000 same: _____ smaller: _____ higher: _____

d) 600 same: _____ smaller: _____ higher: _____

Some things in our world are measured on scales based on order of magnitude, such as the power of earthquakes. An earthquake that measures a 6 on the Richter scale (the official scale for measuring the size of earthquakes) is not just one *unit* higher than an earthquake that measures a 5 – it is one *order of magnitude* higher! So, a 6 is really 10 times more powerful than a 5.

Why might we choose to measure things on scales of magnitudes? Think about earthquakes. It's probably very difficult to measure *exactly* how hard the earthquake shook the ground. And, is there really much difference between an earthquake that is just a "little bit" more powerful than another? Honestly, unless the earthquake is a *whole lot* bigger, we don't really care or notice that much. So, earthquakes are a perfect example of things measured only by their order of magnitude.

The types of problems you are about to attempt are also problems where it is difficult to measure an exact answer. So, we are going to be content with finding an answer to the appropriate order of magnitude. With our problems, there *will* be an exact answer, but it will be so difficult or time consuming to find that we will use skills of reasoning and estimation to arrive at a number. When we compare answers with other groups, we will probably be surprised to find that although everyone used a different way of thinking to estimate an answer, most groups will likely arrive at answers that are the same order of magnitude.

This idea was fascinating to Enrico Fermi – that the exact numbers used as estimates usually didn't matter – you'd usually get the same order of magnitude. Let's all try one together and see if it works ….

HANDOUT 1 ▸ P. 2

Warm-Up Fermi question:

How many students are in our school?

DIRECTIONS: Answer these questions with your group. Then compare answers with other groups at the end. Did most groups arrive at a number of the same *order of magnitude*?

Fermi Question to solve: How many students are in the school? – I have no idea!

OK, then approximately how many students are in your class only? _____(A)

It's probably reasonable to assume that all classes are approximately the same size.

Approximately how many different classes of your grade are there? _____(B)

It's probably reasonable to assume that there are the same number of classes in each grade.

How many grades are in the school? _____(C)

So, total number of students in the school = _____(A) X _____(B) X _____(C)

= _____

This is how you think your way through a Fermi problem. Notice, you went from having no good idea to having a reasonable estimate. But, for the real test . . .

Do the entire question over again, but change the numbers a bit. For example, if there are 28 students in your class, use 26 or 30. How does this change your answer? Do you still get the same order of magnitude? What does that tell you about the need to be "super accurate" when making your estimations? If you change your class size, for example, how far can you be "off" and still get an answer that's close enough, or of the same order of magnitude?

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Markings of the Maori: *Ta Moko*

Enduring Understandings:

- Tattoos have been and still are a symbol of status in the Maori society.
- For some tribes, tattoos were ancestral/tribal messages that pertained to the wearer's rank, genealogy, and occupation within the tribe.
- A Maori tattoo is a mark of personal identity and may not to be copied exactly by any other Maori or worn by a non-Maori.

Essential questions:

- How can art be a form of religious expression or beliefs?
- What is the significance of *moko* to the Maori people?
- What symbols or designs are used? What do the symbols of *moko* mean?
- How was the tattoo created originally? How is it done now?

Notes to Teacher, if appropriate:

From this lesson, students will be able to understand why the Maori people tattoo their faces and bodies in a tradition known as *Ta Moko*. Students will learn about the designs used. It is important to this lesson to discuss thoroughly the importance of these markings to the Maori and to explain to students that they are to design their own symbolism, so as not to copy the sacred markings. This process is unique and very important to these people; they regard the use or copying of their symbols and designs as disrespect. It is important that the students understand this and, although they may look at and work from typical tribal designs, they should create their own symbols and images to represent themselves.

Some very simple *Ta Moko* symbols had powerful meanings when applied as tattoos. Triangles could represent strength; diamonds connected by parallel vertical lines (|◊‖◊‖◊|) could mean unity, like people holding hands; half circles could mean storm clouds and troubles; shark's teeth patterns could mean fear to an enemy.

If possible, prepare a slide show of images from some of the websites listed on pages 144-145 to show to your students, to familiarize them with Maori designs. Alternatively, you could give them some time on computers to research these designs themselves.

Duration of lesson:

One or two periods

Assessment:

Both students and teacher evaluate student work using the rubric on **Handout 2**.

Visual Arts Standards
Indicators addressed by this lesson

Standard 1. Understands and applies media, techniques, and processes related to the visual arts

Level III (Grades 5-8)

1. Understands what makes different art media, techniques, and processes effective (or ineffective) in communicating various ideas
2. Knows how the qualities and characteristics of art media, techniques, and processes can be used to enhance communication of experiences and ideas

Standard 2. Knows how to use structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art

Level III (Grades 5-8)

1. Knows some of the effects of various visual structures (e.g., design elements such as line, color, shape; principles such as repetition, rhythm, balance) and functions of art
2. Understands what makes various organizational structures effective (or ineffective) in the communication of ideas
3. Knows how the qualities of structures and functions of art are used to improve communication of one's ideas

Standard 3. Knows a range of subject matter, symbols, and potential ideas in the visual arts

Level III (Grades 5-8)

1. Knows how visual, spatial, and temporal concepts integrate with content to communicate intended meaning in one's artworks
2. Knows different subjects, themes, and symbols (through context, value, and aesthetics) which convey intended meaning in artworks

Standard 4. Understands the visual arts in relation to history and cultures

Level III (Grades 5-8)

1. Understands similarities and differences among the characteristics of artworks from various eras and cultures (e.g., materials; visual, spatial, and temporal structures)
2. Understands the historical and cultural contexts of a variety of art objects

Standard 5. Understands the characteristics and merits of one's own artwork and the artwork of others

Level III (Grades 5-8)

1. Distinguishes among multiple purposes for creating works of art
2. Understands possible contemporary and historic meanings in specific artworks
3. Understands how one's own artworks, as well as artworks from various eras and cultures, may elicit a variety of responses

Materials needed:

HANDOUT 1: MARKINGS OF THE MAORI

Scrap paper to practice symbols and designs

Black cone-tipped marker, either waterbased or permanent

One other color marker of student's choice (blue is a good one)

Large piece of white craft paper for each student (the length of student's arm or leg plus six inches)

Pencils and scissors

Procedure

ACTIVITY 1: Introduction to *Ta Moko*

1. Distribute and discuss **HANDOUT 1: MARKINGS OF THE MAORI**, including the following questions:

   a. How do Western cultures use embellishments to make statements? Eastern cultures?

   (Women of Western cultures use lipstick, eye shadow, blush, mascara, etc., to paint their faces to make themselves beautiful, interesting or desirable.) Some Eastern cultures use "the third eye" painted above the bridge of the nose, white makeup, etc. We use earrings and piercings of all kinds to declare ourselves different.

   b. Are any of the embellishments religious in nature or just decorative? (The Hindu "third eye," a piercing in the nose)

   c. What kinds of symbols are used by the Maori? (Curved, linear, scroll-like as well as face-like designs. Each was unique to the tribe and then to the person.)

2. Present your slideshow of Maori images or look at the websites suggested below or the book, *Moko – Maori Tattoo*, for patterns and other pictures to display.

3. Give students time to brainstorm ideas and patterns for their designs for *moko*.

ACTIVITY 2: Creating the Design

1. Hand out scrap paper and pencils for students to practice designs.

2. Hand out large pieces of white craft paper.

3. Pair off students.

4. Have one student put his or her arm or leg on the paper (bent or straight) and another student carefully draw around it. Switch places and repeat on a second sheet of paper.

5. Have students carefully transfer their designs in bands across the outlined arm or leg.

6. Tell students to go over lines with black and one other color.

7. Have students sign and date their work.

8. Ask students to carefully cut out designs and display them around the room or school. Some interesting places: Holding open a door, window, pointing to an exit sign, etc.

9. Have students evaluate their work using the rubric on **Handout 2: *Ta Moko* Rubric**.

10. Assignment: Write a journal entry or essay of at least one paragraph: Why is *ta moko* important to the Maori people? How did you make your *ta moko* important to you? What do the symbols you chose tell about you?

Extension Activity:

Another interesting project is to create a Maori tiki lintel for the door of the school or classroom. Using brown paper and oil pastels, create a symmetrical masklike image as follows:

a. Fold a 12"x18" piece of light or dark brown paper in half in either direction. Cut edges top and bottom to create a unique shape.

b. The center fold will help with balancing the design on both sides.

c. Have students draw designs in pencil first.

d. Use oil pastels to make textural designs in a fierce or friendly warrior look, using *moko*-like patterns evenly on both sides of the fold. The face need not have all components (eyes, nose and mouth) but should have a combination of several. Start with one feature on one side of anfold and repeat on the other side.

e. White and yellow oil pastels show up very well and can be used as final accents. These will help to give the design a carved look.

f. Hang near windows, doors, archways or all together on one wall for a really powerful effect.

Additional Resources:

A. Print materials

Neleman, Hans. *Moko – Maori Tattoo* (Hamburg: Edition Stemmle, 1999)

Nicholas, Thomas et al., ed. *Tattoo: Bodies, Art, and Exchange in the Pacific and the West* (Durham, N.C.: Duke University Press, 2005)

Robley, H.G. *Maori Tattooing* (Mineola, N.Y.: Dover Publications, 2003)

Simmons, D. R. *Ta Moko: The Art of Maori Tattoo.* (New Zealand: Reed Publishing, 1997)

B. Internet resources

http://www.creativenz.govt.nz/resources/taonga.pdf
A wonderful resource on the traditional art forms of New Zealand

http://www.museum.upenn.edu/new/exhibits/online_exhibits/body_modification/bodmodtattoo.shtml
The University of Pennsylvania's website on tattooing in various world cultures

http://news.nationalgeographic.com/news/2003/10/1014_031014_georgenuku.html
A National Geographic news story on the meaning of modern *moko*

http://www.fiu.edu/~harveyb/moko.htm

A paper on *Ta Moko* by a student at Florida International University

http://individual.utoronto.ca/antonygh/INKED/bibliography.htm

A resource for the history of tattoo

http://www.dreadloki.com/pivot/pivot/entry.php?uid=standard-701&action=show

History of Maori *Moko*

http://www.tamoko.org.nz/artists/uruora/moko.html

A very in-depth history and information on *Moko*

http://www.nationalgeographic.com/tattoos/photo7.html

Good photos

http://www.pbs.org/skinstories/culture/role2.html#moko

PBS site for photos and history

http://history-nz.org/maori3.html

Mythology and pictures

http://whakaahua.maori.org.nz/

Maori clip art and artwork site

http://www.library.csi.cuny.edu/dept/history/lavender/maoritattoo.html

A good lead to other sources and photos

http://www.janerestureom/oceania_tattoos/newzealand.htm

Examples of tools used

HANDOUT 1 ▸ P.1

Markings of the Maori: "*Ta Moko*"

The *ta moko* worn by the Maori people are not merely tattoos. Because of the tribal nature of the Maori society of New Zealand, the complex spirals and patterns are markings that identify them as individuals, show which tribe they come from and announce their status. *Ta moko* was in the past, and is again, their ethnic identity.

Each tribe had its own style, which was easily recognizable and which identified rank, genealogy and occupation of the wearer. They were so individually designed as to never be copied from one another. Friends and family could be recognized after death. They believed that light goes right through you after death, but your *moko* would show who you are. Maori chiefs would draw their *moko* as their signature on treaties.

Ta moko in the past was applied using a process very unlike what we know as tattooing. The design was actually chiseled or carved into the face or skin using techniques very much like those for the powerful woodcarvings the Maori created for protection of their villages using tribal designs. Although most people associate this technique with the face, the arms, legs and buttocks were also tattooed on men. Women tended to have their lips and nostrils outlined in blue.

Ta moko was performed at puberty along with many other rites and rituals. It was an important rite of passage and made a warrior attractive to women. All high ranking Maori were tattooed. Those without *moko* were seen as persons of no social status. The head was considered the most sacred part of the body and a *tohunga-ta-oko* (*moko* craftsman) would carefully work around and with the bone structure for design.

The instrument used was an extremely sharp, sometimes serrated, wide bone chisel. Deep cuts were then engraved into the skin; a chisel was then dipped into a sooty mixture such as burnt vegetable caterpillars or burnt kauri gum and then tapped into the open cuts. It was a very painful, time-consuming process. Leaves from the karaka tree were placed over the wounds to help them heal. Flute music and chant poems were performed to soothe the pain.

Around 1900, *moko* disappeared for a while due to missionary influence and the Maori being hunted for their heads as trophies. It reappeared around the 1970s. The Maori now use a tattoo machine. It is their way of saying, "I am Maori."

HANDOUT 1 ▸ P.2

Things to think about:

The Maori people are very protective of their tribal designs and identities of their *Tipuna* (ancestors) and feel that others should not use designs they do not understand. To copy or make an exact Maori tattoo without tribal connection is to disrespect the Maori people.

Maori designs are very intricate, symmetrical and curvilinear to follow the lines of the body part being designed.

1. How do Western cultures use embellishments to make statements? Eastern cultures?

2. Are any of these embellishments religious in nature?

3. What kinds of symbols are used?

4. What kinds of symbols, signs or patterns could *you* use to describe your family, genealogy, likes or dislikes? Remember that *moko* is very personal!

5. Sketch some ideas on the back of this page or on an additional sheet of paper.

HANDOUT 2

Ta Moko Rubric

STUDENT NAME _____ DATE _____ CLASS _____

DIRECTIONS: Each requirement is worth 3 points. Give yourself the grade point(s) 1-3 you feel you deserve for each item under "S." Teacher will assign final grade under "T." (30 possible points in all)

T	S	
		1. Read and viewed *Ta Moko* information and participated in class discussion.
		2. Completed a sketch of ideas for transfer to final project material.
		3. Created a design based on symbols chosen to represent self or family.
		4. Designs are symmetrical and balanced, cover up drawn arm, leg or face completely.
		5. Transferred the design to the appropriate final paper shape.
		6. Used black plus one color.
		7. Followed instructions; final project was meaningful, neatly cut out and finished.
		8. Was focused, worked diligently and was cooperative throughout project.
		9. Wrote at least a paragraph on the meanings behind some markings/designs.
		10. Signed and dated the *ta moko* on the front when completed.

TOTAL POINTS: _____ _____ 27-30 points=A

_____ _____ 24-26 points=B

_____ _____ 21-23 points=C

Background Note: New Zealand

PROFILE [Adapted from the U.S. Department of State at http://www.state.gov/r/pa/ei/bgn/35852.htm]

OFFICIAL NAME: New Zealand

GEOGRAPHY

Area: 270,500 sq. km.; about the size of Colorado.
Cities: (as of June 30, 2003): Capital – Wellington (363,400). Other cities – Auckland (1,199,300), Christchurch (358,000), Hamilton (179,000).
Terrain: Highly varied, from snowcapped mountains to lowland plains.
Climate: Temperate to subtropical.

PEOPLE

Nationality: Noun – New Zealander(s). Adjective – New Zealand.
Population: (2003): 4,010,000.
Annual growth rate (as of June 30, 2004): 1.3%.
Ethnic groups: European 75%, Maori 15%, other Polynesian 6.5%.
Religions: Anglican 15.22%, Roman Catholic 12.65%, Presbyterian 10.87%.
Languages: English, Maori.
Education: Years compulsory – ages 6-16. Attendance – 100%. Literacy – 99%.
Health (2000-2002): Infant mortality rate – 6.1/1,000. Life expectancy – males 76.3 yrs., females 81.1 yrs.
Work force (March 2004, 1.98 million): Services and government – 65%; manufacturing and construction – 25%; agriculture, forestry, fisheries, and mining – 10%.

GOVERNMENT

Type: Parliamentary.
Constitution: No formal, written constitution.
Independence: Declared a dominion in 1907.
Branches: Executive – Queen Elizabeth II (chief of state, represented by a governor general), prime minister (head of government), cabinet. Legislative – unicameral House of Representatives, commonly called parliament. Judicial – four-level system: District Courts, High Courts, the Court of Appeal, and the Supreme Court, which in 2004 replaced the Judicial Committee of the Privy Council in London as New Zealand's highest court of appeal. There also are specialized courts, such as employment court, family courts, youth courts, and the Maori Land Court.
Administrative subdivisions: 12 regions with directly elected councils and 74 districts (15 of which are designated as cities) with elected councils. There also are a number of community boards and special-purpose bodies with partially elected, partially appointed memberships.
Political parties: Labour, National, Progressive Coalition Party, New Zealand Green Party, New Zealand First, ACT, United Future, and several smaller parties not represented in Parliament.
Suffrage: Universal at 18.

ECONOMY

GDP (March 2004): US$76.42 billion.
Real annual GDP growth rate (March 2004): 3.6%.
Per capita income (2002): US$12,804.
Natural resources: Timber, natural gas, iron sand, coal.
Agriculture (9.7% of GDP): Products – meat, dairy products, forestry products.
Industry (46.1% of GDP): Types – food processing, textiles, machinery, transport equipment.

Trade (2003): Exports – US$19.02 billion: meat, dairy products, forest/wood/paper products, fish, machinery

& equipment, metals, fruit. Major markets – Australia, U.S., Japan, China.

Imports – US$20.89 billion: vehicles, machinery & equipment, mineral fuels, petroleum, plastics, medical equipment. Major suppliers – Australia, U.S., Japan, China.

People

Most of the 4 million New Zealanders are of British origin. About 15% claim descent from the indigenous Maori population, which is of Polynesian origin. Nearly 75% of the people, including a large majority of Maori, live on the North Island. In addition, 231,800 Pacific Islanders live in New Zealand. During the late 1870s, natural increase permanently replaced immigration as the chief contributor to population growth and accounted for more than 75% of population growth in the 20th century. Nearly 85% of New Zealand's population lives in urban areas (with almost one-third in Auckland alone), where the service and manufacturing industries are growing rapidly. New Zealanders colloquially refer to themselves as "Kiwis," after the country's native bird.

History

Archaeological evidence indicates that New Zealand was populated by fishing and hunting people of East Polynesian ancestry perhaps 1,000 years before Europeans arrived. Known to some scholars as the Moa-hunters, they may have merged with later waves of Polynesians who, according to Maori tradition, arrived between 952 and 1150. Some of the Maoris called their new homeland Aotearoa, usually translated as "land of the long white cloud."

In 1642, Abel Tasman, a Dutch navigator, made the first recorded European sighting of New Zealand and sketched sections of the two main islands' west coasts. English Captain James Cook thoroughly explored the coastline during three South Pacific voyages beginning in 1769. In the late 18th and early 19th centuries, lumbering, seal hunting, and whaling attracted a few European settlers to New Zealand. In 1840, the United Kingdom established British sovereignty through the Treaty of Waitangi, signed that year with Maori chiefs.

In the same year, selected groups from the United Kingdom began the colonization process. Expanding European settlement led to conflict with Maori, most notably in the Maori land wars of the 1860s. British and colonial forces eventually overcame determined Maori resistance. During this period, many Maori died from disease and warfare, much of it intertribal.

Constitutional government began to develop in the 1850s. In 1867, the Maori won the right to a certain number of reserved seats in parliament. During this period, the livestock industry began to expand, and the foundations of New Zealand's modern economy took shape. By the end of the 19th century, improved transportation facilities made possible a great overseas trade in wool, meat, and dairy products.

By the 1890s, parliamentary government along democratic lines was well-established, and New Zealand's social institutions assumed their present form. Women received the right to vote in national elections in 1893. The turn of the century brought sweeping social reforms that built the foundation for New Zealand's version of the welfare state.

The Maori gradually recovered from population decline and, through interaction and intermarriage with settlers and missionaries, adopted much of European culture. In recent decades, Maori have become increasingly urbanized and have become more politically active and culturally assertive.

New Zealand was declared a dominion by a royal proclamation in 1907. It achieved full internal and external autonomy by the Statute of Westminster Adoption Act in 1947, although this merely formalized a situation that had existed for many years.

Government

New Zealand has a parliamentary system of government closely patterned on that of the United Kingdom and is a fully independent member of the Commonwealth. It has no written constitution. Executive authority is vested in a cabinet led by the prime minister, who is the leader of the political party or coalition of parties holding the majority of seats in parliament. All cabinet ministers must be members of parliament and are collectively responsible to it.

The unicameral parliament (House of Representatives) has 120 seats, seven of which currently are reserved for Maori elected on a separate Maori roll. However, Maori also may run for, and have been elected to, non-reserved seats. Parliaments are elected for a maximum term of 3 years, although elections can be called sooner.

The judiciary consists of the Supreme Court, Court of Appeal, High Courts, and District Courts. New Zealand law has three principal sources – English common law, certain statutes of the UK Parliament enacted before 1947, and statutes of the New Zealand Parliament. In interpreting common law, the courts have been concerned with preserving uniformity with common law as interpreted in the United Kingdom.

Local government in New Zealand has only the powers conferred upon it by parliament. The country's 12 regional councils are directly elected, set their own tax rates, and have a chairperson elected by their members. Regional council responsibilities include environmental management, regional aspects of civil defense, and transportation planning. The 74 "territorial authorities" – 15 city councils, 58 district councils in rural areas, and one county council for the Chatham Islands – are directly elected, raise local taxes at rates they themselves set, and are headed by popularly elected mayors. The territorial authorities may delegate powers to local community boards. These boards, instituted at the behest of either local citizens or territorial authorities, advocate community views but cannot levy taxes, appoint staff, or own property.

Principal Government Officials

Chief of State – Queen Elizabeth II
Governor General – Her Excellency the Honorable Dame Silvia Cartwright
Prime Minister – Helen Clark
Foreign Minister – Phil Goff
Ambassador to the United States – John Wood
Ambassador to the United Nations – Donald James MacKay

Economy

New Zealand's economy has been based on a foundation of exports from its very efficient agricultural system. Leading agricultural exports include meat, dairy

products, forest products, fruit and vegetables, fish, and wool. New Zealand was a direct beneficiary of many of the reforms achieved under the Uruguay Round of trade negotiations, with agriculture in general and the dairy sector in particular enjoying many new trade opportunities. The country has substantial hydroelectric power and reserves of natural gas, although the largest gas field – supplying 84% of New Zealand's natural gas – is expected to be tapped out by 2007. Leading manufacturing sectors are food processing, metal fabrication, and wood and paper products.

Since 1984, government subsidies, including for agriculture, were eliminated; import regulations liberalized; tariffs unilaterally slashed; exchange rates freely floated; controls on interest rates, wages, and prices removed; and marginal rates of taxation reduced. Tight monetary policy and major efforts to reduce the government budget deficit brought the inflation rate down from an annual rate of more than 18% in 1987. The restructuring and sale of government-owned enterprises in the 1990s reduced government's role in the economy and permitted the retirement of some public debt. As a result, New Zealand is now one of the most open economies in the world.

Economic growth has remained relatively robust in recent years (i.e., around 3%), benefiting from a net gain in immigration, rising housing prices, strong consumer spending and favorable international prices for the country's exported commodities. New Zealand did not experience the slowdown in growth seen in many other countries following the events of September 11, 2001, and the subsequent fall in overseas share markets. The prolonged period of good economic growth led the unemployment rate to drop from 7.8% in 1999 to a 17-year low of 4% in mid-2004. The growth has also helped to substantially narrow the current account deficit, which stood at 4.5% of GDP in 2003.

New Zealand's economy has been helped by strong economic relations with Australia. New Zealand and Australia are partners in "Closer Economic Relations" (CER), which allows for free trade in goods and most services. Since 1990, CER has created a single market of more than 22 million people, and this has provided new opportunities for New Zealand exporters. Australia is now the destination of 21% of New Zealand's exports, compared to 14% in 1983. Both sides also have agreed to consider extending CER to product standardization and taxation policy. New Zealand has had a free trade agreement with Singapore since 2001.