# LifePractice





Kevin Honeycutt



Ginger Lewman

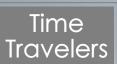
# LifePracticePBL.org

**ESSDACK** 

## Foundations Card

Each card is categorized by one of the following project types, where students get to practice being different professionals.







Artists & Inventors



Historian Challenges



Story Tellers



Problem Solvers



Scientist Challenges



College& Career Ready

## Essential Components for Implementing the LifePractice PBL Model

for more information about implementation, visit LifePracticePBL.org

The Prep The Launch The Expectations The Grouping The Work The Mid-Point Re-Group The Closing The Assessment The Post-Project WrapUp

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## Foundations Card

- These "recipe cards" for Project/Problem Based Learning are intended for teachers to use with K-12 students in groups, as well as individual students.
- Each card creates student learning categorized as TimeTravelers, Artists & Inventors, Historian Challenges, StoryTellers, ProblemSolvers, Scientist Challenges, Career & Tech Ed.
- The cards are meant to help teachers integrate core content and deeply embed creativity, problem-solving, and collaborative learning in each student, with or without the use of technology tools.
- The core content pieces are the basic ingredients with which teachers can cook delicious content for their hungry learners.
- Teachers are encouraged to customize the driving questions in each of the content areas to fit the unique needs of their learners.
- The cards guide teachers through the basic steps of the project, with ideas and suggestions for best practice on each card.
- The tips & tricks help establish a safe and respectful PBL learning environment every single day of the year.

Additional information can be found at www.LifePracticePBL.org

## **MY EXPERTISE**

Project Based Learning
Differentiated Instruction



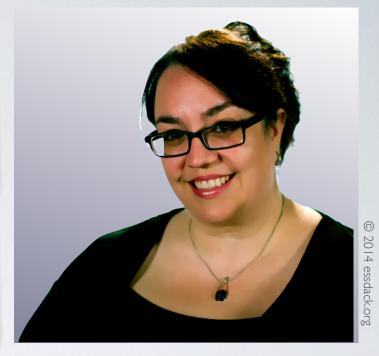
Gifted and High Ability Learners



Creativity in Teaching & Learning



Digital Citizenship & Cyber Safety



## GINGER LEWMAN

Hire me to provide quality professional learning for your staff.



## GINGER'S VCARD

a contact guide

LifePracticePBL.org



#### at a glance

- Education Consultant at ESSDACK present
- Director, Turning Point Learning Center, a PBL, 1:1 laptop school.
  5 years
- Gifted Services Facilitator6 years
- Social Studies teacher,secondary levelyears
- Google Certified Teacher
- "As a teacher, I'm a resource, not the source."

## **MY EXPERTISE**



Sai Technology Integration



M

Wri

Rdg Schools of the Future

Creative Learning



## KEVIN HONEYCUTT

Hire me to provide quality professional learning for your staff.



## KEVIN'S VCARD

a contact guide

LifePracticePBL.org



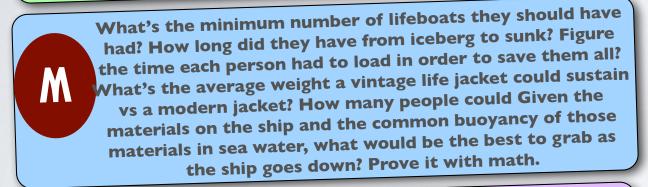
#### at a glance

- Technology Integration
   Specialist at ESSDACK
   present
- School Board member, 2 terms, present
- Art Teacher, 13 years
- Nominee, Kansas Teacher of the Year, 2 years
- Creator, ArtSnacks

"I want to help every educator inspire every student to discover what it is that they are so passionate about that they become remarkable at it."

Why did a large percentage of 2nd class passengers die, compared to first class? What was European immigration to the US like at that time? Who came? Why? When going back in time, who do you make your appeal to? Why is that the most effective audience?

Who/What was the #1 thing responsible for the ship's sinking? What about the design of the ship made it so unsinkable? What were all the steps to it going wrong? Where exactly in time do you go back and what do you change? What is ductility? How does a rudder work? How does the shape of a hull affect the movement, speed and maneuverability of a ship?

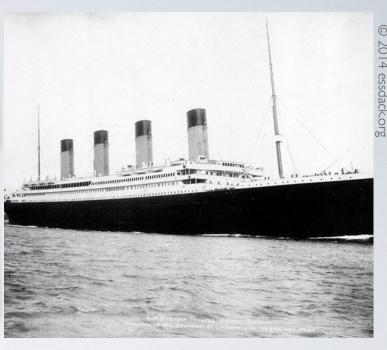




Read survivor accounts about the sinking. Collect evidence for opportunity to turn history around. Learn how wrought iron is made and the controversy surrounding the tensile strength of the hull. Read accounts of the salvage work conducted to solve these mysteries.



Prove, in writing and with a presentation, that your plan for saving the Titanic would work. Persuade your audience. Contact experts to gather primary source evidence.



## **SAVE THE TITANIC**

Go back in time and save the Titanic from sinking

**TimeTravelers** 



## SAVETHETITANIC a step-by-step guide

LifePracticePBL.org

#### Before-project prep

Decide the time-scope of the project. Establish connections with experts in case students need them. Find/create access to primary documents, websites, experts, and museum virtual field trips. Limit viewing of the movie, unless that will be a focus. Be sure parents are informed of project scope and learning involved. Ensure all educators are clear with timeline, content expectations, and end results expected.

#### Launching the project

Start with a "bang," by sharing the general story of the Titanic and its unsinkability. Perhaps include death tolls. Ask them to imagine being on the deck. Or on shore, waiting for loved ones. Or on the rescue boat, not being able to save all you'd like. Introduce potential work teams and partnerships. Ask students to self-select their own teams OR assign team members (Engineers, Safety Coordinators, CSI team). All involved educators are visibly positive and supportive of the absolute importance of the learning.

#### During the project maintenance

Students will complete initial research about the Titanic, collecting cited information in collaborative documents. Students will create a plan that outlines the plan for stopping the disaster. Boat redesign? Change captains? More lifeboats? Teachers' # I role is to help students focus on the throughly researched plan, informative description, and engaging quality of the presentation.

#### **Ending the project**

Take pictures of students/teams in the learning process. Share the plans and accompanying presentations with both local and distant museums, news, etc. Evaluation: students share their story, focusing on the learning and skills-building and not simply what they did. Share results with local media.

- If a student isn't turning work in, ask yourself which is more important to you: that they turn the assignment in or that they're interested and engaged in the learning? Which will produce more personal change? If they're not interested or engaged, what will YOU do differently to help them get there?
- PBL is messy. "If ya' ain't got it on ya, then ya ain't got it in ya!"
- There is rarely anything more important in setting the stage for a successful project than having an environment of trust. How a teacher best establishes trust is to run a project which allows students the opportunity to develop trust. It's not "the chicken OR the egg." It's the chicken AND the egg.
- Sometimes teachers will have an idea they are sure will work, but while asking questions, it becomes apparent that the students are not going to "guess" what this idea is. Resist the urge to just tell your idea. Sometimes students know what your idea is and are choosing to not use it.

SS

Create a simulation of how Congress or the UN would react if this scenario was happening? Create an international policy plan to be adopted by the UN in the event this situation would occur. Who would be in charge of introducing the policy? What's the procedure in order to get it passed?



How does the size, shape, and velocity of the asteroid impact any plans for adjustment? What is the significance of the Earth's atmosphere for shielding or spreading the impact? Is the science in your plan possible right now or do we have to wait for something to be invented first? What role does the rotation and elliptical revolution of the Earth, Moon, Sun, etc, play in helping/hindering a plan?



How will you ensure your plan works the first time, with accurate mathematical models? How does the conservation of angular momentum and Kepler's 2nd Law come into play? What role does the velocity and the approach of the asteroid play in your plan? How does thrust and inertia affect large objects in space? How does your plan work in the time span given until impact? Does it work with the current trajectory of the asteroid? Does the math in your plan make sense for solving this problem?

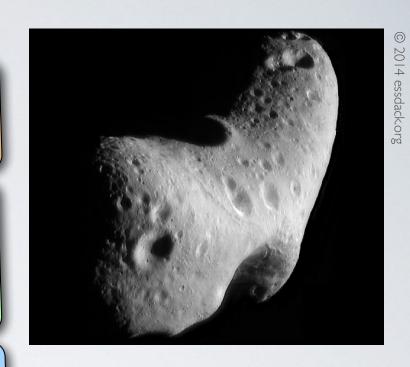


Research primary resources via Virtual field trips to museums such as the Kansas Cosmosphere and Space Center.

Research asteroids and meteorites. Research other near-miss (or actual hits) objects and events in Earth's history.



Create and implement a public relations plan for this event to keep people informed but not panicked as the team moves toward solution. Write a script to explain the technicalities of your final plan to not only other scientists and the President, but also for the lay people of the Earth.



## **DOOMSDAY I**

Save the Earth from a killer asteroid

Scientist Challenge

Set 1

## DOOMSDAY I a step-by-step guide

LifePracticePBL.org

#### Before-project prep

Make contact with Math/Science/Space advisors, making sure all are ready for fielding student questions in the allotted time and format (email, vid conf, etc). Be sure parents are informed of project scope and learning involved. Ensure all educators are clear with timeline and end results expected.

#### Launching the project

Start with a "bang," having the President of the US (or other official), outline the details of the danger and the mission. Make this a quick event, with students brainstorming questions, then introduce work teams. Assign teams, where each team will need experts in: Leadership, Math/Physics, Space/Earth Science, Public Relations, Video Production. Students may choose to add another section to their team, based on their individual plans. All involved educators are visibly positive and supporting the suspense of the mission. Teams then begin research. Public Relations documents the entire process for each team, keeping the President informed of their progress.

#### During the project maintenance

Students will research first, collecting properly cited information into collaborative documents. Each team will make a plan for research, a list of outside experts needed and a timeline for completion. Teachers are actively encouraging, and admiring with a hands-off, question-only approach. Teachers' # I role is to keep the sense of urgency at the forefront of the mission.

#### **Ending the project**

Take pictures of students and teams with their work, videos, and presentations, showing proud faces. Evaluation: students share their learning, focusing on the learning and skills building and not simply what they did. Share results with local media.

- In a fully-collaborative PBL environment, students must have some individual space to claim as their own to keep their materials organized and safe. This may or may not be a traditional locker.
- Allow students to talk with each other in small groups before volunteering ideas. This allows them to hear other ideas and build upon their own for more complex and quality purpose.
- In regard to deliverables, less is more. Allow the students to focus on the effort and learning and less about the grade they will earn.
- Foster student-to-student mentorship and community trust by helping them rely on each other for assistance before running straight to you. When a student asks a question, find out who s/he has asked first. If three people have been consulted, directly answer the question asked and be sure that everyone in the class/group hears the answer.
- Laugh and smile often.

Who were the Vikings? Where did they live, travel? What was their lifestyle? How did the Vikings change history?

What were their greatest accomplishments and contributions? How do we know these things? What happened to their culture? What are the stereotypes? What are the myths? Did they have art? Were the women as fearsome as the men or is that all false?

What did the Vikings eat? What resources for everyday life did they have at their fingertips? Did their resources pack well? How did the Vikings adapt to their various environment(s)? How was this to their advantage against their enemies? How is this similar to animal adaptations? How was the wood shaped? The rivets forged? Why this design? How did they navigate direction on the seas?

At what scale can we build a ship that's similar to the Viking ship, Oseberg? 1:6? 1:4? 1:10? What are the dimensions we need to have in order to have the wood shaped realistically? Considering ocean currents and the time of year they traveled, how far could they go using only human power and current technology? Knowing what we know now, but using only the tools of the Vikings, how could that be improved?

Rdg

55

Sci

Research primary resources via Virtual field trips to: museums with Viking artifacts; colony sites in Europe and North America

Wri

Journal a "Day in the Life" of a Viking. You choose the location and timing. Include as many direct ties to authentic vocabulary, writing, and artifacts as you can. Create museum descriptions and guidebooks as visitors view your re-created Viking Ship.



## **VIKING SHIP**

Create a scale-model
Viking ship as you
learn beyond the
slash and burn
archetype of this
complex civilization.

Historian Challenge

Set 1



## VIKING SHIP a step-by-step guide

LifePracticePBL.org

#### Before-project prep

Gather 2-3 large refrigerator boxes or 2 bunches of fanfold blue-core flexible insulation, as well as duct tape and other "junk" that could be used as construction materials. Be sure parents are informed of project scope and learning involved. Ensure all educators are clear with timeline and end results expected.

#### Launching the project

Start with a "bang," telling a brief account of the Kensington Runestone (Minnesota) mystery. Leave out some details, but ask a lot of questions about Vikings and their lifestyle. All involved educators are visibly positive and supporting the mystery of the Kensington Runestone. Introduce potential work teams and ask students to self-select teams, based on topics of interest (Builders, Artifacts, Museum Curators, CSI, etc) OR assign team members. Students document the entire process.

#### During the project maintenance

Students will first research, collecting properly cited information into collaborative documents. Teachers ask driving questions only; students delve deeper into their own questions. Each team makes a plan, a timeline for completion, a materials needed list, a materials substitution list, and leaders will begin to emerge. Teachers actively encourage, & admire with a hands-off, question-only approach. Teachers' # I role is to keep the sense of urgency for completion and mystery surrounding the Kensington Runestone.

#### **Ending the project**

Take pictures of students and teams with their work and pictures, showing proud faces. Evaluation: students share their learning, focusing on the learning and skills building and not simply what they did. Share results with local media.

- As a way to role model time management in an active environment, Soft and Hard Deadlines are useful. Figure a time far enough before the final deadline for students to have a nearly-finished draft completed and allow them to present the unfinished work. Peers will provide wows/hows/bows for the work so far. This allows students to take peer ideas back to the studio for more refinement for a higher-quality final deliverable.
- Nothing is more important than the moment of introduction for a new project. It's all hands-on deck with every participating teacher showing excitement and helping to create a sense of urgency to the project.
- Let students have a good deal of free-choice in how they choose to contribute to the final deliverable.
- Don't squash a far-out idea. Get those kids to brainstorm and create a proposal for the leaders to buy into. Help them find a way to explain their thoughts and learn how to be persuasive. You never know if this is the piece that's the key to the solution. This is easier said than done.

What point in past history/civilization would you like to visit for a week? What would you need to take with you for comfort and safety that would be available for you? Who are the top inventors of each century or for a given civilization? Why? What is the timeline for technologic inventions leading us to eventual time travel? What does it mean for something to be "steam punk?"

Sci

55

What scientific laws currently prevent us from traveling back in time? What are the theories that are currently available regarding time travel? How is space-time travel similar to time traveling? How do the theories change when traveling to the future or to the past? Explain the grandfather paradox. Are there "rules" for time travel?

M

Explain the Gödel Metric. How does time dilation work? Presentism vs Eternalism. Explain the tenants of each and to which idea you might subscribe. Invent a new theory, based on solid math. Research and explain Stephen Hawking's theory of chronological protection conjecture.



What personal characteristics do inventors all have in common? Read fiction/non-fiction books, short stories, or articles about time travel. Research incidents such as the Philadelphia Experiment, the Moberly-Jourdain Incident, or John Titor.



Write short stories or narrative blog post accounts of your own time travel. Where did you go, see, do? How did you get there? Write a persuasive piece that pushes a theory forward that you find intriguing or important to learn more about.



# INSIDE JULES VERNE'S BRAIN

Create your own steampunk'd future technology

Problem Solvers

Set 4



# JULES VERNE'S BRAIN a step-by-step guide

Before-project prep

LifePracticePBL.org

Decide the time-scope of the project and if your emphasis will be on inventors or time travel; this project could have a dual purpose, depending on your class needs. Establish connections with space/time experts in case students need them. Find/create access to primary documents, websites, books, and museum virtual field trips. Collect miscellaneous "junk" supplies such as wires, plugs, cardboard or anything that can be repurposed into a student-created time machine. Be sure parents are informed of project scope and learning involved. Ensure all educators are clear with timeline, content expectations, and end results expected.

#### Launching the project

Start with a "bang," by talking about inventors or time travel (or both). Create a sense of mystery and discovery that was made possible by some really open and creative minds. Introduce potential work teams and partnerships (Inventor team, Truth Seekers, Machine Engineers, Documentary team). Ask students to self-select their own teams OR assign team members. All involved educators are visibly positive and supportive of the absolute importance of the model and learning.

#### During the project maintenance

Students will complete initial research about time travel/inventors, collecting cited information in collaborative documents. Students will create a time machine and presentation that shares their learning. Teachers' # I role is to help students focus on the model, an informative description, and an engaging, and quality presentation.

#### **Ending the project**

Take pictures of students/teams in the learning process. Share the model and accompanying presentations with both local and distant museums, news, etc. Evaluation: students share their story, focusing on the learning and skills-building and not simply what they did. Share results with local media.

- Student-created contracts are a great way for the work to keep progressing while students support the positive behaviors of others. If a student isn't working according to the negotiated contract, their team can choose to fire them. All of a sudden, no one wants to be the one fired and they'll be more likely to stay focused.
- If you're worried students aren't working, get out of your chair and talk with them. Sit beside them. At the end of the day, you should be very tired from shifting around the room.
- Create hard and soft deadlines for students to learn to manage their time and quality of work, while receiving feedback before submitting their final work. Set the soft deadlines enough in advance of the hard deadline to allow students to adjust their work for their best efforts.
- Allow students the opportunity to share commendations, or "bows" for individual members of their own team. Encourage a safe, trusting environment by doing this publicly at the students' own choice.

What is the history of horse racing as a sport in New Zealand or elsewhere? Describe the bloodlines of horses, from their introduction to this country, to modern day horses for sport and leisure. What was the nature of American involvement in the Melbourne Cup in 1932. Collect evidence to prove or disprove that an American gangster could have been the murderer.

What is arsenic? Chemically, describe how arsenic or other similar-acting poisons act upon the anatomy of humans? On horses? Why did horse trainers used to give arsenic to horses years ago? What forensic tests could be done today to determine a more precise diagnosis? What are modern day techniques (dangerous or otherwise) that are regularly applied to racehorses to help their performance? What role does genetics play in breeding race horses? How do different types of skeletal muscle fibers affect horse performance?

How could knowledge of math help to increase security around Phar Lap's stable/stall? Diagram the security of 1932 to indicate suggested improvements. Given the length of a track and the winner/loser times, what's the difference in running speeds? How does parimutuel betting differ from other types? What do the odds on a horse mean? How can you always pick a winner?

Research primary resources via virtual field trips to museums with horse racing artifacts, including the National Museum of Australia. Research the anatomy of (race) horses and the culture surrounding them. Read biographies of famous horses, such as Secretariat, SeaBiscuit, or Man O' War.

Rda

Write a narrative murder-mystery or a ballad that describes the life and/or death of Phar Lap. Re-write history to re-imagine that Phar Lap's death was prevented. Write an original expository piece about horse breeding and racing, taking a proor con stance to the treatment of the animals.



## PHAR LAP'S MYSTERY

Solve the mystery of Phar Lap's death

Historian Challenge

Set 6



## PHAR LAP'S MYSTERY

a step-by-step guide

LifePracticePBL.org

#### Before-project prep

Decide the time-scope of the project. Establish connections with experts in case students need them. Find/create access to primary documents, websites, experts, and museum virtual field trips. Be clear on the academic content students will be learning. Be sure parents are informed of project scope and academic learning involved. Ensure all educators are clear with timeline, content expectations, and end results expected.

#### Launching the project

Start with a "bang," by sharing the general story of Phar Lap's life and mysterious death. Perhaps include the money that was at stake in winnings. Introduce potential work teams and partnerships (Biographers, CSI, Security, etc). Ask students to self-select their own teams OR assign team members. All involved educators are visibly positive and supportive of the absolute importance of solving the mystery on real facts and not just "hunches."

#### During the project maintenance

Students will complete initial research about Phar Lap and horse racing, collecting cited information in collaborative documents. Students will outline an investigative approach to solving the mystery. Teachers' # I role is to help students focus on the throughly researched plan, high-quality information, and engaging/convincing quality of the presentation.

#### **Ending the project**

Take pictures of students/teams in the learning process. Share the plans and accompanying presentations with both local and distant museums, news, etc. Evaluation: students share their story, focusing on the learning and skills-building and not simply what they did. Share results with local media.

- Keep an open mind about your students' talents. When presented with a different type of learning environment, you might be surprised at who comes alive.
- When we ask students to lead with their strengths, they build confidence and are more likely to take academic risks outside of their strengths and comfort zones. When we ask them to focus only on their weaknesses, they will hide and avoid the work. Lead with strengths. Always.
- Busy work creates idle learners and "busy work" is not in the eye of the teacher, but the eye of the student.
- When at all possible, involve art into the production planning and final product. 2D and 3D creativity work engage learning in kinesthetic learners unlike any other participation.
- Don't be afraid to find global experts and resources. Using today's technology of video conferencing can demonstrate to learners of all ages that connectivity can be the first step to deeper experiences.

What was the role and strategy of the navy for both the North and South, starting with the Trent Affair? Did the naval blockade affect the outcome of the war? What was the role of the Navy along the Mississippi River? What were naval (and other) technological innovations created during this war? How did other nations get involved? What covert spy operations affected the outcome of the Civil War? Why was Charleston Harbor selected for the attack?

Sci

Why would the crew have a candle lit in the Hunley?
Explain the effects of the lack of oxygen on the human body. Explain water displacement and how manned iron submarines were able to rise and lower in water? How do/did explosives work under water? What are the challenges of raising a wreck of this age?



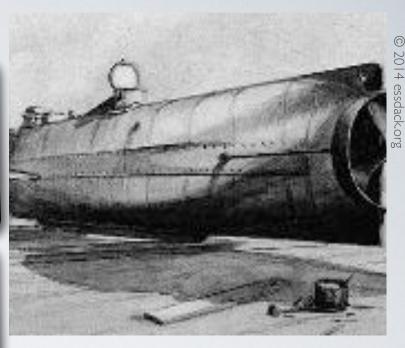
In a vessel the size of the HL Hunley, how much air is available in terms of cubic feet and in terms of time, based on the nervous breathing of its crew? Figure the speed at which this ship would have to travel in order to deploy and retreat from from the Housatonic? Compare the Hunley's hydrodynamics to modern-day submarines.



Read Historical fiction (navy related or not); Research primary documents; Listen to "Raising the Hunley" or other related non-fiction as students are working



Students write a script for a digital (or analog) story, historical or historical fiction. This can be a radio play, reader's theatre, or a series of podcasts. Create a display for your school or local library or museum. Conduct interviews with modern-day submariners.



# THE SOUTH'S CIVIL WAR SUBMARINE

Tell the story of the Confederate Ship, H.L. Hunley





## CIVIL WAR SUBMARINE

a step-by-step guide

LifePracticePBL.org

#### Before-project prep

Decide the time-scope of the project. Establish connections with experts in case students need them. Find/create access to primary documents, websites, experts, and museum virtual field trips. Consider playing an audiobook in the background for ambience. Be sure parents are informed of project scope and learning involved. Ensure all educators are clear with timeline, content expectations, and end results expected.

#### Launching the project

Start with a "bang," by sharing the general story of the Hunley and its three brave crews. Talk about the desperate last-ditch efforts of the South. Ask them to imagine being on the 3rd crew, knowing that two crews had died before. What is the story of this 150 year old mystery? Introduce potential work teams and partnerships. Ask students to self-select their own teams OR assign team members (CSI, Excavation, StoryTellers). All involved educators are visibly positive and supportive of the absolute importance of telling this historic account.

#### During the project maintenance

Students will complete initial research about the HL Hunley, collecting cited information in collaborative documents. All students will create the outline for telling the story. Teachers' # I role is to help students focus on the throughly researched information, informative and entertaining story, and engaging quality of the presentation.

#### **Ending the project**

Take pictures of students/teams in the learning process. Share the plans and accompanying presentations with both local and distant museums, news, etc. Evaluation: students share their story, focusing on the learning and skills-building and not simply what they did. Share results with local media.

- During project prep, you will see that students will need a specific direct teaching moment. Resist the urge to frontload this information. Create the opportunity for students to discover they need this skill or information, then provide a brief workshop. Having the need to know will open their ears for the information more clearly than any activity artificially-designed to provide information before they know they need it.
- All students enjoy learning when they can be successful. Provide whatever environment it takes to foster enjoyable learning opportunities for every single student.
- Assessment of learning should be focused first on the standards and skills students need to develop. Try to make the assessment of that information as authentic to real life as possible.
- Don't be afraid to find global experts and resources. Using today's technology of video conferencing can demonstrate to learners of all ages that connectivity can be the first step to deeper experiences.

At what social costs did the Robber Barons make their fortunes? Who were the top 10 philanthropists of the Industrial Revolution? Who are the top 10 now? Research the top innovators since 1900 and find what made them successful. Decide what "good" means, as individuals or in teams. How did vertical integration help/harm the good?

Sci

M

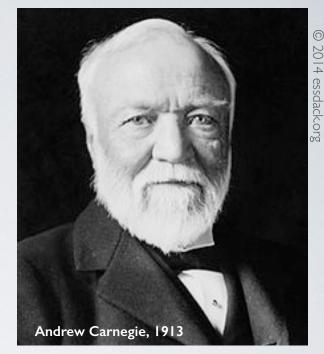
People who are innovators and entrepreneurs often work very hard. What is the optimal sleep pattern and nutrition guide for someone operating globally from their computers? How have environmental factors played into the social entrepreneurship movement of the 2000's? What are the anatomical or environmental factors that you're going to include in your entrepreneurship venture? What's the research to show the good?

Research financial figures for your business plan which includes risk, initial investment, price points, profits, projected time for returns on investments, etc. Compare a more conventional approach to the costs of social entrepreneurship, if a comparison exists. Figure the number of lives that will be impacted by various options and scenarios in your plan to help select which route to take.

Research various philanthropic organizations as well as Social Entrepreneurs and innovators. Read biographies and autobiographies. Analyze various organizations to see which are doing the right thing all the time.

Write a business plan for an entrepreneurial venture that addresses a societal need of the world, but that also is able to generate profits for yourself and/or investors.

Consider your audience and put the plan into action. Blog about your venture as it progresses to learn from your own actions and decisions.



# CREATING A GREATER GOOD

Social Entrepreneurship: Can we make money by doing the right thing?

College & Career Ready

Set 6



## CREATING A GREATER GOOD

a step-by-step guide

LifePracticePBL.org

#### Before-project prep

Decide the time-scope of the project. Establish connections with experts in case students need them. Find/create access to primary documents, websites, experts, and museum virtual field trips. Research Social Entrepreneurship and envision your students' interests. Be sure parents are informed of project scope and learning involved. Ensure all educators are clear with timeline, content expectations, and end results expected.

#### Launching the project

Start with a "bang," by talking about the Occupy WallStreet movement, or Ponzi schemes, or even the Robber Baron era (depending on your community). Talk about the dangers of greed and the evil the world has seen. Can we still make money by doing good in the world? Introduce potential work teams and partnerships (Economists, Environmental Scientist, Biographers, Entrepreneurs). Ask students to self-select their own teams OR assign team members. All involved educators are visibly positive and supportive of the absolute importance of "doing the right thing" as defined by each student individually. Do not let your personal judgement interfere, but some guidance is recommended.

#### During the project maintenance

Students will complete initial research about social entrepreneurship, Robber Barons, etc, collecting cited information in collaborative documents. Students will create a business plan and put it in action, if that's a goal for the project. Teachers' #1 role is to help students focus on the throughly researched business plan and engaging quality of the presentation.

#### **Ending the project**

Take pictures of students/teams in the learning process. Share the plans and accompanying presentations with both local and distant news outlets, chambers of commerce, etc. Evaluation: students share their ideas, focusing on the learning and skills-building and not simply what they did. Share results with local media.

- All students enjoy learning when they can be successful. Provide whatever environment it takes to foster enjoyable learning opportunities for every single student.
- Find a way to help students safely evaluate the performance and growth of other students. Fishbowl conversations where students share "wows" about the work of a group of students is the first step.
- Students need help learning how to prioritize tasks. When it's time for them to wrap up for the day, always end with the expectation that they'll create a prioritized list of tasks to work on before the next meeting. Not all will be able to work, but some will and it sets a tone of 24/7 learning.
- After a presentation or during the work, students should practice asking "How is it you..." when learning how to be critical of another's work or behavior.

  Constructive criticism is a learned skill, both offering and receiving it.
- PBL is the best way to help students of all ages develop those essential college and career readiness skills that are beyond the core academic expectations.