Who Am I?
Corey Clark, Humanities and Kristen Voss, Math/Science
High Tech Middle North County

In this interdisciplinary project, students examined several different facets of their identities through multiple lenses and explored the implications of their identities and the prejudices that exist in the world around them. By exploring how their genetics shaped their identities, they were able to further understand why they are the way they are. The students put together several different products for exhibition; they created infographics highlighting how they received one of the traits that make up their identities, used photoshop to alter iconic images to change the public’s perception, wrote short narratives in the form of their actual fingerprints describing pivotal, defining moments in their lives, and created masks to represent aspects of their culture. The classrooms were completely transformed into a gallery/performance space. Along with their other final products, the students collaborated to create a performance piece exhibiting some of the aspects of social injustice that they explored throughout the project.

Teacher Reflection
This project turned into such a meaningful experience for us all. Because the project was completely interdisciplinary, connections were made that wouldn’t have happened otherwise. We launched this project by visiting the Museum of Tolerance and discussing what causes social injustice, which led to our exploration of identities. The timing of the project allowed us to bring in difficult issues like Michael Brown and Eric Garner which gave the entire project a larger sense of significance.

Student Reflections
The most impactful experience was learning about social injustice past and present and how it is still affecting us now. It was something close to heartbreaking for me. —Henna Hall

This project was very impactful, defying stereotypes in a way that put you in awe…it opened my mind. —Matthew Mau

To learn more about this project and others, visit http://knvoss.wix.com/digitalportfolio
For this project, seniors explored the task of teaching a complex physics concept in a compelling way through the medium of a graphic novel. Students began by investigating various modern physics topics ranging from time dilation to black holes while simultaneously studying storytelling and the graphic novel. Students read nonlinear texts like Vonnegut’s Slaughterhouse Five and then studied various graphic novels like Moore’s V for Vendetta. We also partnered with a local comic book studio and had a comic book artist mentor students throughout the process. Our team ultimately created four graphic novels that taught difficult physics concepts in an accessible and engaging manner.

Teacher Reflection
A unique aspect of this project was the grouping. Students were in larger ‘graphic novel’ groups of twelve where they had to develop a story based upon their physics concept. The exchange of ideas during this phase was amazing to watch. Students then paired up within those larger groups and were responsible for creating one of the graphic novel chapters, which forced them to communicate, critique, and have a sense of responsibility to the larger group. We liked how this mimicked working collaboratively in the real world and allowed for student voice and choice. Getting hands-on with the big concepts in modern physics is a challenge, and we wanted to create an authentic project based around them. By becoming experts on their topic and creating their novel, students were able to demonstrate knowledge and teach others through the work they created.

Student Reflection
This project allowed us to produce an enthralling scientific graphic novel. We learned the fundamentals of comic book writing and how to draw action packed scenes using a variety of shots. Overall, students had to work alongside their neighboring chapters to create an engaging, cohesive story. —Delilah Nichols

To learn more about this project and others, visit https://sites.google.com/a/hightechhigh.org/test-site-17/home/projects
Recently, I asked my 5-year-old son “what does it mean to act like a girl?” He told me that girls play “nice things,” and boys play “bad things, like rough games.” I brought these issues to my class. Students observed and interviewed their peers from kindergarten through high school to study the social norms and common stereotypes that exist within our school community. Through reading and reflection, students explored their own identity and the stereotypes that define (or don’t define) them. Each student kept a blog and wrote a memoir about a time she felt mistreated. A mixed media artwork was created and students wrote several six word memoirs that conveyed a message or a final reflection. As a culmination, students were challenged to teach their community the lessons that they learned. The class decided on four final products: producing and presenting a play, raising money to fashion their own t-shirt design and silk screen printing them, inventing Friendship Fridays and creating a short film about the process, and building a website to streamline our products (www.htencsocialstereotypes.com).

Teacher Reflection
I am proud of my students’ ability to ask difficult questions: How should girls act? How should boys act? Are boys and girls really that different? What is gender, and why do we separate girls and boys? Yet surprisingly, this work did not bring us closer initially. We bickered more. For example, one day, a game of tag turned into a fierce game of girls versus boys that ended with several injuries and lots of crying and calls home. It seems as though our thoughts changed and became better articulated, but our behaviors remained unchanged for the time being. The process was indeed messy, but our questions were answered and our work continues to change the negative stereotypes that exist in our community.

Student Reflection
What I learned during this project is that we shouldn’t judge other genders. We’re all humans. —Matteo

I learned that it is hard to make a website by yourself, but easier with friends. —Matias

To learn more about this project and others, visit http://mrjeremy-manger.weetbly.com/project-descriptions.html
Response-ABILITY: Empathy in Action
Michelle Sadrena Clark and Shani Leader, 11th Grade
High Tech High North County

Few people recognize or understand the conflict and crisis that result in refugee populations, and fewer still know what challenges refugees face in their adopted country. Students had an opportunity to intimately learn about the refugee experience and demonstrate empathy in action. They read autobiographical narratives, listened to refugee guest speakers, and conducted in-depth interviews of high school-aged refugees in San Diego county, then utilized that knowledge to create professional quality art, spoken word poetry that culminated in an arts and poetry festival. Refugee students shared their testimonies, HTHNC students performed their poetry, and their artwork was auctioned to the highest bidder. All of the proceeds from the silent auction were donated to the International Rescue Committee’s Peacemaker Scholarship Program.

Teacher Reflection
I can honestly say that this project has been the most meaningful of my career. It involved transformative learning for all participants, and fostered visible and lasting empathy among students. This was a special project because pride literally emanated from the room the night of our exhibition. There was not a dry eye in the room, including mine. Students knew that their work had an authentic purpose, one that affected real people, which impacted their motivation.

Student Reflection
Before this project I wasn’t aware that there are refugees living in San Diego. I always assumed that San Diego was full of middle-class people, not refugees from war-torn countries. During the exhibition, I purchased one of the paintings of the refugee I interviewed, Myo, and gave it to him as a gift. I’ve given tons of gifts in my life but none felt as good as giving the painting to Myo. I learned a true sense of what it means to give and I think that is more valuable than any factual knowledge out there. —Grady

To learn more about this project and others, visit http://thedifference-maker.weebly.com/response-ability-empathy-in-action.html
The novel 1984 is considered by some to be prophetic, but in many ways it was just Orwell taking some of what was happening in his world to a logical extreme. Often in dystopian societies, the original intent is good, but when taken too far becomes harmful. Our project goal was to challenge students to think about the current controversial issues they were researching, while also reading Orwell’s novel and then to imagine how these topics might develop in the coming future, whether good or bad. Next, they collaborated to create a future world and characters who exist in this fictional setting as the basis for their own short story. Finally, in small groups, students chose just one of their stories from which to create a screenplay for a narrated, “Dystopian Junk Puppet Theater Video” where they constructed the environment and characters mostly from recycled materials.

Teacher Reflections
Through the multiple layers of the process, this project built upon and pushed student understanding of dystopian societies and how and why they occur. By laying a foundation of understanding through our reading of 1984 and bringing like concepts into contemporary society, students came to view current topics through a different lens, one which allowed them to place a current issue in a sci-fi world with a cast of characters of their own making. Additionally, the level of student engagement in writing was heightened by concurrently creating and producing their puppet theater. Both imagining their story and seeing it come to life as a physical artwork helped to push and strengthen their vision, ultimately deepening the conceptual aspects of the project’s goals.

Student Reflection
Have a great idea is one thing, but reenacting it and making the puppet show look professional was a challenge, requiring time, effort, and patience. I really enjoyed the collaboration, creativity and freedom we had in designing our puppets and backdrops. —Eric

To learn more about this project and others, visit http://jfarson.weebly.com/junk-puppet-theater.html
Once Upon A Prime
Mele Sato, 11th grade Mathematics
High Tech High Media Arts

What role did mathematics play in defining history? How did war, famine, and social revolution shape the lives, creations, and advances of mathematicians? How did these events change their perspective of their work and how did they play a part in shaping our history? Students offered answers to these questions in the form of short, narrative non-fiction stories which were glimpses into major moments in the lifespan of mathematics and in the lives of the mathematicians whose innovations catalyzed those moments. After studying paper folding and circle related theorems, students learned the basic elements of creating pop-ups before then teaching these newfound skills to HTMMA 7th graders. Combining pop-ups with their own illustrations and original stories, the students handcrafted books that brought their characters, history, and mathematics to life.

Teacher Reflection
The biggest motivation for this project is my love of storytelling and learning about mathematicians during their most defining moments. I have heard so many fascinating stories of mathematicians. To help shape their writing from an essay to a story I asked questions like, “What was it like living at that time?” “How would she have gotten from Berlin to London to speak at the symposium?” or “How would you have felt if your life’s work was considered blasphemy?” Every year I learn something new from reading my kids’ stories that pull me into the often esoteric world of mathematical history. Through their narrative skill, thoughtful research and perspective-taking, the work of my students hooks me every time, and makes me wish the story would never end.

Student Reflection
Math projects don’t always have to be about showing your work to a really complicated word problem, they can be about learning the history of math, learning how to apply the concepts, and having fun with the stories behind the concepts. —Frida

To learn more about this project and others, visit https://sites.google.com/a/hightechhigh.org/math3/projects
Town Squares: A San Diego Neighborhoods Project
Maggie Miller, Mary Williams, and Gary Gould, 6th grade
High Tech Middle

Students at HTM are selected through a lottery system and come from every zip code in the city. Our team chose to use photography and writing to explore the wonderfully diverse neighborhoods that make up our school and town. We learned about elements of photography from Outside the Lens, researched the history of our neighborhoods, took many photographs of where we live, interviewed several residents, and wrote our “One Neighborhood, Three Things” to describe three places that are unique and special to our neighborhood. Our final artistic piece was a canvas “square” of our favorite photo accompanied by a unique phrase both carefully chosen to represent our neighborhood. We exhibited our work at the Outside the Lens gallery for the “Friday Night Liberty” art-walk where students were able to share their photography and writing with the public.

Teacher Reflection
It was interesting to see the students explore their communities and capture some amazing perspectives through photography. We all learned a lot about the history of San Diego through their research. Many students really took the opportunity to see and describe familiar places in new ways. It was awesome to see students’ pride as they exhibited their photography in a “real” gallery space, and the wonderful diversity of our school and city was evident in the collection of final photographs.

Student Reflections
I found out a lot of good things while I was writing about my neighborhood because before I had always thought my community was a bit boring.
—Natasha

I learned a lot about OB’s past and I also saw my neighborhood with different eyes as a photographer.
—Elle

What I liked about this project was how we got to see where everyone lives in San Diego.
—Regan E

To learn more about this project and others, visit http://millerwilliams.weebly.com/projects.html
“How can we tell an interesting story that helps people understand our community?” was the essential question that drove the creation of the student-produced documentary, *A New Life: A 7th Grade Video Journalism Project*. Students began by researching the countries of the refugees and immigrants that they would be interviewing at La Maestra Community Health Center, an organization that assists refugees and immigrants who are new to the United States. The students then analyzed the techniques of professional interviewers, formulated interview questions, conducted interviews and studied video editing to produce the film. They held a premiere of their powerful documentary for a large audience, and saved the front row for the subjects of their film who attended as the evening’s special guests.

**Teacher Reflection**
What began as interest from students to produce a documentary of familiar people in their lives quickly morphed into something much more profound: a desire to tell the stories of others with very different backgrounds from their own. The students sought to explore and understand the challenges these individuals experienced in an attempt to seek a better life. Students transformed into photographers, interviewers, authors, journalists, sociologists, researchers and documentarians as they sought answers. Their film—the culmination of countless hours of research, practice interviews, and editing—became secondary to a deeper understanding and appreciation for the plight of those who come to America in search of a new life.

**Student Reflection**
I want people to watch our documentary and take away how lucky we are. There are a lot of people in other countries who don’t have nearly as many opportunities as we have, as much stuff as we have, and as much education as we have. We can really do great things with the opportunities we’ve been given in our country.

—Julia
This project had the broad goals of recognizing and confronting our environmentally adverse consumption and production cultures that are entrenched in practices of planned obsolescence, materialism and disposability. Our team worked in groups to identify and design products for local non-profit organizations, each conceived as a response to a real problem they had. Upon finalizing our designs, each group gathered waste materials and adjusted their plans to integrate them before prototyping and actually building the upcycled products. From benches to cat trees to cabinet doors, each group was successful in making a socially and environmentally positive contribution to a group working in our community. Further, each group worked to archive the process of their work by contributing a section to our team-wide publication highlighting the design processes, environmental considerations, community interactions and physical and philosophical practices that we explored.

**Teacher Reflection**
Having local non-profit organizations as our customers lent real authenticity to our project. Designing around real problems that they had created genuine purpose for the diverse things that we built. It was also a great motivator to know that they were counting on using our products for the work that they do. Documenting the entire process of our work offered a thorough look at what is involved in pushing back on some of the detrimental norms of our culture, like how we build things to be disposable or replaced.

**Student Reflection**
This was the first project I’ve done where it was really crucial for every group member to work together to create our final product, a bench for the Ray and Joan Kroc Center. Everyone in my group had different skills that were extremely important to constructing a bench that worked for our customer. It was really lovely to not only create a product that I was proud of, but to also feel that I’d been able to assist a local nonprofit organization. —Abigail Tull

To learn more about this project and others, visit [http://dp.hightechhigh.org/~pholder/Digital_Portfolio/Project_Archive.html](http://dp.hightechhigh.org/~pholder/Digital_Portfolio/Project_Archive.html)
After reading the novel Peak, by Roland Smith, fifth grade students studied the geography, culture and history of Mount Everest. Fieldwork for this project included visiting a Buddhist temple, hiking Cowles Mountain, and rock climbing at a local gym. Students interviewed an anthropologist about her travels to the Himalayas and Skyped with a climber who summited Everest in 2011. This project was carried out in three classrooms over the first trimester of the school year. While all three teachers worked together to plan the project launch, lesson sequence, and field work, each teacher was able to design her own final product and class exhibition. Christine’s students crafted their own adventure short stories that were published together in a class anthology, Grace’s students created prayer flags, and Natalie’s students wrote and performed spoken word dedications to someone who had overcome their own Everest.

**Teacher Reflections**

Typically, climbers leave colorful prayer flags at the summit of Mount Everest. Throughout this project, our students discovered that bravery comes in many forms, and the one does not have to climb a mountain to be considered brave. For one of their final products, they created prayer flags and dedications in honor of someone brave. They were motivated and inspired to create multiple drafts of their design and then cut, stitched, stenciled, and appliqued the most beautiful flags.

**Student Reflections**

My personal Everest is to be an OB/GYN because I want to help save little babies —Christian Flower

My Everest has to do with being an animal advocate and volunteering at shelter when I grow up. I want to do this because I think all animals are cute even the ugly ones like naked mole rats. —Lauren Alatriste

To learn more about this project and others, visit [http://htecv.weebly.com/](http://htecv.weebly.com/)
Students explored the essential question, “How Can Innovative Ideas Make a Difference?” Based on Google’s concept of Genius Hour and the Stanford Design School, our classroom was transformed to a place where students could dream big. Students interviewed five different organizations in our community: 1) Pacific Preschool, 2) San Marcos City Hall, 3) Vallecitos Water District, 4) San Marcos Police Station, and 5) Escondido Humane Society. From these interviews, students discovered dilemmas that the organizations were having. They were tasked by the organization to create a product that could help provide a resolution. Using a delegated budget, students worked in groups to build a business plan around this innovation. They designed websites, mission statements, logos, business cards and more for their businesses. Throughout the project, students collaborated with their organization to receive critique and feedback on their products. Their final prototypes and products were showcased in a business pitch for audience members to purchase and possibly invest in.

Teacher Reflection
I was so impressed and inspired by how professional the students were when given the trust to engage in these short internships. They were great listeners and proposed thoughtful ideas that could help resolve their organization’s dilemma. For example, the group who visited the local preschool learned the preschoolers had trouble reading. So they created non-fiction interactive books for the preschoolers to read. The group who went to the San Marcos City Hall learned that there was a trash problem in the community parks. They invented a trash robot called “Trashbot” to clean up our city.

Student Reflections
I learned that no matter how young you are, you can dream big.
— Peyton

I learned to keep persevering with your ideas and don’t give up on yourself.
— Sinqi

To learn more about this project, please visit Ms. Kim’s digital portfolio: mskimcawkwell.wix.com/htefourthgrade
Choose Your Own Adventure Through U.S. History
Tim Briggs, 11th Grade Humanities
High Tech High Chula Vista

For this project, students researched, wrote, and self-published a collection of choose your own adventure stories based on U.S. History. To create their story, each student researched a historical time period and created a story map of possible choices for their character based on the significant events in their era. In writing their stories, students incorporated dialogue, sensory details, and narrative techniques to create gripping second person narratives. Each narrative was then edited by a student editorial team while other students created original art and designed a layout to format our book for publication. At our final exhibition, students presented their work to teachers, students, and community members at the Grossmont Literary Arts Festival.

Teacher Reflection
This project far exceeded my expectations for the depth and complexity of the students’ narratives. What I had envisioned as a 200-300 page book sprawled to nearly 600 pages as the students dug deeper into their historical periods and created pathways for their character to explore different events. Students were invested in the creation and publication of our book. Every narrative was reviewed and edited by a team of students for content and historical accuracy and then formatted for publication by our design team. It inspired me to see students work hard to prepare our book and take pride in completing such a large task as a team.

Student Reflection
Being a member of various groups helped me develop new skills. As a member of the editing group, I improved my understanding of grammar and writing by reviewing the work of other students. I also learned how to use Adobe Acrobat to publish our writing in a professional format. Being a part of the leadership and exhibition crew made me step out my comfort zone and practice my communication and leadership skills. Overall, the project helped me not only to become a more creative writer, but it also let me improve how I work with other students. —Rafely Palacios

To learn more about this project and others, visit http://timbriggs-dp.weebly.com/
Human history is punctuated by the prolific rise and inevitable collapse of civilization after civilization. In this project, students formulated hypotheses for these fluctuations, compared their hypotheses with historical evidence, mapped quantitative changes throughout history, then created a narrative and mechanical representation of their findings. The final product was exhibited on the eve of the Mayan Apocalypse.

Teacher Reflection: See article on the next page

Student Reflections

Working on Apocalypto was the first glimpse into what I would later define as a “real” project: a project in which the students choose the scope, method, and design. If a student made a mistake on one of those three, it was up to him or her to fix it. In this project, failure wasn’t an option; it was simply a means of reaching success.

—Sharon Tamir

Taking on the role of mechanist felt like a lot of weight on my shoulders. However, as I put in more and more work, I started to see progress towards an end goal, which made me even more tenacious. After months of hard work, seeing the final product on the wall at exhibition was one of the greatest feelings I've ever had. I had created a masterpiece and all of a sudden, the many late nights and fatigue-filled mornings felt worth it.

—Josh Ortega

As one of the students who had to go through the humiliating experience of telling exhibition-goers that my piece belonged in one of the gaping holes of the exhibition’s centerpiece, I can now say that it was perhaps the most significant experience I’ve had in high school. My failure to have my mechanism ready on exhibition night along with the overall project made me so much more resilient and calm which would prove to be very important during my next three years of high school.

—Maya Ervin

To learn more about this project and others, visit http://pbl.scottswaaley.com/apocalypto-project-summary/