

Habits of Leaders



A Full-Circle Learning

Humanities Curriculum for Secondary Schools

Part 3 in a Series

(Language Arts with links to Science, Economics, Social Studies and the Arts)

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Introduction

Hope arises when a generation learns to honor the talents of all while working together to benefit the human family—and sharing in the inspired leadership process that emerges as they do.

Your choice of the role of educator calls upon you to serve as a visionary, a leader and a role model. It also calls upon you to see in your students the same potential and innate search for meaning that inspired you to find a calling that would provide such an essential service to society.

You will facilitate students in finding context and purpose in their learning – in adding complexity of their understanding of the world and the basic skills needed to transverse its contours and sustain a living for themselves and their families, ultimately, while also finding an altruistic niche for their unique capacities. Almost every student has a unique blend of creativity and critical thinking skills waiting to be tapped, along with inner tendencies waiting to become positive habits, if nurtured. Research, now more than ever, assures us of the potential of the babe in arms to grow into the humanitarian or the change agent who can apply knowledge, skills and wisdom in concert with others to influence the community transformation process, in the hands of visionary teachers and leaders. Stepping into that role may change your life as well as theirs.

Summarizing the Educational Approaches

This curriculum embraces several educational priorities. Some of these include:

- a) integrated education, in which content areas are linked to each other and to the broader goals of character development and community building; each learning unit presents the character theme as the impetus for growth. This theme threads through all the content areas in the unit and leads to local and global service outcomes as the culmination of the unit.
- b) project-based learning, in which applied skills have a benefit in the real world, helping students grasp the value of their education and quickly translate understanding into relevant action.
- c) process-based learning, in which experiential activities and applications influence both cognitive and socio-emotional development as well as peer culture.

Teachers explore many strategies involved in putting these approaches into practice in the Full-Circle Learning training course, which is recommended for schools applying this model.

About Planning

This section includes helpful tools for teachers to apply during the planning process. Review this section and use the materials to customize each unit. The final Chapter also offers support strategies for building a school culture that aligns with the goals for curriculum design.

The priorities and goals of education vary slightly for each educational system and school. Subjects, schedules and strategies may be weighted according to the value system embraced within a specific learning community. Yet teachers and parents around the world tend to recognize certain universal values that relate to the health, happiness, intellectual development and well-being of both the individual child and the community.

This curriculum encourages teachers to adapt and customize the projects to the local region, to empower students to improve their own communities and to emphasize required organizational priorities and timelines. Most teachers find it helpful to have a guide to creating a pacing plan over the course of a unit and over the course of a year. These plans help them to address the need to add chronological steps within the process, or to help students scaffold their knowledge, reasoning capacity and application of skills.

While a teacher must see the end goal before preparing the first lesson, the 13-S Step template shows the order in which the *students* experience a curriculum. It demonstrates the outcome rather than the order in which the teacher conducts his or her planning steps.

The most effective Full-Circle Learning teachers, even those very gifted at spontaneously teaching “in the moment,” will start by planning. The following factors will commonly guide the planning process:

- a. age-specific learning goals;
- b. human needs that students can address in the broader community, and the related community resources to help address them;
- c. goals for linking the character goal to these identified community outcomes and academic outcomes;
- d. specific activities teachers adapt from the curriculum using the 13-S learning unit template;
- e. a plan book or calendar to schedule the activities, bring about the learning objectives and complete the projects over the course of the unit;

- f. a pacing plan that extends over a month, a semester or a year, to incorporate all the units in the curriculum.

As you plan, remember to factor in time for students to teach and reteach needed skills (for example, time for revising and enhancing written work in advance of a community project, time to review math functions needed for a statistical chart, etc.).

The series of steps in Exhibit A shows how a teacher integrates a particular habit-of-heart theme or desired life skill to extend its relevancy through all the academic and creative content areas, culminating in the service projects. The teacher leads students toward a sense of motivation and accomplishment that transcends a test score alone and helps them contribute to the wellbeing of others through a well-placed, purposeful application of skills that underlies moral instincts and habits. The teacher's goal, then, is to inculcate the deep gratification that comes not only with a job well done, but a job applied in pursuit of a meaningful life.

At certain times during the human maturation process, this process looms as an essential need:

- In early childhood, when the brain is growing quickly and the innate tendency toward altruism can benefit most from the nurturing of this link between intellectual and emotional development of traits such as empathy, kindness and cooperation.
- During the elementary school years, when personality traits become habits and cultural values and when children seek boundaries and confirmations that help them define how to measure the results of their life's work.
- During the adolescent years, as young people increasingly look for role models beyond their own family members; they increasingly seek individual identity and purpose, while relying even more on the peer group values; based on neurological research, they are hard-wired to create bonds with role models who show them how to live a meaningful life. *

Students emerging from childhood to adulthood especially need the infrastructure of a curriculum that allows them to take initiative while still respecting core community values. Studies show that they remain engaged when they experience a sense of belonging within a positive peer culture while exploring their capacities to contribute something valuable based on personal strengths.

The secondary curricula for Full-Circle Learning factors in the sociological perspectives of these youth while maintaining the pursuit of purpose as a high priority for education that motivates learning and personal growth, unites communities, and advances civilization in life-affirming ways.

Read each unit carefully well before the day you enter class to present the materials. Make a unit plan and collect any materials needed to present it. Collaborate with other teachers on your team and reproduce the pages you need to plan meaningful activities based on the supplementary books and library or computer resources available to you

and your students. The future is already here. You are looking at it when you enter the classroom and see the faces of your students. Make the most of it.

Exhibit A: The 13-S Steps

1. Sense it.
Present an anticipatory set or attention-getting activity that piques curiosity or connects to prior knowledge, to explain the significance of the habit-of-heart. Tap as many of the visceral senses as possible. Emotional impact or positive memories can also provide sensory experience. Let the process supersede the formula, and be sensitive to the psychological proclivities of the group. For instance, if a classroom of students has been traumatized by a shared experience in their community, an appropriate activity for Step One might be an activity to allow students to rebuild bonds or to express something restorative about their shared experience, as it might offer the emotionally healing act that moves them forward as a learning family with a sense of purpose. (Do not ask students to relive a trauma and do not present an unpleasant experience for this introductory step.) Connect joyful or enlightening sensory activity with the context of the habit-of-heart projects you will pursue throughout the unit. (See examples within the curriculum.)
2. See it.
Write the habit-of-heart on the board in large letters.
3. Say it.
Clap out the number of syllables. Have the students clap with you.
4. Synchronize it.
Give the syllables in the word different pitches and sing or chant the word together, to help the students remember the word (or let a volunteer offer an appropriate melody). Synchronizing pitch and syllabic sounds is especially effective with long words.
5. Shape it.
Draw the shape of the word around the written word. Have all students write the word on their own paper (or for young preschoolers, provide a paper with the word prewritten) and draw the shape around it. Explain that this box is not part of the written word but will help them remember how to spell it.
6. Symbolize it.
Demonstrate an action associated with the word. Have the class practice this action. Let students practice other actions associated with the word. Challenge students to draw a symbol next to the word that will help them remember what it means. You may offer several symbols as suggestions.
7. Show it.
Assign role plays on the conflict bridge associated with the word. Using puppets or dolls may help shy children overcome their fears.
8. Storytell it.
Read aloud a story about the trait, engaging age-appropriate learning skills among the students. Discuss how the story would have ended differently if certain characters would have used the habit-of-heart

differently. Also use guided imagery to help students envision the quality's application in their lives. (Literacy take-home books may be available for the youngest preschoolers.)

9. Sing it.

Teach students a Habit-of-Heart song about the current habit. Students will rehearse it frequently, for enjoyment as well as for performance, with an emphasis on the idea that music is a gift they give to teach others what they have learned. (In a preschool class, the shyest students may hide behind props they wave and still feel they are participating.) English language learners will focus on identifying words on the song sheet as they listen to the music.

10. Standardize it.

This step often expands into days, weeks or months of activity, as you integrate the unit theme into all the standards-based academic content areas and arts-based areas, based on the objectives and learning outcomes expected in your educational program. Teach the context of basic concepts within social studies, science, language arts and math or economics. Apply process-based learning and project-based learning where possible, as suggested in the lesson plans or as your age-appropriate content suggests.

These artifacts created with new knowledge may become tools to teach others as students implement service activities that occur in the following steps. If yours is not a full-day school but an enrichment program, this step may be referred to as the Supplement it step because it can change in length based on the schedule, content areas and flexibility of the educational program.

11. Send it.

Students learn a quote or learning concept about the habit and make pictures that depict the concept. Send the pictures to international pen pals or friends and ask for feedback or provide a joint service goal as the outcome of the mailing. If possible, include photos of the students and artifacts of their learning, and ask for information about the other students.

12. Share it.

Students have already experienced global connections on a small scale. They now need to see the value of their teaching and learning in their own community. They sing and present their learning and give handmade gifts to an audience of adopted grandparents or to someone in the community who needs their service, or they teach the concepts to students in another classroom by singing or pantomiming songs and displaying artwork. (In one school, the youngest students taught the older students their songs periodically, and vice versa.) In a school or setting where all students are presenting, students may participate in a school-wide museum or other off-site service field trip. Also have students return their Habits-of-Heart homework depicting how they practiced their learning at home.

13. Sustain it.

Allow circle time or “council time.” Older students may pass an object to take turns speaking, or they may write in a journal. Discuss the positive impact of the project in terms of community change. How will the internal and external successes of the projects help to sustain the habit-of-heart in the community and in the individual, through transformation of character and joint participation in enhancing the wellbeing of the human family? Consider further connections between project-based classroom content and character lessons with service to humanity as the outcome. When this reflection time produces a sense of sustained commitment to the habit-of-heart and to the integrated content skills and wisdom learned in the unit, you are ready to proceed to the next unit.



Matching Community Needs and Resources

(This sample shows how teachers brainstormed the links between needs, resources and educational requirements. Reproduce these blank pages for personal brainstorming use as you read the chapters that follow and customize for local use.)

| Month | Habit-of-Heart and Key Integrated Academic/Arts Goals or Outcomes | Broader Community Needs for Service Related to Themes | Share It and Send It Steps | Potential Contacts (Guest presenters, field trip hosts, mail or email recipients, etc.) |
|----------|---|---|---|--|
| Example: | <p>Theme: Aspiration</p> <p>Skills: Humanities– Research skills Writing persuasive letters</p> <p>Research of current events shows context between daily life and economic structure</p> <p>Economics/Math– Understanding economy; co-ops, microloans</p> <p>Art: Murals as math to honor</p> | <p>Need for jobs</p> <p>Need to upgrade infrastructure</p> <p>Need higher standard of living for the under-employed</p> | <p>Current events to explore gaps between needs and jobs and to identify new opportunities; Letters to civic leaders</p> <p>After chapter, identifying skills, goals and aspirations; collect ideas through wisdom exchange</p> <p>Create class co-op with new skills; give help to creating hope for all Post public mural</p> | <p>Guests: Civil engineers, college students, business owners</p> <p>Field Trip: Public facility where mural will be posted.</p> |

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| | skills that build community | | to honor contributors to community | |
| Month | Habit-of-Heart and Key Integrated Academic/Arts Goals | Broader Community Needs for Service Related to Themes | Share It and Send It Steps | Potential Contacts (Guest presenters, field trip hosts, mail or email recipients, etc.) |
| September | | | | |
| October | | | | |
| November | | | | |

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|-----------------|--|--|--|--|
| | | | | |
| December | | | | |
| January | | | | |
| February | | | | |
| March | | | | |

| | | | | |
|--------------|--|--|--|--|
| | | | | |
| April | | | | |
| May | | | | |
| June | | | | |

Backwards Planning and the 13-S Steps

Backward planning helps teachers see the end from the beginning. Even though the steps appear in chronological order, based on what the students experience, the teacher's process is just the opposite. We must envision the finish line before taking the first step.

To begin this process, first look at the content of the unit plan and think about academic standards you need to teach over the course of the unit. Some ideas you will immediately see ways to implement and others you will want to adapt uniquely for your learning community or region. Note these special adaptations such as unique community needs and special human resources on the resource sheet called Community Needs and Resources. Starting with the habit-of-heart theme and the service ideas in your unit, where will you need to customize? What type of share it and send it projects from the curriculum need adjustments to best help students exercise their skills while enhancing the transformation of the community? Which of these projects strengthens the current habit-of-heart? How might the project integrate relevant skills in multiple content areas? Social Studies, Science or Literature often provide a starting point, while Math often reinforces supportive skills for a project. (For one project, you may focus on math reasoning; for another statistics, pie charts or bar graphs may help advocate for a cause; for another, students may build using by employing geometry concepts, etc.)

Check the curriculum first for ideas. Use this note taking resource only as needed, to customize. Once you have a strong idea, identify your Share-It and Send-It steps. These project ideas may come directly from this Full-Circle Learning curriculum, but they will necessarily involve customization in terms of the details; or they may be completely customized to your local needs. Supporting music might come from a Full-Circle Learning source (CD or download) or may come from local resources. Introducing students to many genres, over time, can expand their understanding of the universal nature of artistic and musical expression as service to society. Although the template may be just a plate to more specifically plan the projects listed in the curriculum, it can also help you adapt the plan for specific community needs and available resources.

Once you have identified your service project plans, you are ready to plan for the other 13-S steps. Sometimes these steps will shift based on the changes you have made in your particular service project, but customize the concepts as needed. Know that the curriculum is here for you to draw from as needed, adding or adapting to allow the teacher, student and community participation that make it appropriate for your learning community. **If possible, reproduce the following pages to ensure that you will have one template per habit-of-heart unit.**



Template for Full-Circle Learning Unit Plan

13-S FORMULA

Copy and use this template to make notations on your overall plans for each unit of study.

HABIT-OF-HEART: _____

DATES: _____

COMMUNITY NEED/S STUDENTS WILL ADDRESS: _____

| DESCRIPTION OF STEP | NOTES TO GUIDE PREPARATION |
|--|----------------------------|
| SENSE IT. Present an anticipatory set or attention-getting activity that piques curiosity, links to ultimate service goals, or connects to prior knowledge to explain the significance of the habit-of-heart, using as many of the senses as possible. Follow up with descriptions or examples to demonstrate the meaning of the word. | |
| SEE IT. Write the habit-of-heart on the board in large letters. | |

| | |
|--|--|
| <p>SAY IT. Clap out the number of syllables. Students clap along.</p> <p>SYNCHRONIZE IT. Students give the syllables in the word different pitches and sing or chant the word together. Synchronizing pitch and syllabic sounds is especially effective with long words. The chant becomes a cheer to use when students are practicing the habit-of-heart.</p> | |
| <p>SHAPE IT. Draw the shape of the word around the written word in a way that suggests a visual metaphor. Conduct a kinesthetic activity to reinforce the meaning, such as building a human train to represent cooperation. Have younger students write the word and draw the shape to promote word recognition and to reinforce the concept.</p> | |
| <p>SYMBOLIZE IT. Have students agree on an action associated with the word. (Prohibit gang signs.) Have the class practice this action. When calling the class to show the habit, instead of using the cheer, a student or teacher can silently use this gesture.</p> | |
| <p>STORYTELL IT. Use real-life applications, current events, examples in recent assignments, role plays or literary passages that present opportunities to discuss the habit-of-heart. Discuss how the plot might have ended differently if certain characters had applied or not applied the habit-of-</p> | |

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| heart. Students imagine the most positive endings. | |
| <p>SHOW IT.</p> <p>Collect examples of relevant applications from curriculum, current events and school culture.</p> <p>1. Assign hypothetical demonstrations on the conflict bridge, using interpersonal, community-based and international conflicts.</p> <p>2. Use guided imagery to help all students envision the application of the quality in their lives.</p> <p>3. Reinforce the habit by making Habits-of-Heart homework a tradition. (Students show/describe how they practiced the habit. Parents participate.)</p> | <p><u>Describe the Conflict Participants:</u></p> <p><u>1.</u></p> <p><u>2.</u></p> <p><u>3.</u></p> <p><u>Guided Imagery Theme (repeated twice weekly)</u></p> |
| <p>SING IT</p> <p>Rehearse a Habit-of-Heart song about the current habit, emphasizing that music serves two purposes, as a gift of joy and comfort or as a tool to inspire action or advocacy</p> | <p><u>Song/s:</u></p> |
| <p>STANDARDIZE IT (SUPPLEMENT STANDARDS-BASED LEARNING.)</p> <p>Look for thematic threads of continuity in core content areas. You will find suggestions throughout this book. Here, students express the habit through research, study and action. Apply process-based learning and project-based learning where possible. Use graphic organizers, to connect thematic and academic content. Integrate two relevant ideas</p> | <p><u>In the spaces that follow, write page numbers of activities to emphasize or key words of activities you will add to unit.</u></p> |

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| <p>to the end service goal or to the objects being produced as a service to society. Apply authentic outcomes wherever possible, as students create artifacts that become gifts to honor those working in the fields or products used for advocacy or problem-solving.</p> | |
| <p>SEND IT. Create a wisdom exchange with another class. Seek information or send congratulations from a research facility. Mail or email a wisdom exchange to a global classroom collaborator. Write to newspapers, professionals or officials, in reference to a service goal.</p> <p>For global collaborators, if possible, include photos or drawings of the students and artifacts of their project, telling of its impact and relationship to the habit-of-heart. Challenge the distant brothers and sisters to share ideas and to join them as they address the issue. (i.e.poverty, deforestation, energy concerns.)</p> | <p><u>Service Objective and Learning Goal Reinforced:</u></p> |
| <p>SHARE IT. By now, students may have already experienced a distant connection with the human family. They also need to witness the value of their teaching and learning in their own community. They teach or advocate for a cause or share something they have created with their knowledge to help the community. They may sing and present to an audience they are honoring on a service-learning field trip. Alternatively, in some cases, local service occurs onsite, by bringing a guest presenter in or by creating an in-school museum.</p> | |

This step helps students reflect and recognize the value of their unit-long efforts to enhance the wellbeing of those served. (It is not the project steps being sustained but the lifelong commitment to the habit-of-heart. However, when necessary—for example, if you grew a community garden--you may also need to discuss whether any follow-up steps are needed on the completed projects.)

Commit the class to make the habit-of-heart an ongoing part of their code-of-ethics and pattern of life as an altruist/change agent/ sage/ hero/ ambassador/helper/vision seeker/humanitarian, etc.

Activity for Reflecting on Community Impact:

Challenge for Sustaining the Habit:

Habit of Preparedness

Emphasis: Research Skills

Resource Sheets used in this Unit

- *An Unexpected Call to Serve*
- *Wear the Thinking Cap of a Laureate*
- **Junior Entrepreneur's Scheme** (Companion Curriculum)
- *Ideas Into Action*
- *Applying Knowledge to Benefit Society*
- *Selected Science Standards*

Sense It Step

- Distribute scraps of cardboard around the room.
- Give students a special challenge. They have three minutes to make a table from the pieces of cardboard. They cannot bend or cut the cardboard.
- In five minutes, ask if anyone has completed the task. If so, they may demonstrate how.

(Some will say it is impossible. Others may have gathered together to see if some pieces will stand while other pieces will lay flat on top of them. Based on their techniques, debrief the activity.)

- Ask:
 - What would have made it easier to conduct the activity? (Gathering more tools and materials)
 - What tools did you have to work with? (Just cardboard and ingenuity and teamwork.)
 - Ingenuity and creativity go a long way, but imagine how much farther we could go if we first studied table making as a craft, found the right lumber, planed the wood, used a tape measure to cut legs of equal lengths, created the legs, fastened the pieces together and maybe carved or painted or finished the table. Would this take longer than three minutes?
 - Our third ingredient then, beyond ingenuity and materials, is **preparation**. This requires both time and incentive.
 - Preparation is required for all types of excellence, both in improving our character, our skills and our creative gifts. Researchers who studied the success of world class musicians found a definite relationship between the

number of hours practiced and whether or not a player achieved professional status. If we have a gift and we challenge ourselves to cultivate that gift, we will take the steps of preparation to improve until we reach a meaningful goal. Preparedness brings productivity.

(Save the cardboard, which will be used in a later activity.)

See It. Say It.

Write the word on the board. Say it together and clap the syllables.

Synchronize It

Choose four students to each sing a syllable. Syncopate the rhythm together. Take five minutes to create a group song, to help the class remember the word, which you may use to create a new morning routine and as an impromptu celebration song whenever students practice the habit-of-heart.

Shape It

You may want to exaggerate the tails on the Ps to look like table legs, to emphasize the object lesson.

Storytell It

Present the essay, "An Unexpected Call to Serve." Read and discuss it.

Journal or Art Activity:

The Nobel laureates were all young once. They all had dreams. What was the goal of the laureate you chose? What do you think he or she do differently than most people?

Have you heard the song lyrics, "Some people have a plan. For some it is just a dream. The only real difference between the two is the path that lies in between."

Draw a pathway with steps on it. Where are you today? Name a goal you would like to reach in three weeks, one in three months and one in nine months to a year.

Write these as steps on the path. Under each goal, list two things you will do to reach that step. Keep this pathway where you can check it often.

Sometimes the more we know about a goal or project, the more steps we realize it involves. As we see the need for more steps, we can add more sheets with preparation

steps relating to each line on the path. These smaller preparation steps could expand, but they should all lead to the long-term goals you have planned.

Practice writing preparation steps when you plan an assignment or when you plan your day. How many short-term sets of preparation steps lead to the achievement of a long-term goal? Imagine a tree with small leaves all over its branches. Without any one leaf, it would not be the same tree. Yet with only one, it would not be a tree at all. The greatest trees are those with the most leaves, and the most accomplished individuals are those who prepared in many ways, over many days, along the way. It became such a habit, they no longer had to think about it, just as a tree does not stop and think about each leaf it grows.

Challenge: Make a priority list each day of three things you think are most important. Under each one, list three tasks or steps you will take toward that goal. See if you end up spending your time differently after a week than when you just write down a schedule.

Show It

Preparedness affects the way we work in groups. Try this exercise in which your class is an agency designated to bring about food security for your country. (The term food security refers to a situation in which all people have access to the food they need for a healthy life.) In order to prepare to meet the challenge, you must first determine how the current nutritional or food-based issues affect health in your region. For example:

- How does lack of sufficient nutrition affect the health of mothers and infants?
- How does it affect students trying to learn in school?
- How does nutrition affect disease and life expectancy?
- How do imports and exports affect nutrition?
- What is the current condition of agriculture in our country?
- What fields of study would best help us address the need?

[Discuss the high rates of anemia and underweight mothers giving birth to children who will never learn due to retardation; the young life expectancy due to malnutrition; the high cost of a rice-based diet without enough agricultural diversity. Assign each group to research the progress in one of these trends. Also help them identify fields which can affect the trends, such as nutritionist, nurse, doctor, botanist, farmer, economist and policymaker. Preparedness means thinking of all the needs that relate to a situation and gathering all our resources to address those needs.]

While practicing preparedness, we must be careful not to practice competitiveness. There is a difference! Try resolving hypothetical conflicts on the conflict bridge, such as the following. (Give each group one conflict to resolve for the class).

1. Your family is struggling, and you want to go to college. You know you must earn some money of your own, both to help your family and to earn tuition. Your brother knows wants to do the same, so he is earning money in the neighborhood. He has a skill you don't have and you have a skill he does not have. Neither of you have taught each other. Instead, you have always tried to outsmart each other. Today, you are arguing about who has the right to go to school. How can you find a better way to help each other practice the habit of preparedness? Creatively demonstrate it on the conflict bridge.
2. Two scientist friends have been working hard to discover why there are round, barren patches in the nearby fields, where nothing can grow. One scientist has a theory about termites working underground to plow the land. Another has a theory about returning meteorites that gouge the ground at night. Rather than take the preparation steps to research both theories, you have spent your time arguing about who is smarter. How will mastering the habit-of-heart affect your relationship with each other? Demonstrate a solution that will help both of you.
3. You want to prepare for a group project in class. One person has been doing all the work without thinking or planning. The other person knows nothing else is needed, and so that person sits and watches. Both are getting upset. How will you introduce preparedness as a means for healing hurt feelings on the conflict bridge?
4. As a nursing student, you missed your first class on life-saving medical techniques. You passed by someone who fell on the street yesterday, embarrassed that you did not know how to help but justifying it because you thought he was drunk. He sees you today and does not respect you because you walked right by. For his part, he was just faint from hunger. He once worked on the rubber plantation but was hurt there and decided to become a taxi driver to guide the tourists around. However, he was slow in taking the preparatory steps to get his driver's license, and he had completely run out of money for food when he last saw you. You are both blaming the other that you feel badly about yourselves. You must come to realize the role that preparation plays in serving others in society.
5. You were asked by your neighbors to head a group to find a way to create more green space in your community and to un-pollute the river, because you talked about the need for a safe place for people to come together. Now they want you to act, but you have not done your research. You go to the authorities to ask for help. They ask a lot of questions you cannot answer, because they are not prepared to make a change. How will you both realize that preparedness is the key ingredient to helping the people?
6. You work at a small corner business. It has been robbed twice. If you had your own business, you have chosen just the spot where you would put it and know how you would provide a service without attracting criminals. You want to apply

for a grant to do so. Your employer does not want you to leave, as the employer will be even more vulnerable to criminals without your help.

7. You are struggling to complete your schoolwork. You went to your friend for help with your math assignment, and the friend gave you answers, but it turned out, the answers were all wrong. On the test, neither of you performed well. Now you are angry at the friend, and he is upset that you asked him in the first place. What could you both have done?

Standards-based Learning: Humanities

Distribute the Student Resource, *Wear the Thinking Cap of a Laureate*.

Students each select a Nobel Laureate whose life they must research, using online or library resources. (The website appears on the resource sheet.) If possible, have each student choose a different laureate of their own gender, and vary the professional fields selected.

Students research what the Nobel laureate contributed to enhance the well-being of the human family and try to learn what preparation was required for this work. They explore the circumstances of the laureate's history and place of origin and discover at what age the leader developed a vision or a plan. If they cannot find enough data, students may want to choose another laureate or choose another humanitarian, writer, economist or scientist who has made similar achievements in life.

Students research the countries of origin of the laureates. They study the influences that made the work outstanding for the laureate they chose. Then create presentations based on questions such as the following.

Research Questions:

1. What is the laureate's country of origin? What was the educational or economic status of most people living there at the time?
2. What major issues plagued people during the time period in which the laureate was born? How did culture, gender, religion and/or ethnicity affect him or her?
3. What preparation was required for the laureate's work? How did the laureate accomplish these steps, coming from in the country where he or she lived?
4. What conditions in the country or in the laureate's personal life presented obstacles or incentives for this particular line of research or achievement? (If this information is not available about the laureate specifically, research the question more generally about the country.)
5. Did the laureate turn challenges into opportunities? If so, how?
6. How did this person begin to apply their skills to a need in their field?

7. What impact did the laureate's work have on the local community? On the world community? (If you can do so, explain the policies, principles, social movement or science behind the works. If not, explain the impact more generally.)
8. Do you know of anyone whose life is better because this laureate existed? How so?
9. If you have selected a science-based Nobel laureate, work with the science teacher to understand and demonstrate the principle their work taught with a simple diagram or picture.
10. What source material (websites or biographies) might give an insight into the struggles overcome in order to prepare for and pursue this work?

Students draw scenes representing the life of the laureate and the preparation steps they took from youth until the time of their life's greatest achievements for the benefit of humanity. (Not everyone wins an award; most likely, the dignitary's work itself was the most fulfilling part of their lives.)

They study the life of the character so thoroughly that they know as many details as possible about the person. If possible, they memorize excerpts from the speeches in preparation to represent the character at an upcoming event.

Standards-based Learning: Integrated Content

The **Economics** teacher will present the **Young Entrepreneur's Scheme** curriculum, which helps students prepare their own plan for developing small business projects. Students will create posters to show the steps they took after applying the curriculum. These will be used to line the walls of a community hall or school room simultaneously with the Nobel Prize winners' posters. Attention to this curriculum will be continued over time.

The **Science** teacher will review the relevant science principles on *Selected Science Standards*, especially those taught earlier in the year. Next the teacher will introduce the activities on the resource sheet, *Applying Knowledge to Benefit Society*.

Assign students to work in groups. The teacher may want to underline only the principles already studied in class before distributing both sheets.

These activities can extend over time to complement the daily classroom activities in the science class.

Share It

Distribute the student resource sheet *Wear the Thinking Cap of a Laureate*. This activity challenges each student to don the identity of a Nobel Prize laureate in an improvisational performance during an event, to inspire younger students to prepare for a life of service to community. Challenge students to play the role of the laureate they selected for research.

This event might be combined with the *Ideas into Action Fair*. (See resource sheet.) The accomplishments of Nobel Prize winners could be featured in one part of the exhibit, while the students' own entrepreneurial efforts and scientific displays could be presented in the Economics and Science teachers' areas. It would be important to invite the audiences who could benefit most from viewing each portion of the exhibit – those who will take advantage of business services, who will listen to the physiology messages, and who will be inspired to greater advances by the Nobel exhibit.

Emphasize the role of preparation rather than the “specialness” of individual talent in this exhibit.

Send It

Have students write news articles about one another's entrepreneurial enterprises, inventions and other achievements. They can check each other's work for facts, grammar, and spelling. Including pictures and drawings, have them submit their packet of articles to a local newspaper or post them on a bulletin board, to spread awareness of new services and opportunities available through young people. They may also spread awareness through technology. Each student should practice journalistic skills by interviewing and telling about a product or service offered by another student or team of students.

Possible Interview questions:

1. What need has been unmet sufficiently until now?
2. What new service, invention or device is addressing this need?
3. Who has created the product, service or process?
4. Does it have a name?
5. How does it work?
6. What benefits does it provide? What are the unique features?
7. How did the originator think of the idea?
8. What preparation steps went into taking it from the idea to the action stage?
9. How can a person access it?
10. What influence do you predict it will have on the future?

Sustain It

Let students close their eyes and imagine what they would like to create in the future if they could do anything they wanted to do with the skills they have learned in this unit.

Next, have them share one person they spoke with who was inspired by their work and one person whose work inspired them.

Ask each student to journal the preparatory steps they will take next to turn inspiration into action.

Resource Sheets

Student Resource

An Unexpected Call to Serve

Our plane scudded through a bank of gray and landed in the chill of a December afternoon in Stockholm, Sweden. Snow lined the sidewalks and streets. We walked to Old Town, a section of the city centuries with cobblestone streets that had never been bombed during all the European wars. Ice skaters in the park stopped to warm their hands at a fire where chestnuts roasted, sending gray smoke to marry the clouds in the ashen sky. With the approaching winter solstice, night would fall before three in the afternoon, and the wan light would not appear in the sky again until ten o'clock in the morning. Candles in every window fought off the message of winter with a warm glow of excitement about two coming holidays – St. Lucia Day and Christmas. We had come there for research and also for an event that rivaled the national fervor of the holidays—the Nobel Prize ceremony. A friend and colleague, Lou Ignarro, had won the prize in medicine.

Dr. Ignarro had worked for many years to discover the properties of nitrous oxide in the blood stream. His discoveries brought about several advances in health care. He and the winners in other categories had a weeklong list of events to attend. Like the others, he had received a call from the Nobel Committee without warning, for one cannot apply for a Nobel Prize. You earn it over a lifetime of preparation to achieve something life-changing for others.

Each of the academies who selected the prizes winners hosted a ceremony for winners. At the main press conference, a journalist asked why someone from his country had not won the prize in medicine, and the head of the Nobel Committee silenced him, saying, “This is the one time of year when the news focuses not on the popularity of individuals but about the achievements that serve the greatest benefit for humanity. We draw attention now to where the media’s attention *should* be all year.”

We could see the evidence of his statement in the way the city itself had evolved. Everywhere we turned, the architecture, the policies, the monarchy had turned the attention of the people toward empathy and doing good for humanity, whether through civil engineering or daily work or school activities. High school graduates were drafted not to fight but to work in eldercare and childcare. City streets and buildings were well maintained. Stairways even had ramps with straps for runaway wheels. Consideration

for others seemed rampant in a country where the task of the king and queen was mainly to bless positive action and the parliament's role seemed to be to pass and fund fair laws.

Who could evaluate the influence of the Nobel Prize not only on the world but on Sweden itself—and yet it began with one man's reflection on the difference between personal choices that bring destruction and those that bring blessings upon others.

You see, Alfred Nobel had grown up as the son of a gun powder manufacturer. He understood the scientific properties of gun powder and, as a scientist by inclination, experimented with it as a child, even blowing up his home and his own brother in the process.

When he grew up, he eventually became associated with the invention of dynamite, which advanced the war weaponry of his time and advanced the capacity for killing many people at once.

Alfred Nobel had a heart condition. His doctor wanted him to take nitroglycerin, but he refused, as he used the substance in his manufacturing process, and would not put explosives in his body. As a result, he had a heart attack one night, and was taken off the hospital by ambulance. In the morning, the hospital staff brought him a newspaper.

Eating his cream of wheat and coffee, he must have choked a bit when he read his own obituary in the morning papers, announcing him dead on arrival at the hospital. The article talked about his contribution to society in less flattering ways than he would have hoped, calling him the master of destruction for inventing dynamite.

Nobel felt chagrined. He reflected on his life and all the years he had spent preparing for a goal that brought only suffering. What could he do to turn audacity into sagacity (the act of being a sage)? He thought of a private plan. He called in his attorney and swore him to secrecy. He drew up a will and made sure his fortune would be invested wisely, so as to ensure that a million dollar award could be given in each of several categories of human achievement for at least a century after his passing. He defined which institutions should serve as judges to give the awards for these achievements, so the work of the prize winners could continue. The institutions would spend all year conducting their research before announcing the prize, which would be awarded each December. The king and queen would be called upon to give the awards.

Alfred Nobel did not design these prizes to exonerate himself in this lifetime. In fact, he did not want the plan announced until after his actual death, when his attorney contacted each of the academies or institutions invited to form the Nobel Committee and to select the first recipients. The Nobel Committee became so vigilant in their duties that the prize is now the most talked-about honor in the fields of physics/medicine,

peacemaking, chemistry, literature and economics. One category was added last, and one prize is given in Oslo, but otherwise, the process has remained much the same since it was first instituted before the turn of the twentieth century.

Another Ironic Twist

The ironic end to my story brings us back to Stockholm in 1998 Lou Ignarro is offering his acceptance speech in the great gilded hall, where the king and queen of Sweden stand before each of the prize winners up on the stage. We look out at all the faces of past winners and co-workers from around the globe, who have spent their lives perfecting their talents and skills in preparation to serve humanity – and we chuckle. Why? The ceremony marks the 100th anniversary of the Nobel Prize. One of the co-laureates in medicine, Lou Ignarro, has finally discovered how nitrous oxide expands oxygen in the blood. If he had been there to explain that discovery to Alfred Nobel on the day his doctor first told him to take nitroglycerin pills, Alfred would have complied, and most likely would have postponed that first heart attack.

Perhaps, then, no obituary would have appeared. Nobel may never have experienced a period of introspection about what lasting benefits his life's preparations would accrue for the human family. The people in that room might have had fewer sources of inspiration to guide their research and their own efforts toward the professional work that most matters in the world.

Thank you, Lou Ignarro, for being born in the century most appropriate and for making the preparations you did. Thank you, Alfred Nobel, for changing your goals while there was still time to prepare.

The Struggle and the Prize

Many people since then have spent many years in preparation for a worthy dream. Many laureates were appointed together, sharing the prize for their year. Teaming up together on the same research project or working on various aspects of the same discovery, especially in fields such as physics, can sometimes help us make breakthroughs we would not otherwise be able to achieve in one lifetime.

In April 2013, an international radio broadcast station (the BBC), aired a show about young scientists in Africa. The conversation turned to predictions that the next Einstein – or the world's most revered scientist-- would come from Africa. The resourcefulness, ingenuity and creative thinking needed to address daily challenges often inspires not only a change of heart, as it did for Alfred Nobel, but a change in thinking processes, as it does for the many great scientists who help us address challenges in health care, engineering and many aspects of life by asking deep questions in their field. As we ask questions, look for solutions, and prepare to apply the years of effort required to test our

solutions, we gradually find ways to improve life for many members of our human family. These are the secrets learned by Nobel laureates in all the fields – economics, medicine, literature, physics and peace.

What great questions course through your mind as you look around you, through a microscope or a “macro-scope” (a wide-angle view of the world)? What questions might unlock the key to improving health or wellbeing or learning in some small way?

One chemist, Ada Yonath, grew up in a poor family who shared their living quarters with two other families of children. She wanted to understand nature, and she also felt continual concern about her father’s medical condition. He died in the hospital when she was 11 years old. She continued to ask questions about how living cells encode and transmit information, through three-dimensional structures called ribosomes. Other scientists thought she could not unlock the mystery, but she worked with a team of chemists until eventually, she led a large team of researchers from around the globe. At last she and two of the researchers were awarded the Nobel Prize in 2009, she wrote:

“Though my research began as an attempt to understand one of the fundamental components of life, it has led to a detailed understanding of the actions of some of the most widely prescribed antibiotics. My findings may not only aid in the development of more efficient antibacterial drugs, but could give scientists new weapons in the fight against antibiotic resistant bacteria – a problem that has been called one of the most pressing medical challenges of the 21st century.”

You may wonder how Ada prepared for this lifelong journey of discovery, initiated by her interest in maintaining the health of living cells. She studied and stayed in school, moving gradually from one level of research to a higher one, applying her observation skills in interesting ways throughout the process. She explained:

“My inspiration came from an article on hibernating bears that pack their ribosomes in an orderly way in their cells just before hibernation, and these stay intact and potentially functional for months. Ribosomes are found in every living being – from yeast and bacteria to mammals – and the structures of their active sites have been extraordinarily well-preserved throughout evolution. We have identified a region within the contemporary ribosome that seems to be the vestige of the primordial apparatus for ... giving rise to life.”

She saw each obstacle on her path as another challenge, a mountain leading to a higher mountain. If she had veered off the path at any one point, the world may not know the mysteries of life that have been so important to new health care advances.

Many Nobel laureates walked a stony path to the Nobel awards ceremony that finally earned them funding to pursue their work easily. One of these, Liberia’s “Iron Lady”,

was awarded the Nobel Peace Prize in Oslo, Norway in 2011, along with Leymah Gbowee and Tawakkol Karman, "for their non-violent struggle for the safety of women and for women's rights to full participation in peace-building work."

Like the chemist Ada Yonath, Liberian President Ellen Johnson Sirleaf took many steps toward an education that would help her change the world in her own way. In November 2005, President Sirleaf became the first woman to lead an African nation.

In October 2007, she was awarded the Presidential Medal of Freedom, the United States' highest civil award, for her personal courage and unwavering commitment to expanding freedom and improving the lives of people in Liberia and across Africa. She was then named by *Newsweek* Magazine as one of the World Top Ten Leaders in 2010.

In her speech at the Nobel ceremony, President Sirleaf talked about her journey, speaking especially to women and girls:

"Mine has been a long journey, a lifetime journey to Oslo. It was shaped by the values of my parents and by my two grandmothers – indigenous Liberians, farmers and market traders – neither of whom could read or write. They taught me that only through service is one's life truly blessed.

My journey was supported by my many teachers and mentors who guided me to a world opened up by the enlightenment of higher education, and which led to my conviction that access to quality education is the social justice issue of our time.

My life was safeguarded when thousands mobilized around the world to free me from imprisonment, and my life was spared by individual acts of compassion by some of my captors.

My life was forever transformed when I was given the privilege to serve the people of Liberia – taking on the awesome responsibility of rebuilding a nation nearly destroyed by war and plunder. There was no roadmap for post-conflict transformation. But we knew that we could not let our country slip back into the past. We understood that our greatest responsibility was to keep the peace."

... There are good signs of progress and change. Around the world, slowly, international law and an awareness of human rights are illuminating dark corners, in schools, in courts, in the marketplace. The windows of closed chambers where men and women have been unspeakably abused are being opened, and the light is coming in. Democracies, even if tentatively, are taking root in lands unaccustomed to freedom.

As curtains are raised and as the sun shines upon dark places, what was previously invisible comes into view. Technology has turned our world into one interconnected neighborhood. What happens in one place is seen in every

corner, and there has been no better time for the spread of peace, democracy and their attending social justice and fairness for all.

Today, across the globe, women, and also men, from all walks of life are finding the courage to say, loudly and firmly, in a thousand languages, “No more.” They reject mindless violence, and defend the fundamental values of democracy, of open society, of freedom, and of peace.

So I urge my sisters, and my brothers, not to be afraid. Be not afraid to denounce injustice, though you may be outnumbered. Be not afraid to seek peace, even if your voice may be small. Be not afraid to demand peace.

If I might thus speak to girls and women everywhere, I would issue them this simple invitation: My sisters, my daughters, my friends, find your voices!

Each of us has her own voice, and the differences among us are to be celebrated. But our goals are in harmony. They are the pursuit of peace, the pursuit of justice. They are the defense of rights to which all people are entitled.

Harmonious Goals, Individual Voices

Consider the list of just a few Nobel laureates who have been honored for their work. Measure them by their works. You might just learn about a new field by studying the life of one of these leaders.

Choose a laureate to research online or at a library. What can you learn about them? Have they spoken words or achieved dreams that inspired you? Memorize information about the laureate you chose.

What are your own interests? How might your voice or mind or heart have a role to play in achieving harmonious goals?

References: Nobelprize.org. 20 Apr 2013 http://www.nobelprize.org/nobel_prizes/literature/laureates

Student Resource

Wear the Thinking Cap of a Laureate

Many people have earned a Nobel Prize since the inception of the annual contest in 1901. The following random list is not exhaustive, nor is it grouped alphabetically or by date. It does represent a sampling of the variety of projects pursued by laureates from diverse regions, whose lifelong work created positive results in the world. Each person, from distant corners of the globe, was able to express their interests, master their skills and serve in their own unique way to benefit humanity.

A Nobel Prize website features biographies of some of the laureates. Libraries also contain some information. At the very least, you may be able to find information about the scientific principle a laureate researched and how it has been used in the world today or about the social or literary movement they led. Research one of the laureates so that you can play the role of this person and speak impromptu as if you had lived their life.

Alternately, choose a theory of your own that you would like to research or a positive issue to which you would like to lend your skills. What personal challenges would you need to prepare for? What habits would you need to master? Play the role as if you had conducted a lifetime of work in that field. (Search for more information in the library or at http://www.nobelprize.org/nobel_prizes/peace/laureates/.)

Peace Prize

1. **Ellen Johnson Shirleaf**, Liberia's "Iron Lady" and president of Liberia: She shared the Nobel Peace Prize with Leymah Gbowee and Tawakkol Karman in 2011 "for their non-violent struggle for the safety of women and for women's rights to full participation in peace-building work."
2. **Wangari Maathai**, the first female in East and Central Africa to earn a Ph.D., was awarded the Nobel Peace Prize in 2004, after her Green Belt Movement helped women plant more than 20 million trees on farms, schools and church compounds, to conserve the environment and to improve the quality of life. She won the prize "for her contribution to sustainable development, democracy and peace."
3. **Nelson Mandela and Frederik Willem de Klerk** -The Nobel Peace Prize 1993 was awarded jointly to them "for their work for the peaceful termination of the

apartheid regime, and for laying the foundations for a new democratic South Africa"

4. International Physicians for the Prevention of Nuclear War

The Nobel Peace Prize 1985 was awarded to International Physicians for the Prevention of Nuclear War.

5. **Aun San Suu Kyi**, of Burma, was awarded the Peace Prize in 1991, while imprisoned, "for her non-violent struggle for democracy and human rights." Her 18-year old son gave an acceptance speech on her behalf.
6. **Rigoberta Menchu Tum**: A Guatemalan human rights worker who won the peace prize in 1992 "in recognition of her work for social justice and ethno-cultural reconciliation based on respect for the rights of indigenous peoples."
7. **Shirin Ebadi**, of Iran, won the Peace Prize in 2003 "for her efforts for democracy and human rights. She has focused especially on the struggle for the rights of women and children."
8. **Mairead Corrigan**, 1977 Peace Prize winner and founder of the Northern Ireland Peace Movement (later renamed Community of Peace People).
9. **Leymah Gbowee** – a women's rights/peace movement worker who shared the prize with Ellen Johnson Sirleaf and Tawakkol Karman (of Yemen) in 2011 "for their non-violent struggle for the safety of women and for women's rights to full participation in peace-building work."
10. **Desmond Tutu**
The 1984 Nobel Peace Prize was awarded to Desmond Tutu.
11. **Dalai Lama**
The 1989 Nobel Peace Prize was awarded to The 14th Dalai Lama.
12. **Mikhail Gorbachev** - The 1990 Nobel Peace Prize was awarded to Mikhail Gorbachev "*for his leading role in the peace process which today characterizes important parts of the international community*".
13. **Mother Teresa**
The 1979 Nobel Peace Prize was awarded to Mother Teresa.

Economics

14. Elinor Ostrom and Oliver E. Williamson

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2009 was divided equally between Elinor Ostrom "*for her analysis of economic governance, especially the commons*" and Oliver E. Williamson "*for his analysis of economic governance, especially the boundaries of the firm*".

15. Robert Lucas, Jr.

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1995 was awarded to Robert E. Lucas Jr. "*for having developed and applied the hypothesis of rational expectations, and thereby having transformed macroeconomic analysis and deepened our understanding of economic policy*".

Literature

16. Wole Soyinka

The 1986 Nobel Prize in Literature was awarded to Wole Soyinka *"who in a wide cultural perspective and with poetic overtones fashions the drama of existence"*.

17. Derek Walcott

The 1992 Nobel Prize in Literature was awarded to Derek Walcott *"for a poetic oeuvre of great luminosity, sustained by a historical vision, the outcome of a multicultural commitment"*.

18. Mo Yan

The 2012 Nobel Prize in Literature was awarded to Mo Yan *"who with hallucinatory realism merges folk tales, history and the contemporary"*.

19. Nadine Gordimer

The 1991 Nobel Prize in Literature was awarded to Nadine Gordimer *"who through her magnificent epic writing has - in the words of Alfred Nobel - been of very great benefit to humanity"*.

20. José Saramago

The 1998 Nobel Prize in Literature was awarded to José Saramago *"who with parables sustained by imagination, compassion and irony continually enables us once again to apprehend an illusory reality"*.

21. Doris Lessing

The 2007 Nobel Prize in Literature was awarded to Doris Lessing *"that epicist of the female experience, who with scepticism, fire and visionary power has subjected a divided civilisation to scrutiny"*.

22. Naguib Mahfouz

The 1988 Nobel Prize in Literature was awarded to Naguib Mahfouz *"who, through works rich in nuance - now clear-sightedly realistic, now evocatively ambiguous - has formed an Arabian narrative art that applies to all mankind"*.

23. Imre Kertész

The 2002 Nobel Prize in Literature was awarded to Imre Kertész *"for writing that upholds the fragile experience of the individual against the barbaric arbitrariness of history"*.

24. Herta Müller

The 2009 Nobel Prize in Literature was awarded to Herta Müller *"who, with the concentration of poetry and the frankness of prose, depicts the landscape of the dispossessed"*.

25. Toni Morrison

The 1993 Nobel Prize in Literature was awarded to Toni Morrison *"who in novels characterized by visionary force and poetic import, gives life to an essential aspect of American reality"*.

26. Günter Grass

The 1999 Nobel Prize in Literature was awarded to Günter Grass *"whose frolicsome black fables portray the forgotten face of history"*.

27. Elfriede Jelinek

The 2004 Nobel Prize in Literature was awarded to Elfriede Jelinek *"for her musical flow of voices and counter-voices in novels and plays that with extraordinary linguistic zeal reveal the absurdity of society's clichés and their subjugating power"*.

Physiology or Medicine

28. Carol W. Greider and Elizabeth Blackburn – shared the 2009 prize *"for the discovery of how chromosomes are protected by telomeres and the enzyme telomerase"*.

29. Françoise Barré-Sinoussi - shared the 2008 prize in Physiology or Medicine for breakthroughs in the vaccine for treatment of HIV and uncovering the role of viruses in cancers.

30. Gertrude Elion shared the 1988 prize *"for discoveries of important principles for drug treatment"*.



Teacher/Student Resource Sheet

Ideas into Action

Plan an educational event for families, to challenge younger students to see how preparing makes a difference in bringing a vision to life.

Preparation is important when planning an event. Make a timeline to determine how long the process will take before selecting a date for the event, based on steps such as the following:

The following sections may serve as planning guides:

Plan an educational event for families, to challenge younger students to prepare to bring their visions to fruition.

Preparation is especially important when planning an event. Make a timeline to determine how long each step will take before selecting a date for the Ideas into Action event, based on steps such as the following:

1. **Plan Projects School-wide:** Work with science classes using this curriculum, economics classes using the Young Entrepreneurs content and Girls United teams or Language Arts classes writing poetry and prose. Challenge each group to prepare multidisciplinary creations with practical purposes in mind to display at the event. (See Street Scientists for details.)
2. **Research:** Each Language Arts/Humanities student will learn research skills as they search internet and library resources, to learn about their selected Nobel Prize winner. (See Nobel Research page for details.)
3. **Oratory:** Challenge each class member to take on the identity of their chosen Nobel Prize winner by memorizing a portion of the candidate's Nobel speech, if available.
4. **Art:** Create a life-sized cardboard shape of an object that represents the work that prize winner performed in the community, such as a tree, a mountain, a book, bed, etc. Draw two or three smaller shapes of images related to the life story of the individual. Trace these onto sponge, wood or other material that can be dipped into paint or dye. Dip the sponge into the paint and press it onto the cardboard to make a life-size image. (See the example connecting peace and the environment, created by students for the Nobel Peace Prize Center.)



5. **Written Work:** Summarize the achievements of your Nobel Prize winner on a placard to place on or near the cardboard art display. Include a list of *Preparedness Steps* they took to achieve their vision.
6. **Drama:** Practice acting improvisational, as if you are the person you researched. If they have discovered a scientific or economic principle, you should be able to explain the concept to some degree. If you are a famous writer or activist, you should be able to speak with conviction about your work.
7. **Teach the Community:** Hold a gathering for families and younger classes. Each student will come dressed as the Nobel Prize winner they studied. A portion of the event might include a time for giving speeches based on the prepared excerpts. Afterward, students might pose as these individuals while standing in front of their cardboard displays, as they might in a “living museum.” When someone walks up, the student should be able to converse freely with them about the Nobel Prize winner’s work, still acting in character. Students can escort guests to other displays as well while in character.
8. **Student Work from All Content Areas:** In a separate display, students exhibit original inventions, literature, pictures of peace projects and economics ideas on a table of ***Future Nobel Prize Concepts***. They have created each of these concepts to solve a practical problem in society. For example, an item based on a scientific principle becomes the basis for an economic project to raise money in the community. Perhaps a portion of the funds address a social issue, as do the literary works. Placards explain each of the items or displays.
9. **Send It:** Some of the ideas are sent to agencies for further action. For example, students might ask a scientist at the Society for the Advancement of Science in Africa (SASA) to review a concept they have developed. Local entrepreneurs or activists might write a letter to the local Rotary Club asking for support. Each group researches the address of a recipient for a global or local wisdom exchange or service extension.

Applying Knowledge to Benefit Society

Activity 1: Bringing Science Home

Look around the classroom or take a walk outside. Do you see small machines in use? Observe the forces of nature as they operate through motorized or hand-powered means. Some machines compel locomotion, some create heating or cooling, and others generate electricity or transmit electronic signals. Even human generated activity can produce the effects of a machine. Select one example and sketch your “machinery.”

What do you already know about the laws of **physics**? Back in class, consider some basic laws of physics on the resource sheet called *Selected Science Standards*.

What principles do you see at work in your sketch? Can you identify at least one?

Nature can work for us and we can work for nature, once we have a basic understanding of the laws of physics and how to apply them safely and responsibly.

What simple device could you create, using recycled materials to simplify or enhance life for those around you?

Is the machine eco-friendly? Does it improve the well-being of someone without endangering or impeding quality of life for another?

Could it be replicated and turned into an invention or a business? Draw a simple sketch. Now, what steps do you need to take to turn a sketch into a working model, then into a full-size test model, then into a model for everyday use?

Share your creative concepts at the upcoming **Ideas into Action Fair** at the school.



Activity 2: Preparing Research as Information

Many of the Nobel Prize winners addressed concerns about public health by expanding what we know about **chemistry** and **physiology**.

Choose a scientific principle from one of these categories, based on the resource sheet *Selected Science Standards*. Use it as the basis to create a simple public health awareness project. For example, how would your knowledge of one or more of these scientific principles affect the way you conduct a hand-washing campaign. To whom would you address in such a promotion?

Which scientific principles would you need to know how to explain in order to create a presentation on alcoholism prevention? How can you make the information understandable with examples or diagrams? How will you make it relevant for your audience?

Preparation Steps

1. Choose your research theme based on an aspect of physiology or chemistry that you understand.
2. Find other research sources (reading, online or another student or teacher) to clarify your understanding, as needed.
3. Ask your teacher for help designing an experiment related to the research, if needed.
4. Choose an appropriate audience for a written or oral presentation in which you will ultimately present your findings as an information sheet, poster or speech.
5. Prepare the materials and practice or refine them.
6. Share your topic with those who need to know about it.

Student/Teacher Resource

Selected Science Standards

Physics

Motion and Forces

1. Newton's laws predict the motion of most objects. As a basis for understanding this concept:
 - a. Students know how to solve problems that involve constant speed and average speed.
 - b. Students know that when forces are balanced, no acceleration occurs; thus an object continues to move at a constant speed or stays at rest (Newton's first law).
 - c. Students know how to apply the law $F=ma$ to solve one-dimensional motion problems that involve constant forces (Newton's second law).
 - d. Students know that when one object exerts a force on a second object, the second object always exerts a force of equal magnitude and in the opposite direction (Newton's third law).
 - e. Students know the relationship between the universal law of gravitation and the effect of gravity on an object at the surface of Earth.
 - f. Students know applying a force to an object perpendicular to the direction of its motion causes the object to change direction but not speed (e.g., Earth's gravitational force causes a satellite in a circular orbit to change direction but not speed).
 - g. Students know circular motion requires the application of a constant force directed toward the center of the circle.
 - h. * Students know Newton's laws are not exact but provide very good approximations unless an object is moving close to the speed of light or is small enough that quantum effects are important.
 - i. * Students know how to solve two-dimensional trajectory problems.
 - j. * Students know how to resolve two-dimensional vectors into their components and calculate the magnitude and direction of a vector from its components.
 - k. * Students know how to solve two-dimensional problems involving balanced forces (statics).
 - l. * Students know how to solve problems in circular motion by using the formula for centripetal acceleration in the following form: $a=v^2/r$.

- m. * Students know how to solve problems involving the forces between two electric charges at a distance (Coulomb's law) or the forces between two masses at a distance (universal gravitation).

Conservation of Energy and Momentum

- 2. The laws of conservation of energy and momentum provide a way to predict and describe the movement of objects. As a basis for understanding this concept:
 - a. Students know how to calculate kinetic energy by using the formula $E = (1/2)mv^2$.
 - b. Students know how to calculate changes in gravitational potential energy near Earth by using the formula (change in potential energy) = mgh (h is the change in the elevation).
 - c. Students know how to solve problems involving conservation of energy in simple systems, such as falling objects.
 - d. Students know how to calculate momentum as the product mv .
 - e. Students know momentum is a separately conserved quantity different from energy.
 - f. Students know an unbalanced force on an object produces a change in its momentum.
 - g. Students know how to solve problems involving elastic and inelastic collisions in one dimension by using the principles of conservation of momentum and energy.
 - h. * Students know how to solve problems involving conservation of energy in simple systems with various sources of potential energy, such as capacitors and springs.

Heat and Thermodynamics

- 3. Energy cannot be created or destroyed, although in many processes energy is transferred to the environment as heat. As a basis for understanding this concept:
 - a. Students know heat flow and work are two forms of energy transfer between systems.
 - b. Students know that the work done by a heat engine that is working in a cycle is the difference between the heat flow into the engine at high temperature and the heat flow out at a lower temperature (first law of thermodynamics) and that this is an example of the law of conservation of energy.
 - c. Students know the internal energy of an object includes the energy of random motion of the object's atoms and molecules, often referred to as thermal energy. The greater the temperature of the object, the greater the energy of motion of the atoms and molecules that make up the object.

- d. Students know that most processes tend to decrease the order of a system over time and that energy levels are eventually distributed uniformly.
- e. Students know that entropy is a quantity that measures the order or disorder of a system and that this quantity is larger for a more disordered system.
- f. * Students know the statement "Entropy tends to increase" is a law of statistical probability that governs all closed systems (second law of thermodynamics).
- g. * Students know how to solve problems involving heat flow, work, and efficiency in a heat engine and know that all real engines lose some heat to their surroundings.

Waves

- 4. Waves have characteristic properties that do not depend on the type of wave. As a basis for understanding this concept:
 - a. Students know waves carry energy from one place to another.
 - b. Students know how to identify transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves).
 - c. Students know how to solve problems involving wavelength, frequency, and wave speed.
 - d. Students know sound is a longitudinal wave whose speed depends on the properties of the medium in which it propagates.
 - e. Students know radio waves, light, and X-rays are different wavelength bands in the spectrum of electromagnetic waves whose speed in a vacuum is approximately 3×10^8 m/s (186,000 miles/second).
 - f. Students know how to identify the characteristic properties of waves: interference (beats), diffraction, refraction, Doppler effect, and polarization.

Electric and Magnetic Phenomena

- 5. Electric and magnetic phenomena are related and have many practical applications. As a basis for understanding this concept:
 - a. Students know how to predict the voltage or current in simple direct current (DC) electric circuits constructed from batteries, wires, resistors, and capacitors.
 - b. Students know how to solve problems involving Ohm's law.
 - c. Students know any resistive element in a DC circuit dissipates energy, which heats the resistor. Students can calculate the power (rate of energy dissipation) in any resistive circuit element by using the formula $\text{Power} = IR$ (potential difference) $\times I$ (current) $= I^2R$.

- d. Students know the properties of transistors and the role of transistors in electric circuits.
- e. Students know charged particles are sources of electric fields and are subject to the forces of the electric fields from other charges.
- f. Students know magnetic materials and electric currents (moving electric charges) are sources of magnetic fields and are subject to forces arising from the magnetic fields of other sources.
- g. Students know how to determine the direction of a magnetic field produced by a current flowing in a straight wire or in a coil.
- h. Students know changing magnetic fields produce electric fields, thereby inducing currents in nearby conductors.
- i. Students know plasmas, the fourth state of matter, contain ions or free electrons or both and conduct electricity.
- j. * Students know electric and magnetic fields contain energy and act as vector force fields.
- k. * Students know the force on a charged particle in an electric field is qE , where E is the electric field at the position of the particle and q is the charge of the particle.
- l. * Students know how to calculate the electric field resulting from a point charge.
- m. * Students know static electric fields have as their source some arrangement of electric charges.
- n. * Students know the magnitude of the force on a moving particle (with charge q) in a magnetic field is $qvB \sin(a)$, where a is the angle between v and B (v and B are the magnitudes of vectors v and B , respectively), and students use the right-hand rule to find the direction of this force.
- o. * Students know how to apply the concepts of electrical and gravitational potential energy to solve problems involving conservation of energy.

Physiology

As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. As a basis for understanding this concept:

- a. Students know how the complementary activity of major body systems provides cells with oxygen and nutrients and removes toxic waste products such as carbon dioxide.
 - b. Students know how the nervous system mediates communication between different parts of the body and the body's interactions with the environment.
 - c. Students know how feedback loops in the nervous and endocrine systems regulate conditions in the body.
 - d. Students know the functions of the nervous system and the role of neurons in transmitting electrochemical impulses.
 - e. Students know the roles of sensory neurons, interneurons, and motor neurons in sensation, thought, and response.
 - f.* Students know the individual functions and sites of secretion of digestive enzymes (amylases, proteases, nucleases, lipases), stomach acid, and bile salts.
 - g.* Students know the homeostatic role of the kidneys in the removal of nitrogenous wastes and the role of the liver in blood detoxification and glucose balance.
 - h.* Students know the cellular and molecular basis of muscle contraction, including the roles of actin, myosin, Ca^{+2} , and ATP.
 - i.* Students know how hormones (including digestive, reproductive, osmoregulatory) provide internal feedback mechanisms for homeostasis at the cellular level and in whole organisms.
10. Organisms have a variety of mechanisms to combat disease. As a basis for understanding the human immune response:
- a. Students know the role of the skin in providing nonspecific defenses against infection.
 - b. Students know the role of antibodies in the body's response to infection.
 - c. Students know how vaccination protects an individual from infectious diseases.
 - d. Students know there are important differences between bacteria and viruses with respect to their requirements for growth and replication, the body's primary defenses against bacterial and viral infections, and effective treatments of these infections.
 - e. Students know why an individual with a compromised immune system (for example, a person with AIDS) may be unable to fight off and survive infections by microorganisms that are usually benign.
 - f.* Students know the roles of phagocytes, B-lymphocytes, and T-lymphocytes in the immune system.

Chemistry

Atomic and Molecular Structure

1. The periodic table displays the elements in increasing atomic number and shows how periodicity of the physical and chemical properties of the elements relates to atomic structure. As a basis for understanding this concept:
 - a. Students know how to relate the position of an element in the periodic table to its atomic number and atomic mass.
 - b. Students know how to use the periodic table to identify metals, semimetals, nonmetals, and halogens.
 - c. Students know how to use the periodic table to identify alkali metals, alkaline earth metals and transition metals, trends in ionization energy, electronegativity, and the relative sizes of ions and atoms.
 - d. Students know how to use the periodic table to determine the number of electrons available for bonding.
 - e. Students know the nucleus of the atom is much smaller than the atom yet contains most of its mass.
 - f. * Students know how to use the periodic table to identify the lanthanide, actinide, and transactinide elements and know that the transuranium elements were synthesized and identified in laboratory experiments through the use of nuclear accelerators.
 - g. * Students know how to relate the position of an element in the periodic table to its quantum electron configuration and to its reactivity with other elements in the table.
 - h. * Students know the experimental basis for Thomson's discovery of the electron, Rutherford's nuclear atom, Millikan's oil drop experiment, and Einstein's explanation of the photoelectric effect.
 - i. * Students know the experimental basis for the development of the quantum theory of atomic structure and the historical importance of the Bohr model of the atom.
 - j. * Students know that spectral lines are the result of transitions of electrons between energy levels and that these lines correspond to photons with a frequency related to the energy spacing between levels by using Planck's relationship ($E = h\nu$).

Chemical Bonds

2. Biological, chemical, and physical properties of matter result from the ability of atoms to form bonds from electrostatic forces between electrons and protons and between atoms and molecules. As a basis for understanding this concept:

- a. Students know atoms combine to form molecules by sharing electrons to form covalent or metallic bonds or by exchanging electrons to form ionic bonds.
- b. Students know chemical bonds between atoms in molecules such as H_2 , CH_4 , NH_3 , H_2CCH_2 , N_2 , Cl_2 , and many large biological molecules are covalent.
- c. Students know salt crystals, such as NaCl , are repeating patterns of positive and negative ions held together by electrostatic attraction.
- d. Students know the atoms and molecules in liquids move in a random pattern relative to one another because the intermolecular forces are too weak to hold the atoms or molecules in a solid form.
- e. Students know how to draw Lewis dot structures.
- f. * Students know how to predict the shape of simple molecules and their polarity from Lewis dot structures.
- g. * Students know how electronegativity and ionization energy relate to bond formation.
- h. * Students *know* how to identify solids and liquids held together by van der Waals forces or hydrogen bonding and relate these forces to volatility and boiling/ melting point temperatures.

Conservation of Matter and Stoichiometry

3. The conservation of atoms in chemical reactions leads to the principle of conservation of matter and the ability to calculate the mass of products and reactants. As a basis for understanding this concept:
 - a. Students know how to describe chemical reactions by writing balanced equations.
 - b. Students know the quantity one mole is set by defining one mole of carbon 12 atoms to have a mass of exactly 12 grams.
 - c. Students know one mole equals 6.02×10^{23} particles (atoms or molecules).
 - d. Students know how to determine the molar mass of a molecule from its chemical formula and a table of atomic masses and how to convert the mass of a molecular substance to moles, number of particles, or volume of gas at standard temperature and pressure.
 - e. Students know how to calculate the masses of reactants and products in a chemical reaction from the mass of one of the reactants or products and the relevant atomic masses.
 - f. * Students know how to calculate percent yield in a chemical reaction.
 - g. * Students know how to identify reactions that involve oxidation and reduction and how to balance oxidation-reduction reactions.

Gases and Their Properties

4. The kinetic molecular theory describes the motion of atoms and molecules and explains the properties of gases. As a basis for understanding this concept:
 - a. Students know the random motion of molecules and their collisions with a surface create the observable pressure on that surface.
 - b. Students know the random motion of molecules explains the diffusion of gases.
 - c. Students know how to apply the gas laws to relations between the pressure, temperature, and volume of any amount of an ideal gas or any mixture of ideal gases.
 - d. Students know the values and meanings of standard temperature and pressure (STP).
 - e. Students know how to convert between the Celsius and Kelvin temperature scales.
 - f. Students know there is no temperature lower than 0 Kelvin.
 - g. * Students know the kinetic theory of gases relates the absolute temperature of a gas to the average kinetic energy of its molecules or atoms.
 - h. * Students know how to solve problems by using the ideal gas law in the form $PV = nRT$.
 - i. * Students know how to apply Dalton's law of partial pressures to describe the composition of gases and Graham's law to predict diffusion of gases.

Habit of Trustworthiness

Featured Text: *Animal Farm*

Resource Sheets:

- *Animal Farm: An Allegory fit for Humans* (Teacher Resource)
- *Defining the Ideals that Build Societies* (Student Resource)

Sense It Step

- Prepare a stack of small stones in the schoolyard before class, with a small stack of straw, shoots or grass clippings. A few yards away, deposit only a small stack of the straw, shoots or grass clippings.
- At the beginning of class, take students into the school yard. Divide the class into three groups.
- One is the wind. Two are the builders. One group of builders will assemble around the rocks and the other around the straw.
- The builders have one minute to stack the materials given them into a wall, using whatever they can find to prop it up.
- After one minute, ask the wind group to rush past and try to blow the two walls down, putting equal pressure on the rock wall and the straw wall.
- Ask students what the lesson demonstrated. Invite a discussion of what it means to build a foundation under a house or wall.
- Tell the fable of the three little pigs. One built his home of straw. One built his house of sticks, and one built his home out of stones or bricks. When the wolf came to blow the house down, the strongest house was the only one that stood.

Ask, Does a strong character also need a strong foundation? You might have many good qualities, but if people cannot trust you, it undermines all your good qualities. Your house of good habits can be blown away. Trustworthiness is the foundation upon which your character stands.

See It. Say It.

Write the word on the board. Say it together and clap the syllables.

Synchronize It

Choose four students to each sing a syllable. Syncopate the rhythm together. Take five minutes to create a group song, to help the class remember the word, which you may use to create a new morning routine and as an impromptu celebration song whenever students practice the habit-of-heart.

Shape It

You may want to lay one hand on top of the other, to represent a strong foundation.

Storytell It

1. Challenge students to think of situations in which they needed to earn someone's trust. They can write these situations down anonymously and put them into a conflict bridge box. Other students will draw out a slip of paper and act out a conflict, demonstrating how to show trustworthiness in a difficult situation.
2. Students may develop the fable of the *Three Little Pigs* as a puppet show for younger children, creating art from paper sacks, old socks or other recycled materials. They should incorporate the parallel between trustworthiness and the strong foundation of a building, giving the children examples of how to be honest, keep your promises and inspire the trust of your neighbor. [Begin planning now, but do not complete the program agenda yet. You may want to include other activities from upcoming sections and turn this into your Share It Step.]

Sing It

Relevant Full-Circle Learning songs include *Integrity Doo-Wop*, *Honor* and *You Can Count on Me*. These can be incorporated into the puppet show as the older students sing them for or teach them to younger children. They can be sung by the pigs' chorus or danced by the pig puppets.

After the show, have the older students help the children act out situations at home and at school in which they are called upon to tell the truth or to keep promises.

Standards-based Learning: Humanities

Accelerate the discussion from the role of trustworthiness in personal interactions to trustworthiness in community life. Conduct an exploration of the role of trustworthiness in nation-building. This section will involve the Literature instructor as well as the History/Social Studies teacher. If they are one and the same, it can be taught as a Humanities class. Additional computer and/or library resources will be needed.

Present the information on the Teacher resource sheet. Next, introduce the daily reading of *Animal Farm*, reading activities as a group or individually. (This decision will be based on the number of available books and the reading capacities of students.)

Write and define any words that may be challenging for students before beginning the chapter. Have them define the words in the dictionary or assist them in this process by having them match words on the left with definitions on the right or with actions you provide nonverbally, to engage them. For example, *proletariat* refers to the masses or the working class. You might provide the motions of people operating machinery.

Suggested discussion topics are outlined for each chapter, along with individual and group activities. Some of the activities extend over time, beyond the length of the chapter. Suggested history topics are also incorporated into the text. Library or computer resources will especially be needed to supplement this course work.

Any student handouts needed appear at the end of the section and can be reproduced, if possible, for student use. Discussion questions on the teacher resource sheet can later resurface as test questions, if needed.

This section may have built-in steps from other categories. The section can extend for multiple weeks or sometimes months, based on the school schedule.

Refer to the resources for this section:

- *Animal Farm: An Allegory fit for Humans* (Teacher Resource)
- *Defining the Ideals that Build Societies* (Student Resource)

You will find elements of the Share It and Send It activities embedded within these sections.

Share It

Read through the *Animal Farm* chapter activities before designing the Share It and Send It steps. Writing activities appear that coincide with Chapter 1 in *Animal Farm* can enhance the puppet show event or present other opportunities for sharing the concepts in this unit. Plan to create a class book with students' original work to display at such an event. (If reproduction is not possible, students could copy their own work, keeping one copy and putting the other in a class book.) The goal of the service would be to teach trustworthiness to others through reading.

Another possible Share It step at the end of the literary actions calls for a guest presenter who serves as a trusted civic leader. The students offer an essay collection and posters for public buildings as a gift to the leader, based on the activities. (See Chapters 9-10).

Send It

Chapter 3 includes writing activities geared toward social action, to encourage the kind of education that contributes to altruistic leadership. Before presenting this activity to students, determine some possible recipients of this persuasive writing assignment, such as education foundations, international agencies and local government agencies. Students share their education advocacy work online or mail letters to institutions that influence either policy or access or funding. They write to advocate education to peers and families as well. For example, they might publish creative works in an anthology to encourage peers to stay in school. Determine some options prior to introducing students to the Chapter 3 activity.

Sustain It

Students first gather in a circle to reflect on any lives they touched in the community through their performances, service projects, educational advances and shifts in personal habits. They can pass around the talking stone to discuss the impact they have had on society as newly initiated community builders. They may discuss the role of trustworthiness in their projects and collaborative work.

The most powerful aspect of sustaining it may be to allow time for students to make individual commitments to sustaining their personal level of trustworthiness. You may want to have a book of promises or a box of promises. Students write about habits they want to either change or uphold. They seal their promise in an envelope, once committed to memory and give it to you for safekeeping. At graduation time, each student receives the envelope to take away again, to remember their individual promise or lifelong commitment to trustworthiness. (Each one will be based on the student's capacity.) These serve as powerful as personal promises to self.

Animal Farm: An Allegory fit for Humans

Introduction

Satire uses wit to imitate, mock or parody a situation. It can double as entertainment and political statement; as a critique and as a literary treatise.

One of the 20th century's classic satirical novellas, *Animal Farm*, appeared on the literary scene in 1946, when dictatorship dominated the ebb and sway of world politics. George Orwell, famous for his trenchant views and commentaries, wrote this short novel as an allegory both to comment on the history of the Russian Revolution and to remind readers how easy it can be to fall into the hands of a totalitarian regime. You may want to read the book *Animal Farm* once as a work of satire and a second as a historical analysis.

Review a timeline of the Russian revolution. If you have access to a computer, the following website is a good source for observing the interactions of events and participating groups.

<http://web.mit.edu/russia1917/>

Advanced students will want to understand the depth of Russian character for a context of the country in which the revolution occurred, by reading *Leo Tolstoy: A Russian Life, by Rosalind Bartlett.*)

Most people have heard allegories since early childhood in which animals represented people with certain characteristics. This famous allegory retells the story of the dictator Joseph Stalin and his rise to power. Much like the Soviet intelligentsia, the pigs establish themselves as the ruling class in the new society.

As students begin the story, see if they can determine which character represents Joseph Stalin and his rise to power. Who plays the role of Leon Trotsky? How did Stalin eliminate his enemies? Have them watch for the parallels between historical events and the plot twists in Orwell's allegory.

The rivalry between the pigs Snowball and Napoleon represents the struggle between Leon Trotsky and Stalin. In both the historical and fictional cases, the idealistic but less powerful figure (Trotsky and Snowball) is expelled from the revolution by the malicious usurper of power (Stalin and Napoleon). Stalin eliminated his enemies in show trials. Napoleon the pig casts this same fear into the animals with false confessions and executions. Stalin's tyrannical rule and abandonment of the founding principles of the Russian Revolution are reflected in the pigs' turn to violent government as they adopt all the behaviors of their original oppressors. This theme has played out in many conflicts of the past century.

Orwell believed strongly in Trotsky's socialist ideals. He saw his hero expelled by the revolution and murdered in Mexico during the Spanish Civil War. In *Animal Farm*, he used irony not only to condemn tyranny but to decry the hypocrisy of tyrants. They owed their power to their promise of liberation and then abandoned these promises, along with all hopes of equality, as they dehumanized the working class. This dishonesty he saw as a complete violation of the ideals the Soviet communists once stood for.

Integrated Content: Conferring with the history teacher, choose whether to compare this pattern with regional histories or whether to discuss the topic only from a broader perspective, using *Animal Farm* and its origins as an axis from to discuss the role of personal motive and trustworthiness in ensuring the integrity of whole societies.

Meanwhile, engage students in the chapter activities that follow, which include discussions and projects that will help them explore the relationship of literature, history, leadership, community building and character.

Chapter Activities

Chapter 1

Discussion Questions

The Manor Farm represents Russia under the tsars, before communism took hold. Orwell describes the life of the enriched class of rulers and the lives of the subjects – the animals.

Why do you think the song *Beast of England* became the anthem of the pigs?

Discussion Points

The Russian revolution extended from 1817 – 1844. By that time, Adolf Hitler had risen to power in fascist Germany and Franco had gained prominence in Spain. Totalitarianism was under the microscope in *Animal Farm*, and Orwell wanted to make sure his message seemed universal. The message was serious, but he wanted to make the reading light, so *The Three Little Pigs* is an animal fable or allegory, while it is also a political satire. Orwell embedded two overlapping traditions. He drew on the readers' familiarity with *Aesop's Fables*, and with writers such as Jonathan Swift and Bernard Mandeville, giving the animals a manifesto and incorporating *Beasts of England* as the unifying creed of the animals. The farm became a small and symbolic stage for a much larger and time-consuming revolution that had played on for decades on the human stage.

Activity: Writing a Fable

Think of a lesson you have learned in your youth about trustworthiness. Did something happen to you or a friend or family member? Could you disguise the characters and tell the tale using animals as the characters?

Fables have been told for centuries to teach ideals, values and to prompt good habits. Animal characters make the story more appealing to children and less embarrassing to the real participants they sometimes portray. Think about the most appropriate animals to convey your message.

Consider how Orwell used irony (humor based on contradictions or unexpected twists or mockeries.) Give your story an ironic twist or a surprise ending.

Take time to write more than one draft, to refine the story. If possible, illustrate your story.

Chapter 2

Discussion Questions

The pigs play the role of the intelligentsia who controlled the revolution. Squealer's job is to create propaganda. Moses, who represents the Russian Orthodox Church, takes bribes from the farmer, just as the church took bribes from the last tsar of Russia. What does the farmer give to Moses that symbolizes the bribe?

Not all the animals show a clear sense of direction. They all work hard and are loyal to each other but are easy to manipulate. How do we see this in the behavior of Boxer and Clover?

Old Major plays a brief but important role as the prophet of the quickly coming revolution. Orwell intended him as the incarnation of Karl Marx, who first taught communist philosophy, and also Vladimir Lenin, who called for community revolution. His speech is a reflection of their manifestos and speeches. List the seven commandments in the animals' manifesto.

Discussion Points

The farmer gives Moses beer-soaked bread.

Boxer and Clover have great trouble thinking anything out for themselves; they accept the pigs as their teachers and passed on the pigs' arguments to others.

The Seven Commandments are:

1. Whatsoever goes upon two legs is an enemy.
2. Whatsoever goes upon four legs, or has wings, is a friend.
3. No animal shall wear clothes.
4. No animal shall sleep in a bed.
5. No animal shall drink alcohol.
6. No animal shall kill any other animal.
7. All animals are equal.

Group Activity: Writing Your Manifesto

- As a class, write the seven class commandments as a sincere *Community Builders' Manifesto* that best describe your social ideals and creed for self-governance. Include principles and practices that encourage classmates to practice trustworthiness, compassion and accountability. Use the format the pigs used in *Animal Farm*. For example, your first principle might read: *All community builders tell the truth*, and your last principle might read: *All community builders restore justice to others when they have violated one of the first six principles*.
- Before you begin the activity, hold a discussion to decide how you will monitor the process of selecting the principles in the manifesto. Will you use a democratic vote to write down the options, choosing one person as a scribe and moderator? Will you elect a representative from each subgroup of students and have each group submit one principle? The pathway you choose may help you understand the options for designing a civil society.

Chapter 3

Discussion Question

Orwell further outlined his philosophy about education and its relationship to a free society in this chapter. How did he do this?

Discussion Points

The concept of “Each to His Own Capacity” resulted in several working committees on the farm. The most successful, the Education Committee led some animals to learn the laws of Animal Farm more quickly than others or to use the technologies and tools more easily. With this concept, Orwell implies that literacy plays a vital role in equitable social structures, for freedom cannot fully succeed without the sharing of information.

Boxer’s refrain, “I must work harder” is probably a reference to Upton Sinclair’s 1906 book, *The Jungle*. In this proletarian classic, the author exhorts that capitalism requires this response of its workers. Orwell implies that any corrupt socio-economic system requires this same blind devotion until its workers revolt or exhaust themselves.

Group Research Project:

Divide into groups. You will compare the countries in your region, using whatever research tools are available to you. Each group will research the: 1) literacy rate; 2) form of government; and 3) recent history of a particular country.

On another day, you will present your findings to the class. Which countries have the highest rate of basic literacy or high school graduation rates? Make a table on the board to compare them.

What forms of government do the countries practice where education rates are highest? Which countries have had the fewest wars or civil conflicts in the past 25 - 50 years?

Research-based Discussion: Do you see a trend between personal initiative, educational practices, political practices and peacemaking practices? If you see a trend that points to a theory, how could you verify that theory?

Social Action: What action can you take in your own community to encourage the education that contributes to effective community building? Can you write essays that encourage children to stay in school? How will you share them with families? Can you communicate about the importance of education to agencies that support schools and universities? Put your statistics in essays to share with advocacy agencies or government bodies or to share on the internet.

Chapter 4

Discussion Questions

How well did operations at the farm function at the beginning of Chapter 4?

What battle did the animals wage against the farmers?

Who was the hero in this battle and why was he lionized?

Why do you think Orwell chose the name Snowball for this pig?

Discussion Points

The farm operated smoothly. All the animals felt free and happy. They worked hard with the appreciation of the greater freedoms of their new animal-operated farm.

They chased away the humans at the battle of the Cowshed

Snowball became a hero because a bullet grazed him while he chased away the farmer and his men.

Orwell made magnificent use of irony in this chapter. The pigs believed they were valiant in fighting off the humans, while they merely made it easier for the pigs to gain control of the animal kingdom. Based on the “snowball effect,” one thing often leads to another. The other farmers worried about animals taking over their farms, but in fact, did not happen.

During the twentieth century, the communists felt they needed to spread their message globally so as not to be consumed, and the West felt it needed to thwart communism so as not to be invaded by communists. Orwell drew a meaningful parallel in this chapter.

Chapter 5

Discussion Question

Why do you think Orwell emphasized the windmill in the story?

What wars can you think of where technology is used to serve the purpose of a dictator?

Discussion Points

By this chapter, we begin to suspect the motives of the pig intelligentsia, especially Napoleon. He used the dogs for attack instead of protection. He banished Snowball, who was once a hero. He justified acts of physical violence and he supports technology (the windmill) only when it serves his selfish motives. This portion of the story reflects Orwell’s view of Stalin as a revisionist, who portrayed Trotsky as a traitor to stifle support for all leadership but his own.

Any amassing of powerful weapons becomes dangerous when the motivations of the ruler are not to benefit the common good but to usurp power. Every continent has faced the dilemma of abuse of power and how to work together to stop such abuse.

This chapter about dogs and windmills leads to discussions not only about technology as a tool in a totalitarian society but about the tools of war in the hands of dictators.

Research Activity: Science and Society

Study the role of Einstein in the launching of the first nuclear weapon. What was his theory of relativity? How did it contribute to the first atomic weapon? How did the role of a dictator disrupt Einstein’s vision that of a pacifist, applying technology only to uplift society?

Research Responses:

In his 1905 Special Theory of Relativity, Einstein theorized that a large amount of energy could be released from a small amount of matter: $E=mc^2$ (energy = mass times the speed of light squared). He did not have the atom bomb in mind when he came up with this theory and declared himself a pacifist, unsupportive of any war as late as 1929.

Later, when the dictator Adolf Hitler threatened the security of the world, some scientist friends in Germany feared he was developing a uranium bomb. They begged Einstein to sign a letter asking the US President, Franklin Roosevelt, to study the chain reaction of such bombs. Einstein sent the letter in 1939. As a result, a secret project began called the Manhattan Project, and the United States was prepared to launch its own nuclear bomb in response to the Japanese attack on the American port Pearl Harbor on December 1941. Although Einstein consulted only briefly with the team and saw a need to dismount a dictator, his role in history was changed by the forced need to apply science to wartime instead of peacetime uses.

Group Activity: Trustworthy Use of Tools and Technologies

Technology can be used to benefit societies or to destroy them. Make a mark on the board or have each student mark a sheet of graph paper in the center left-hand side. Draw a diagonal line going to the upper right-hand corner and one to the lower right-hand corner of the page (or chalkboard).

In small groups or in a class discussion, list the technologies that lead to community building on the line moving upward. List those that lead to destruction on the line leading downward. Use icons and a key if space does not permit you to describe the technologies on the graph.

For example, cell phones that connect families, companies and decision makers across great distances would go on the upward line. Draw a phone. Safer brakes on trains would go on the upper line. Draw a train wheel.

Weapons of mass destruction would go on the downward spiraling line. Draw a bomb with an X through it. So would misuse of current technologies, such as factories without windows, internet sites that share only gossip of untruths, etc. Draw symbols for those and create a key.

See how many examples the class can think of. Discuss the role of trustworthiness in developing new technologies or in applying existing technologies. (In the case of the windmill, the question of imports, exports, and work hours to keep the technology working were the questions.) Make the charts part of a school or community exhibit.

Discussion:

Describe the possible outcomes if technology were consistently used only for destructive purposes?

Describe the possible outcomes if technology were consistently used only for constructive or positive purposes?

If a community builder chooses a career in the fields of science, manufacturing, technology or policy making, these are important questions to consider.

Do you think that education and trustworthy application of education are equally important? Why or why not?

Chapter 6

Discussion Questions

Compare work on the farm under the direction of the pigs and under the prior direction of the humans in charge?

Why did Mr. Whymper become involved and why did this bother the animals?

When the pigs were discovered sleeping in the beds, how did they rationalize the reason?

Why did Napoleon blame the toppling of the windmill on Snowball, even though the storm blew it over?

Responses:

Plans to complete the windmill made work strenuous, though no worse than before. However, the schedule was strict, and unless the animals worked on Sunday afternoons, they received no food for the week.

The farm had all the rock needed to build the windmill, once the animals broke it into chunks, but they lacked the nails and wax. They had to import these through Mr. Whymper. It bothered them to trade with the enemy.

Squealer changed the rules about sleeping to say that only sheets, not beds, are forbidden, as even hay is a bed. In this way, Orwell shows that as the pigs gain power, they become increasingly corrupt, just as Stalin's officials led more lavish lifestyles over time, just like the tsars they came to overthrow.

When the windmill blew over, Napoleon did not want the animals to realize that their backbreaking work served no purpose, or they might revolt. Blaming it on Snowball, he gave them a common enemy and a cause to push on and work harder.

Chapter 7

Discussion Question

How did the pigs react to the killing of animals by animals? Reread the paragraph that shows their reaction.

Do you think this is a common reaction during the start of most wars or coups (hostile takeovers)?

Response

At first they reacted with shock, as in almost all wars or coups.

"When it was all over, the remaining animals, except for the pigs and dogs, crept away in a body. They were shaken and miserable. They did not know which was more shocking—the treachery of the animals who had leagued themselves with Snowball, or the cruel retribution they had just witnessed. In the old days, there had often been scenes of bloodshed equally

terrible, but it seemed to all of them that it was far worse now that it was happening among themselves. Since Jones had left, until now, no animal had killed another animal.”

Chapter 8

Discussion Questions

How did the animals experience both victory and defeat within a short time in this chapter? How do they respond?

What historical event is Orwell depicting in this chapter?

Discussion Points

The animals completed the windmill in a spirit of celebration. However, the money used to finish it was based on timber sales, and the sales receipts proved to be forgeries, so the angry purchaser, Mr. Frederick, had the windmill blown up. The animals press on, but the pigs get drunk. They soon changed the rules to allow for the drinking of alcohol.

By this point, Napoleon and Squealer have so systematically perverted the truth that the animals cannot recognize their leaders' duplicity even when they witness it directly.

Karl Marx had claimed the need for a “dictatorship of the proletariat” during the early years of his revolution. Democratic freedoms were less important to him than stamping out resistance. In Soviet Russia, Stalin used Marx's theories as a justification for his own violent acts. For his followers, this one Marxist principle justified neglect of the others. Instead of equal pay for equal work, they changed their policies to favor those in power. No one in Russia's working class rebelled and, likewise, even when the animals saw Squealer rewriting the laws on the side of the barn, no animal revolted.

Group Activity: Conflict Bridge

The character of the animals shows in their response to calamity in this chapter. Some work harder and some get drunk. Even more troubling is the fact that they take the money given them by the enemy to buy whiskey and falsify their reasons for drinking and for the windmill blowing up.

Have you ever known someone who took money or drinks that they should not have and then lied about it to the group they were responsible to? When we accept corruption instead of trustworthiness, we “pull the foundation out from under the house.”

Without using any names, write a description of a situation you have seen in which something was stolen or a promise was broken or a principle was not honored. The situation must be one that involved two people or the representatives of two groups. One of them may be yourself, although you will not identify yourself or anyone else by name. Put the description in the conflict box. We will pull out examples and ask for volunteers to resolve these situations on the conflict bridge, looking for new ways to bring trustworthiness into the heart of each person involved.

Chapter 9

Discussion Questions

How did Squealer justify to the animals their reduced rations?

How did betrayal play a role in Boxer's death?

What lesson did Orwell try to send with Boxer's death?

Discussion Points

Squealer said that when the pigs and dogs receive enough food, the whole community benefits; and they still receive more than they did under Mr. Jones.

Boxer thought he was being taken to a hospital but instead he was shuttled to the slaughter house.

Orwell used this chapter to dramatize the period in Russian history when the people began to wonder when they would receive compensation for all their sacrifices made during the revolution. They realized that the Stalinists had betrayed them as they suffered while the ruling class grew wealthy. Totalitarianism did not pay out the promises socialism would have brought. Boxer's death is a reminder of this lesson. His humility, loyalty and hard work are repaid by being sold to the glue factory. With the profits, the pigs buy more whisky for their own party, suggesting that the workers are expendable once their efforts benefit the ruling class.

Napoleon then invites Moses to tell stories that will bring hope to the farm, just as Russia invited the Orthodox Church back to the regime to appease the people.

Group Activity: Using the Tool of Compassion and the Tools of Education

Moses tried to bring hope to the farm at the last minute as a spiritual guide, but Orwell asserts that it would have been best if the animals had learned also to read and think. They would have been helpful enough to tell Boxer in advance that he was probably being taken to the glue factory.

Do you think a society has to choose between having a spiritual leader and applying their own knowledge--or that having an education can help people inform themselves and act in accordance with their own conscience?

See how your skills enhance your compassion and engender community trust. First, take a group walk in the neighborhood. Look for something simple that needs rebuilding or repairing—for example, the fence at an elderly person's home. What skills are required to make the repairs? How can you invite someone's trust to let your class provide the service? Create a group plan. How many class periods will it take. Who in the class will perform each skill or complete each step? Will you need any materials? Who will approach the community member to first see whether there is indeed a need? Make sure you more than one idea, and choose the idea/s where you can best apply your character and skills to fill a community need.

As you complete the project, count the habits and capacities you are employing – your education, your trustworthiness, your practical skills? How do habits-of-heart enhance the other assets needed for community building? Invite the service recipient to any community gathering you have planned.

Chapter 10

Discussion Questions

Orwell has demonstrated the pigs' gradual descent into tyranny through the animals' eyes. They could not remember their earlier lives; they had had nothing to go on but Squealer's lists. "And yet the animals never gave up hope. More, they never lost, even for an instant, their sense of honor and privilege in being members of Animal Farm. They were still the only farm in the whole country --in all England--owned and operated by animals."

Review the original commandments in their manifesto. How many of these were still practiced on Animal Farm by this point in the story? What shocking physical signs did the animals see that their animal rulers had become the same as their human oppressors?

Discussion Points

None of the original commandments were still kept.

The pigs stood on their hind legs and carried whips.

Small Group Activity

Read the last paragraph of the book, the scene when the toasting has occurred and the name has changed back to Manor Farm:

"Twelve voices were shouting in anger, and they were all alike. No question, now what had happened to the faces of the pigs. The creatures outside looked from pig to man, and from man to pig, and from pig to man again; but already it was impossible to say which was which."

What do you think was Orwell saying, not just about Russia, but about all totalitarian societies? Do you think Orwell meant to imply that absolute power corrupts absolutely?

Debate when and whether there can be exceptions to this rule. How would you bring about the exception to encourage community leaders to show trustworthiness? Are there practical steps a society could take to promote trustworthiness in its culture, to increase the likelihood of raising up benevolent leaders? Make posters showing the steps.

Invite a guest presenter into the classroom who works as a trustworthy civic leader. Invite them to speak about what motivated them to choose their career path and how they serve as an example to other community members. Give a habit-of-heart award for trustworthiness and offer the poster as gifts for them to post as reminders in public buildings.

Group Activity: Defining the Options for Society-Building

Distribute the reference sheet, *Defining the Ideals that Build Societies*.

As a class, divide into seven groups. Each group will be responsible for making a brief research presentation to the class. Each will report back on:

- A. The definition of their political or socio-economic system
- B. Examples of that system operating somewhere in the world or in their region (either historically or currently)
- C. The impact of the system – both positive and negative – on the people, based on their sample country
- D. Whether the leaders and citizens in the example had the chance to practice the habits of integrity or compassion (give examples)
- E. Role play a scene in which one group member is an adviser to a leader in a country that uses this system. What will you recommend to ensure that the leader practices the habits of integrity and compassion in ways that positively affect the country or in ways that could change history? Use the conflict bridge as part of the process if needed.

Individual Activity: Linking Terminology to Practice

Review the characteristics of governments and socio-political systems on the reference sheet. Make a list of the characteristics that applied in *Animal Farm*. What terms might you use to describe the system in the beginning of the book and the system that operated by the end of the book?

Individual Activity: Writing about your Ideals

Using the principles of essay writing, describe what you think are the practical and philosophical solutions to ensuring a just society. Write your essay based on what you know not only about Russia but about the history of regions closer to home—and based on your own ideals. Remember to include a clear premise, supporting points and a summary.

Small Group Activity

Read the last paragraph of the book, the scene when the toasting has occurred and the name has changed back to Manor Farm:

“Twelve voices were shouting in anger, and they were all alike. No question, now what had happened to the faces of the pigs. The creatures outside looked from pig to man, and from man to pig, and from pig to man again; but already it was impossible to say which was which.”

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society could take to promote trustworthiness in its culture, to increase the likelihood of raising up benevolent leaders? Make posters showing the steps.

Invite a guest presenter into the classroom who works as a trustworthy civic leader. Invite them to speak about what motivated them to choose their career path and how they serve as an example to other community members. Give a habit-of-heart award for trustworthiness and offer the poster as gifts for them to post as reminders in public buildings.

The collection of essays may serve as an additional gift.

Resource Sheets

Teacher Resource Sheet

Animal Farm: An Allegory fit for Humans

Introduction

Satire uses wit to imitate, mock or parody a situation. It can double as entertainment and political statement; as a critique and as a literary treatise.

One of the 20th century's classic satirical novellas, *Animal Farm*, appeared on the literary scene in 1946, when dictatorship dominated the ebb and sway of world politics. George Orwell, famous for his trenchant views and commentaries, wrote this short novel as an allegory both to comment on the history of the Russian Revolution and to remind readers how easy it can be to fall into the hands of a totalitarian regime. You may want to read the book *Animal Farm* once as a work of satire and a second as a historical analysis.

Review a timeline of the Russian revolution. If you have access to a computer, the following website is a good source for observing the interactions of events and participating groups.

<http://web.mit.edu/russia1917/>

Advanced students will want to understand the depth of Russian character for a context of the country in which the revolution occurred, by reading *Leo Tolstoy: A Russian Life, by Rosalind Bartlett.*)

Most people have heard allegories since early childhood in which animals represented people with certain characteristics. This famous allegory retells the story of the dictator Joseph Stalin and his rise to power. Much like the Soviet intelligentsia, the pigs establish themselves as the ruling class in the new society.

As students begin the story, see if they can determine which character represents Joseph Stalin and his rise to power. Who plays the role of Leon Trotsky? How did Stalin eliminate his enemies? Have them watch for the parallels between historical events and the plot twists in Orwell's allegory.

The rivalry between the pigs Snowball and Napoleon represents the struggle between Leon Trotsky and Stalin. In both the historical and fictional cases, the idealistic but less powerful figure (Trotsky and Snowball) is expelled from the revolution by the malicious usurper of power (Stalin and Napoleon). Stalin eliminated his enemies in show trials. Napoleon the pig casts this same fear into the animals with false confessions and executions. Stalin's tyrannical rule and abandonment of the founding principles of the Russian Revolution are reflected in the pigs' turn to violent government as they adopt all the behaviors of their original oppressors. This theme has played out in many conflicts of the past century.

Orwell believed strongly in Trotsky's socialist ideals. He saw his hero expelled by the revolution and murdered in Mexico during the Spanish Civil War. In *Animal Farm*, he used irony not only to condemn tyranny but to decry the hypocrisy of tyrants. They owed their power to their promise of liberation and then abandoned these promises, along with all hopes of equality, as they dehumanized the working class. This dishonesty he saw as a complete violation of the ideals the Soviet communists once stood for.

Integrated Content: Conferring with the history teacher, choose whether to compare this pattern with regional histories or whether to discuss the topic only from a broader perspective, using *Animal Farm* and its origins as an axis from to discuss the role of personal motive and trustworthiness in ensuring the integrity of whole societies.

Meanwhile, engage students in the chapter activities that follow, which include discussions and projects that will help them explore the relationship of literature, history, leadership, community building and character.

Student Resource Sheet

Defining the Ideals that Build Societies

Group Activity

Distribute the reference sheet, *Defining the Ideals that Build Societies*.

As a class, divide into seven groups. Each group will be responsible for making a brief research presentation to the class. Each will report back on:

- The definition of their political or socio-economic system
- Examples of that system operating somewhere in the world or in their region (either historically or currently)
- The impact of the system – both positive and negative – on the people, based on their sample country
- Whether the leaders and citizens in the example had the chance to practice the habits of integrity or compassion (give examples)
- Role play a scene in which one group member is an adviser to a leader in a country that uses this system. What will you recommend to ensure that the leader practices the habits of integrity and compassion in ways that positively affect the country or in ways that could change history? Use the conflict bridge as part of the process if needed.

Individual Activity

Review the characteristics of governments and socio-political systems on the reference sheet. Make a list of the characteristics that applied in *Animal Farm*. What terms might you use to describe the system in the beginning of the book and the system that operated by the end of the book?

Characteristics of a Plutocracy

1. **Governance by wealthy:** the rule of a society by its wealthiest people
2. **Society ruled by wealthy:** a society that is ruled by its wealthiest members
3. **Wealthy ruling class:** a wealthy social class that controls or greatly influences the government of a society

Characteristics of Communism

1. **Classless political system:** the political theory or system in which all property and wealth is owned in a classless society by all the members of that society

2. **Communist leaders make variations:** communist movements are generally led by individuals whose leadership affects the impact of the political system on the people.

Characteristics of Dictatorship

1. **Governance with one-party rule:** Only one party—the dictator's party—is allowed to exist.
2. **Authoritarianism:** The leader represents national unity, prestige and unquestioned decision-making power.
3. **Absolution of the value of the individual:** A dictatorship is often referred to as a "totalitarian state." The dictatorship controls all human activities, whether social, economic, political, educational, religious or cultural. Even the human personality is subsumed in a totalitarian state.
4. **War is glorified:** The dictator uses war as a means to his end and does not seek peace as the ultimate goal. The people serve the war to secure victory for their leader rather than the leader fighting to protect the security of the people.

Characteristics of Socialism

1. **Political system of communal ownership:** A political theory or system in which the means of production and distribution are controlled by the people and operated according to equity and fairness rather than market principles
2. **A movement based on socialism:** Typically socialism advocates an end to private property and to the exploitation of workers.
3. **A stage between capitalism and communism:** In Marxist theory, this is the stage after the proletarian revolution, when a society is changing from capitalism to communism, marked by pay distributed according to work done rather than need.

Characteristics of Democracy

1. **Governance by the people:** Rulers or representatives are chosen in free and fair elections by a majority vote
2. **Political system that provides equal rule of law:** Laws and procedures apply equally to all citizens, while free enterprise may be a prevailing economic policy that creates distinctions (either class disparities or the ability to succeed).
3. **Accountability to the people:** The law includes provisions for leaders to be held accountable for their conduct.

Characteristics of Social Democracy

1. **A blended system:** Governance that applies the democratic process but has several characteristics of a socialist society.
2. **A democracy with social ideals committed to the common good:** Emphasis rests on values such as free education, gender equity, protection for minorities, and worker's rights.

3. **Freedom with group responsibility:** Voters and laws play an active role in regulating certain political and economic conditions; for example, limiting unrestrained capitalism and offering programs to benefit the poor.

Characteristics of Capitalism

1. **Economics based only on effort:** an economic system in which resources and means of production are privately owned rather than relying on government support
2. **The market determines wealth:** The prices, production, and the distribution of goods are determined mainly by competition in a free market. People earn income based on market conditions and the need for their skills and products.
3. **Prone to fluctuations:** Since the Industrial Revolution, the motivation of the free market has made capitalism popular in most countries. However, the tide of recessions and depressions has also influenced some economists to recommend a balanced system that provides cooperatives and considerations for the most vulnerable members of society.



"All animals are equal, but some animals are more equal than others."

-George Orwell, quoting Napoleon and Snowball in *Animal Farm*

(Photo by Max Henkle)

Habit of Self-Mastery

Emphasis: Biographical Texts

Resource Sheets used in this Unit:

- *The Story of Your Life*
- *Masters in Print*
- *Writing Your Future History*
- *Dynamic Earth Processes*
- *Improving Human Interactions with Nature*
- *Classroom Management Based on Self-Mastery*

Suggested texts:

Students' choice of biographies from library books and periodicals

Teacher-selected passages from:

The Long Walk Home, by Nelson Mandela

Leo Tolstoy: A Russian Life, by Rosalind Bartlett.

The House at Sugar Beach, by Helene Cooper

Dreams of My Father, by Barak Obama

Please Note: Before beginning the unit, review the resource sheet Classroom Management Plan based on Self-Mastery, found at the end of this unit. Introduce this plan to the class before beginning the unit if you have not introduced it at the beginning of the school year.

Sense It.

The teacher will prepare two glasses of clear water before class, and bring along two objects from outside. One should be a tiny twig, leaf, or wood chip. The second should be a stone small enough to fit inside the glass. (A mud-caked rock would be fine.) Make sure one object is light and the other is heavier. (Test the objects at home first.) Fill the second glass only half full, so it does not spill when the rock sinks.

- When introducing Self-Mastery in class, first pass the two objects around the classroom, so every has a chance to hold them for a moment, while you ask two students to come forward and hold the water glasses.
- Next ask two students to bring the two objects to the front of the room.
- Challenge the class to predict what will happen if the two objects are each placed in the water glasses.

- Have the students gently lay each object in each a separate water glass. You should see the leaf, twig or wood chip float on top of the water. The rock will sink to the bottom of its glass.
- Pass around the glasses and ask why one object sank to the bottom.
- Elicit that a rock is heavier and so gravity forces it to the bottom. While the other objects are made only of wood or matter more recently derived from nature, a stone, by its very nature, took thousands of years to form.
- If it is a sedimentary rock, it may have many minerals in it, as more than 2000 have been identified by earth's scientists. Or it may be an igneous rock, produced from the magma of a hot volcano, or a metamorphic rock that has undergone intense heat.

Symbolically, the rock has been through the fire. A lot of living has weighed it down and made it heavy enough to sink. The other object rises to the top.

Similarly, each of us bear thoughts and regrets that weigh us down in life. Like the stone, we wish we could float above them, but they are packed in tight unless we make a conscious effort to master or unleash the thoughts and habits that stand in our way. We can indeed shed these particles that weigh us down, but it takes conscious effort.

For example, some of these particles may be memories we wish we could leave behind. Some are assumptions we make about other people based on our own insecurities. We wish we could purify those thoughts and think only the positive.

Sometimes deep within, we might harbor feelings of ego or envy that make us want to advance our own needs over someone else's needs.

We might have a flash of anger that makes us want to turn hurt feelings into revenge.

We might be weighed down by inner feelings of pride and long for the freedom humility brings. Or our conscience might be heavy because we realize that we are blaming others for work we have not accomplished.

All these processes begin with unproductive thoughts we did not invite into our minds.

Rising to the top means we must try to harness our own thoughts and actions and replace them with opposite thoughts and actions before we can experience our fullest benefit as an altruist or lead other people toward a better world.

Each one of us is a complex creature, much more complex than the stone. We can humble ourselves and learn from each day's experiences to overcome our challenges, a process which will continue throughout our lives.

Our thoughts translate into actions. These deeds become destiny. Our destinies intertwine to define and either degrade or uplift the human family.

The twentieth century humanitarian and religious leader Abbas Effendi ('Abdul-Baha) suggested: "When a thought of war comes, oppose it by a stronger thought of peace. A thought of hatred must be destroyed by a more powerful thought of love." (*Paris Talks*)

Let us make conscious efforts to master thoughts and actions as we pursue the goal of self-mastery.

Discussion

Listen carefully to the following quote by a famous author:

"Only by much searching and mining are gold and diamonds obtained, and man can find every truth connected with his being if he will dig deep into the mine of his soul. And that he is the maker of his character, the molder of his life, and the builder of his destiny, he may unerringly prove: if he will watch, control, and alter his thoughts, tracing their effects upon himself, upon others, and upon his life and circumstances; if he will link cause and effect by patient practice and investigation, utilizing his every experience, even to the most trivial, as a means of obtaining that knowledge of himself. In this direction, as in no other, is the law absolute that "He that seeketh findeth; and to him that knocketh it shall be opened"; for only by patience, practice, and ceaseless importunity can a man enter the Door of the Temple of Knowledge.

(James Allen wrote, *As a Man Thinketh*, Cornerstone Books)

Do you agree with the author? Why or why not? Do you think he meant we must only rely on ourselves for help in seeking knowledge? Do you ever ask for help beyond yourself as you seek truth or self-knowledge? How so?

Guided Imagery Option

Take a poll on how many students ask family and friends for help. How many use inspiring readings, music, meditation, prayer, positive thinking or other conscious thought processes in their daily life? Challenge students to start and end each day with a period of reflection that will guide their thoughts toward self-mastery.

Introduce guided imagery at this juncture if you are familiar with this process. (Ask Full-Circle Learning for additional resources.)

Journal Option

One important question to ask yourself is whether your goal of self-knowledge is aimed at self-gratification, self-congratulation, and self-exaltation or whether you focus on

freeing yourself from stray thoughts in order to complete an important task or to focus on serving others. In your journal, write about where you are on that path—what motivates your journey-- and what tools you currently use to master your thoughts, goals and actions.

See It. Say It.

Write the term Self-Mastery on the board. Say it together and clap the syllables.

Synchronize It

Choose four students to each sing a syllable. Syncopate the rhythm together. Take five minutes to create a group song, to help the class remember the word, which you may use to create a new morning routine and as an impromptu celebration song whenever students practice the habit-of-heart.

Shape It

In drawing a shape around the word, you may want to replicate the shape of the lighter object that floated on the water.

Storytell It

Tell students the fable of the two wolves:

A young man was ready to set out into the world. He went to his grandfather to seek his blessing and counsel. The grandfather wisely told the boy, “You have two wolves living deep within you. They cannot both survive, as you cannot support them.”

The boy looked at him in alarm. The grandfather continued. “One is the wolf of greed, selfishness and aggression. The other one is the wolf of compassion and self-mastery. They struggle with each other constantly. By the time you return, only one will have survived.”

“Which one will live, Grandfather?” asked the grandson.

“The answer is simple,” the old sage answered. “Whichever one you feed.”

Discussion

What does it mean to feed the wolf? Was the boy in control of the experiences he would encounter? Was he in control of his own perceptions and reactions to the experiences he would encounter?

Practice reframing your thoughts toward self-mastery on the conflict bridge.

Conflict 1:

Two neighbors have a misunderstanding. One saw the other one sneaking around the doorstep. This neighbor thought the other was there to burglarize the home but heard a noise and left. In truth, the neighbor had made food as a gesture of kindness and set it on the doorstep thinking the first neighbor had gone to sleep. A stray animal had taken the food in the night, so the kind gesture went unnoticed. The second neighbor, hurt for being ignored, decided he would stay away from now on....until the first neighbor confronts him about trespassing. Remember that by the time the two have deeply engaged on the conflict bridge, they will have mastered their inner suspicions. Their classmates can be play a helpful role as their conscience.

Conflict 2:

Two friends are working to put together a small business. They have learned how to make electronic equipment and have set up a stall to sell it. One presents the merchandise to customers while the other collects the money. One friend proudly announces that he has sold to four customers in a short time, enough to split the money so that each can have the funds from two customers. He or she eagerly dips into the cash box, but the funds do not match the sales. He accuses the friend of taking the funds. The friend accuses him of mistrust. If they mastered their impulses, what solutions could they find to the problem? See what you find on the conflict bridge. (In the end, they find that part of the money fell into a box of electronic parts in their rush to count it.)

Conflict 3:

An official in the government sees that the leader who supervises him or her does not always do what is best for the people, either because of incompetency or because the needs of the poor are often neglected. The official decides to oust the supervisor by whatever means is possible.

Suddenly one day, the official wonders whether his or her own motives are just as corrupt as those of the supervisor. When they are faced with a new law, they argue over it, and they each have to face their inner motivations for defending or not defending it. This potential new law would reduce their salaries by decreasing taxes on the poor. By overcoming this conflict, they must realize that self-mastery does not only mean overcoming challenges to win elections. It means mastering the motives that will bring altruism and integrity to their own leadership.

The first one to speak on the bridge is the official who asks his supervisor to support the law that will decrease taxes for the poor, even if it decreases their own salaries. (Inwardly, he or she wonders if this is an act of conscience or whether it is an act to increase his or her own popularity with the people.)

The supervisor does not want to see salary decreases, so does not want to pass the law. How will the conversation promote peaceful dialogue as well as peace of mind?

Sing It

Play the song *Polished Stones*, from Full-Circle Learning. Discuss the meaning of the song.

You may want to divide students into groups to illustrate the song at an upcoming event. Each group creates an art panels to illustrate the meaning one verse. Involve an art teacher or local artist if you like. Students choreograph the verses for a future performance.

Standards-based Learning: Humanities

Biographies as Historical Texts

Introduce the value of reading biographies and autobiographies for their insights into human nature, the habits-of-heart and also as the intersection between historical events and the personal lives they touch. You may want to write key points on the board from the following introduction.

Ask a student whether they know the names of any runners who have gone to the Olympics. If so, let them tell what they know. Next, ask them if they have ever felt the wind in their face as they ran a long distance. This is the difference between hearing about an event and experiencing it. This is the difference between a history and a biography or autobiography. We experience a time and place or a type of challenge through the eyes of an individual who was there at the time. Sometimes we learn about historical events or settings in the process.

Biographies combine the historical window of nonfiction with the storytelling power we associate with fiction. Unlike a meandering history, the story of a life generally has a narrative thread, with a beginning, middle and end. It may include plot elements such as foreshadowing and suspense. Descriptions of settings, along with rich characterization, add a sense of the universal human struggle, painted with regional context.

Generally, the people we read about have overcome a difficult goal or transcended challenges. The story often shares their personal perceptions of external events. There is usually a story to tell in terms of self-mastery when we read a good biography.

The activities of this unit will examine the writing techniques writers use to tell their own story or someone else's. Students will think about what they would like to share if they could tell their own life's story of self-mastery.

Daily Reading and Writing for Schools with Limited Resources

Each week, provide time some time for reading, some time for listening and some time for writing about the theme.

Daily journaling, as a practice, helps students prepare their own autobiographical material and later look for themes relating to self-mastery. A page of 25 *Self-Mastery Journal Prompts* is provided in the resource section. To use this resource, write a journal prompt on the board each day and allow time for students to reflect on and respond to the theme. Each student will eventually have a body of 25 vignettes or short essays to revise and refine. You may want to select the best of these to put together in one volume, to create more autobiographical resources for your community and for future classes to view.

Connections to Share It and Send It: You may want to introduce relevant guest presenters at certain intervals, and incorporate journal prompts that direct students to write autobiographical sketches of the local guest who has practiced self-mastery. If you do so, make sure students prepare songs, mastery certificates, writings or other gifts to honor the guests. Choose unexpected guests from different walks of life, perhaps choosing one who has mastered a challenge with an historical context or has lived through a difficult challenge and perhaps another who has mastered a professional challenge to contribute to society.

These concepts could contribute a layer to your Share It and Send It steps, as student works about the guest could later be sent to the guest as a tribute and/or to a news outlet.

Students who give permission may donate selections from the journals for a compendium of student-written work for the school or local library. This will encourage mastery on another level, as revision for the sake of grammar and neatness become especially important when the work serves as a legacy for publication or onsite reading.

One of the most important ways to learn writing skills is to hear and see well-written material. Searching for and evaluating biographical stories that interest them, rather than reading one book as a group, need not preclude students from evaluating the elements of the plot, the sentence structure and the elements of style. Direct their attention to these issues as they critique and refine their own writing.

Because some schools may rely primarily on donated texts, this unit allows the teacher and students to read whatever biographies are available to them rather than prescribing specific texts. If few books are available, even a series of magazine articles will allow students to experience the arc of the biographical story, the writing elements used and the role of self-mastery in an unfolding life.

Independent Reading on the Habit of Self-Mastery

Students will select a biography or autobiography of a heroic figure or from among library or class resources. The teacher may allow some time for silent reading in class, but students should also read outside of class daily.

Advanced readers may want to borrow the books in the teacher's oral collection to read on their own, but some on the recommended advanced list are quite complex or lengthy, so you make sure you encourage readers to choose a biography or autobiography of a length they can finish during the course of the unit.

Books from the library or donated sources will hopefully provide options for a variety of reading levels during the independent reading activity. Students should read for at least an hour a day between home and school. If not enough library books are available, they may find biographical content in newspapers, magazines, online or by reading each others' journals, if nothing else.

Over the course of the unit, allow time for each of the follow-up exercises on the Student/Teacher Resource Sheets, *The Story of Your Life!*; *Masters in Print*; and *Writing Your Future Life*. You will find these sheets at the end of this section. *Preview these to determine when to introduce each activity. If possible, reproduce them for student use.*

The teacher should also acquire and present a few positive examples of autobiographical writing, so at least a portion of each day can be spent reading aloud. Call attention to the threading of historical elements that lend extra significance to biographical storytelling. The following examples are for students and teachers with advanced abilities seeking to order a few copies of college-preparatory reading material.

Teacher's Sample Reading Selections for College-Ready Students

The following biographies contain rich information for advanced readers. The teacher may want to obtain one copy of each and read selected passages aloud or loaning books to advanced students. Discuss the historical backdrop of the book, the character's role in history, and what you would like them to listen for in the particular passage you or a student reads. These same strategies can be applied to more accessible books within your library resources or available magazines and online sources.

Teacher's Possible In-Class Selections:

The House at Sugar Beach, by Helene Cooper

This memoir recounts the childhood and early adulthood of a Liberian journalist whose family fled during the civil war, but who at last returned to face her past and to reclaim her people. The end of the story is the most significant section.

Dreams of My Father, by Barack Obama

Searching for his identity, half-Kenyan Barack yearns to understand his heritage. He also knows he is a part of every place he has lived, studied and learned about seeking unity to build community. After writing this memoir, he eventually went on to become President of the United States and to win the Nobel Peace Prize. A shorter book of his Nobel speech is also available, for a shorter read.

The Long Walk Home, by Nelson Mandela

In this memoir, Nelson Mandela tells the story of his life, his nonviolent resistance movement and resulting political imprisonment in great detail. Shorter biographies are available for readers of varying levels. If you read nothing else, read students the last four pages of *The Long Walk Home*.

Leo Tolstoy: A Russian Life, by Rosalind Bartlett.

This in-depth biography unveils the rich history of Russia's quest for spiritual and social meaning, through the parallel quest of its beloved hero, Tolstoy. It provides context for emergence of the leaders Orwell lampooned in *Animal Farm*, which is required reading in some African secondary schools.

Standards-based Learning: Integrated Content

Science and Engineering

Science/Social Studies teachers: Preview the resource sheet featuring the high school science standards typically associated with Dynamic Earth Processes. Present the concepts relevant to your science curriculum.

Research GDP (gross domestic product). Have students demonstrate mathematical representations of the ratio of GDP coming from mining income, comparing their own country to that of another mining dependent country.

Take the class on a rock hunt. Examine the traces of precious minerals within the rocks. Challenge students to explore the uses of rocks and minerals in their region and to consider the purpose of mining. Compare the economic benefits of mining, offset with its hardships, using the resource sheet *Improving Human Interactions with Nature*.

For a case study, examine what happened in Darfur when a change in government meant the loss of oil fields. Gold mining suddenly needed to make up the revenues from lost oil fields. Free-lance mining became prevalent. Regional tribal wars brought fights for gold, and soon, miners drifted into unsafe areas. As a result, the mine caved in, causing a chain reaction that killed 60 miners. Was the solution geological? Economic? Political? Scientific? Is there a difference between “mastering nature” for our use and carefully contemplating the costs and benefits of using the earth’s resources? How can we best use our talents in service to the art of prevention?

Challenge students to design on paper a safety feature that would benefit the mining industry or else an engineering invention that would serve as an economic alternative to mining jobs. Bring local examples to spark ideas, if needed. Ask your school director or a colleague with a computer to submit any exceptional designs to the Society for the Advancement of Science in Africa (SASA), at sasascience.org.

Share It

Class or School Presentations

Challenge students to prepare oral presentations for the class or student body. Each class member will:

- Explain the challenges mastered by the main character in their biography.
- Explain the techniques used by the writer to tell a more universal story through the eyes of one individual. Give an example.
- Dramatize the most important scene from the book, using art work or asking classmates to help play the roles.
- Show a log book of entries to demonstrate how the character mastered self to achieve a higher goal.
- Tell of any choices the character made that you particularly admired, or tell what you learned from the book to improve your own search for self-mastery.
- As an alternative: Read a self-written autobiographical vignette on self-mastery.

Compile book reviews based on the presentations. Include any illustrations students made. Add their personal autobiographies.

Fasten the materials together in a booklet as a gift for the school or local library. Formally present the book to the librarian and/or to other classes.

Based on the content of the autobiographies, students may also want to give speeches on self-mastery to public groups struggling to overcome specific challenges. These

groups might include veterans, civic leaders, the chronically ill, faith groups, or striving students.

Based on the content of the autobiographies, students may also want to give speeches on self-mastery to leadership groups such as Rotary Club.

They may want to incorporate their *Polished Stones* art and music show as well.

Send It

Send autobiographical paragraphs or passages on self-mastery to a global partner as a wisdom exchange.

Ask for input on ways students and adults in other areas have mastered ego or overcome personal challenges to develop the qualities of benevolent leaders or altruists.

Write letters to local or national leaders for tips on their secrets to self-mastery.

Create a bulletin board of altruistic leaders and their self-mastery stories.

The Send It step should be carried out long enough to create meaningful results before moving on to the last step in the unit.

Also see the journal-writing section for ideas to add to the Share It and Send It steps.

Sustain It

1. Have each student draw a small circle or dot representing themselves in the middle of a page.
2. Discuss any wisdom exchange feedback received from other schools about self-mastery. Also discuss responses from local or national figures. Remind students of the characters in the biographical passages they read.
3. Ask them to draw a similar dot somewhere else on the page to represent each person whose challenges on the path toward self-mastery they shared, or who they learned from or shared with. Have them add another dot for any relationship they improved or started by thinking new thoughts in their daily interactions.
4. Next have them draw lines from their center dot going outward toward each of the other dots.
5. Most of the students should end up with lines shooting out in several directions. Their illustration will look like a spider with legs. You may want to draw an example of this on the board.
6. Ask what happens when one person strives for self-mastery. [It inspires self-mastery in others.] Generate a discussion of what happens when a whole society strives for self-mastery.
7. Challenge the class to come up with a plan to support and sustain each other in this group goal, even though the quest is personal. For example, is there a

brother or sister in the room whom each person can call upon when they are struggling? How can they develop their listening skills to help one another?

8. Create space for each student to both listen and share with a classmate their experiences during the unit on self-mastery. Self-revelation is not mandatory. They can sit in groups of three or more if some would rather practice listening than sharing.
9. Celebrate everyone's support for the group goal of self-mastery. Chant the congratulatory Syncopate –It song at the end.
10. If you have been using the self-mastery chart as a group, review the steps for its use. Now is the time to celebrate each student's success.

Resource Sheets

Student/Teacher Resource Sheet

Self-Mastery Journal Prompts

Contemplate the quote. Interpret it based on your own experience, stories you have heard, readings or perceptions. Write a response to the author of the quote or a reflective paragraph, or describe an incident that relates to the quote.

1. You are the architect of your destiny. There is no greater domain you will master than mastery of self. You will have this control if you truly strive for it. - Grant Blanche
2. Wisdom outweighs strength. –African proverb
3. Reach for the stars and you will surely see the moon.
Reach for the moon and you will surely see more of the earth. - *Full-Circle Learning*
4. If thou canst walk on water, thou art no better than a straw. If thou canst fly in the air, thou art no better than a fly. Conquer thy heart that thou mayest become somebody. - Ansari
5. As you climb the ladder of success, make sure it's leaning against the right wall. - Traditional
6. Science is not about control. It is about cultivating a perpetual condition of wonder in the face of something that forever grows one step richer and subtler than our latest theory about it. It is about reverence, not mastery. – Richard Powers
7. Before complaining that you are a slave to another, be sure that you are not a slave to self. Look within;...You will find there, perchance, slavish thoughts, slavish desires, and in your daily life and conduct slavish habits. Conquer these; cease to be a slave to self, and no man will have the power to enslave you. — James Allen
8. The happiness of a man in this life does not consist in the absence but in the mastery of his passions.” – Alfred Lloyd Tennyson
9. What reveals a man is his behavior in times of hunger – African proverb
10. He that is slow to anger is better than the mighty; and he that ruleth his spirit than he that taketh a city. — Proverbs 16:32, *The Holy Bible*
11. Ninety-nine percent of the failures come from people who have the habit of making excuses. — George Washington Carver
12. One can have no smaller or greater mastery than mastery of oneself. — Leonardo da Vinci

13. Watch your thoughts, for they become words.
Watch your words, for they become actions.
Watch your actions, for they become habits.
Watch your habits, for they become destiny.
- Anonymous
14. Creating a new theory is not like destroying an old barn and erecting a skyscraper in its place. It is rather like climbing a mountain, gaining new and wider views, discovering unexpected connections between our starting points and its rich environment. But the point from which we started out still exists and can be seen, although it appears smaller and forms a tiny part of our broad view gained by the mastery of the obstacles on our adventurous way up.” - Albert Einstein
15. An artist must possess Nature. He must identify himself with her rhythm, by efforts that will prepare the mastery which will later enable him to express himself in his own language. - Henri Matisse
16. Most people have attained their greatest success just one step beyond their greatest failure. – Napoleon Hill
17. Courage is resistance to fear, mastery of fear—not absence of fear. – Mark Twain
18. Only one who devotes himself to a cause with his whole strength and soul can be a true master. For this reason mastery demands all of a person. -Albert Einstein
19. First say to yourself what you would be, and then do what you have to do. — Epictetus
20. Opportunity often comes in disguised in the form of misfortune or temporary defeat.
21. When you blame others, you give up your power to change. — Douglas Noel Adams
22. Nothing can withstand the power of the human will if it is willing to stake its very existence to the extent of its purpose. — Benjamin Disrael
23. A man has to learn that he cannot command things, but that he can command himself; that he cannot coerce the wills of others, but that he can mold and master his own will: and things serve him who serves Truth; people seek guidance of him who is master of himself. — James Allen
24. To lead is to serve and to serve is to lead. – Full-Circle Learning
25. Be an ornament to the countenance of truth...an ensign of the hosts of justice, a luminary above the horizon of virtue, a dew to the soil of the human heart, an ark on the ocean of knowledge, a sun in the heaven of bounty, a gem on the diadem of wisdom, a shining light in the firmament of thy generation, a fruit upon the tree of humility..- Baha'u'llah

Student/Teacher Resource Sheet

The Story of Your Life!

Studying a Life

Knowing a story is true can make it more exciting. Whether a third-person author tells the story, (as in a biography), or whether the subject herself or himself writes it, (as in an autobiography or memoir), the tone of the writing is shaped by the reasons for telling the story. When you read such a work, ask yourself what the writer wanted you to know. Why was the figure famous? Why was the story worth telling? Whose life was affected by their life? Were some parts of the story left out? Could you find them in another written account, or perhaps in a biography by a different author?

Drawing Meaning from Events

If you were writing your own autobiography, what premise or idea would it illustrate? What habit or challenge would you like to master? Choose a main idea you can write in one sentence.

Now, think of five examples or supporting sentences that illustrate this truth in your life. If your book had five chapters, each of these supporting sentences could be the title of a chapter. To create the full text, you would next need to tell the stories that illustrate these main points.

Perhaps you feel you have not lived long enough to determine what the main themes of your life will be. What would you *like* them to be? Write a book outline with a title and five chapter themes as if you have already lived a full life and had achieved self-mastery. Briefly describe each chapter as if you had lived into it. You now have a plan for a book, as well as a plan for your life!

Student/Teacher Resource Sheet

Masters in Print

Reading with Intentionality

Visit the library and read a biography or autobiography. Take notes on the main themes of each chapter. Drawing meaning from all you have read, what do you think is the major premise or idea of the book? How did each chapter contribute to its message?

Did the arc of the character's life tell a story of self-mastery? Why or why not?

Log Book – Be Your Character's Conscience

Often a heroic story, whether fiction or nonfiction, is divided into sections. The early chapters set the tone and give background information about the character and the struggles the character needs to overcome.

The middle sections might show how the stakes become higher for the character or for those he or she is trying to help. Generally, the book includes episodes that challenge the character to give up.

In the end, the character must decide on a course of action that achieves a certain goal, personally and for the benefit of society. When carefully studied, the parallels between personal mastery and mastery of the collective struggle are present.

As you read your biography of a figure who has made a difference in society, keep a log book. Note the physical, emotional or spiritual challenges of the individual early in life.

At the point in the story when you identify the character's goal or primary purpose, write it down in the log.

At the end of each chapter, indicate whether the steps taken by the character have led him or her closer to or farther from the goal. What did he or she do to overcome a challenge? Did a setback help the character develop new strengths or insights?

What happened in the community's growth in relation to the character's personal efforts?

Charting the Path of Mastery

Create a chart, possibly on graph paper. Draw one line indicating the character's steps toward mastery. Use 0 as the low point and 10 as the peak of mastering all the personal qualities needed for inner wellbeing.

Draw a line in a different color indicating what happened in the world around the character simultaneously to those efforts. A dip toward 0 indicates a decline in the

problem the hero is trying to address, and a rise toward 10 means the problem is improving in the community.

By the end of the story, do you see a relationship between self-mastery and challenges in the community? What is that relationship? It will be different in every story.

Why do you think the author ended the story in the way he or she did?

Identifying Elements of Style

Study the expository writing style the author used in the book. Did each chapter begin with a personal story? An incident in the community? A description of the needs of the day?

How did the writer use dialogue and description? Sparsely or generously? Do differences in dialect or speech help delineate the characters?

Select a paragraph that appealed to you or moved you. Did it have a main idea, supporting elements and a conclusive statement? Did it favor power verbs over passive voice ("to be" verbs)? Did it include imagery in the form of similes and metaphors, rather than multiple adjectives? Were the sentences simple or long?

The message may have gripped you, but how did the telling of it make that message compelling? Identify which elements of style could make your own writing more compelling.

How did the author's style relate to the time and place about which he or she wrote? If you were to describe a place or incident in your community for readers of the future, how would you create a sense of history? Practice writing sentences that describe the scene around you using the elements of style you most admired in the book.

Student/Teacher Resource Sheet

Writing Your Future History

Think of a challenging issue in your community – perhaps a wrong you would like to right. What qualities do you need to master in order to better address that humanitarian cause, to brainstorm that science-related invention or to address a social issue? What type of education or apprenticeship might you pursue?

Close your eyes and settle into your seat. Now imagine yourself several years hence, as if you have already finished a project to accomplish a goal related to this need.

You have worked with peers to bring your plan to pass. Now you are celebrating the joy of the community you have served. Experience the full detail of the physical world you are creating as you imagine a celebratory dinner with friends at the completion of the project. Visualize the faces of the people whose lives have been improved due to your efforts. What do they say and do at that event? What personal habits did you have to master to reach this place?

Describe the aromas, tastes, and sensations you experience and the sights you see. Draw the scene or describe your thoughts at that moment. Does the scene fit into the outline you have already created?

Now you are prepared to write an 800-1,000 word short story as if you have completed the preparatory steps needed to create this community change. Describe the scene. Recount the steps you took to get there, the feelings you have about results of your preparation and self-mastery. Illustrate your story if you like.

Teacher Resource Sheet

Dynamic Earth Processes

Plate tectonics operating over geologic time has changed the patterns of land, sea, and mountains on Earth's surface. As the basis for understanding this concept:

- a. Students know features of the ocean floor (magnetic patterns, age, and sea-floor topography) provide evidence of plate tectonics.
- b. Students know the principal structures that form at the three different kinds of plate boundaries.
- c. Students know how to explain the properties of rocks based on the physical and chemical conditions in which they formed, including plate tectonic processes.
- d. Students know why and how earthquakes occur and the scales used to measure their intensity and magnitude.
- e. Students know there are two kinds of volcanoes: one kind with violent eruptions producing steep slopes and the other kind with voluminous lava flows producing gentle slopes.
- f.* Students know the explanation for the location and properties of volcanoes that are due to hot spots and the explanation for those that are due to subduction.

Student Resource Sheet

Improving Human Interaction with Nature

1. Research the rocks and minerals mined on the African continent.
2. Why are some rocks and minerals more precious than others?
3. What role do the mines play in the economic life of the people in your region and in at least one other region where mining is significant? Show statistics based on GDP.
4. What safety or environmental concerns do the mines present?
5. If you could engineer a safety feature or device to improve the mining industry, or an economic idea that would make a community less dependent on mining, what would it be? Draw a design to show your idea.

Classroom Management Based on Self-Mastery

Before the first day of the school year or semester:

From your module or curriculum book, choose three predominant habits of heart that will guide your behavior management plan, such as Respect, Kindness, and Cooperation.

Create a poster or felt chart that can be displayed throughout the year. Base its visual theme on something related to your science or social studies content, if possible (island in an oceans, planets in a solar system, clouds in a sky, mountains in a habitat, etc.) At the top of the chart, one object (a cloud, sun, etc.) represents self-mastery and is labeled as such.

Create corresponding items (ships, rockets, hikers, etc.) for each student. Put Velcro on the back or use clothespins or other means to attach them to the bottom of the chart.

On the first day of class:

1. Briefly introduce the three themes. (Students will explore these in depth as each unit comes along, but they can gain a basic understanding of the definition initially.)
2. Divide students into three groups. Give each group a piece of butcher paper or poster board. Assign them to one of the three themes (habits-of-heart).
3. Challenge each group to show what it would look like if everyone practiced that habit on their island/planet/mountain, etc. They may discuss examples, and then draw cartoons to show scenes that illustrate their ideas. They will write the theme at the top.
4. Each group will present their poster to the class and explain what it says or act out the scenes. Hang the posters on the classroom walls.
5. You, the teacher, will extrapolate from each poster three basic elements of a class code of ethics, positively expressed. For example, you might say, "Based on the pictures on our Respect island, it seems that here we only speak positive words to others. We treat others' belongings carefully. We listen when others speak." You then write these on the board. These will become the code of Respect, and the students will take ownership because you somehow derived them from their own drawings.
6. Once the code is in place, remind the students that they have created this code of ethics and now have a chance to create a community based on it.

7. Give each student one of the items at the bottom of the chart to personalize with their name. Explain that if you notice them practicing the habit associated with a particular place, you will move their emblem there (i.e. to the Island of Respect or the Planet of Cooperation, etc.)
8. Over the course of a week, your goal is for each student to practice each of the habits at least once, at which point you move them to the place of self-mastery. (Mark in your student charts who has achieved mastery at the end of each day.) When the whole class achieves this group goal, they will have a special time to sing, play a game or celebrate their group mastery in some way. Ask them to encourage one another toward group mastery and celebrate successes rather than compete with one another.

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