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**Initiative Activity**

“Young people undergo more rapid and profound persona changes between the ages of 10 and 15 than at any other time in their lives (NSMA, 2010).” Not only are the students going through changes, but the world around them is constantly changing also. Changes are apparent in every aspect of a young adolescents life from the way they think, to the changes in their maturing bodies, and the interactions between their peers and the world around them. Changes as the theme of this interdisciplinary unit will be used to introduce students to how change relates to each of the content areas.

There will be an introductory video to be shown at the beginning of the unit to motivate students and to direct their mindset to changes. The introductory video help relate the theme, changes, to the content areas, and to their lives. After viewing the introductory video all students will participate in an initiating activity that will have students illustrate a major change that either has occurred in their life, or a major change that they are anticipating in the near future.

The introductory video uses examples of changes from each content area. Students will be learning about changes in math, science, language, history, their lives and the outside world. Students will be prompted to think of ways they have changed from elementary school, a major change they have experienced, and the changes that are coming in the near future.

After viewing the video, students will be asked to choose a major event that has occurred in their lives, a major even that they are looking forward to, or a major event they are not looking forward to. For the initiating activity the teachers will give each student a piece of construction paper and a package of markers. The students will be asked to illustrate their major change and label what that change is. After the students have finished their illustrations the teacher will collect them for the “Wall of Change.”

The last thing the teacher will do for the introduction to this lesson will be to explain how the theme of change will be explored in the content areas, math, science, social studies, and language. Students at this stage are able to make reasoned moral and ethical choices, and to internalize the rightness and wrongness of events (Manning and Butcher, 2009). As a whole the class should brainstorm ways their ideas of right and wrong have changed from elementary school into middle school. The teacher will ask the students to think about what change means to each of these areas, and will be encouraged to look for ways that the changes relate to things they see in school everyday, to things they’ve experience outside of the school.

**Introductory Paragraph**

Our interdisciplinary team consists of 100 students in a suburban area. Of these students, 68 are White, 20 are Black, non- Hispanic, and 12 are Asian or Pacific Islanders. Fifty-seven of these students are female and 43 of the students are male. There are four students with attention-deficit disorder and one student that is hearing impaired. Accommodations will be made in individual classrooms based on student needs; however, extra time will be given to our four students with attention-deficit disorder as well as hands-on activities. Instructions will be displayed on the dry-erase board for hearing-impaired student.

Our group chose changes as our interdisciplinary theme because students in middle school are rapidly changing in many developmental areas. They recognize changes in their own physical, cognitive, social, and moral development. Students are beginning to recognize the changes in school environment as they transitioned from elementary school to middle school. They are also beginning to see that changes in the world around them. All team teachers have integrated changes into their curriculum to bring value to the theme. Science will be discussing erosion and the changes in the rock cycle. Social Studies will delve deep into reasons why inventions of the Industrial Revolution have changed America. Math is showing changes in mathematical expressions after simplified and Language Arts is showing change through editing, proper comma placement, and persuasive letter writing to the Principal that will allow students to request change within the school to benefit all students. Overall, we feel it is vital for students to see change as a positive experience.

**Question Responses**

**Authenticity**

Does the project manage from a problem or question that has meaning to the student?

* Students are asked to think about how change naturally occurs and how one should deal with these changes. Within each classroom, students are asked to notice changes in various areas of academics, as well as their lives. Students will realize how essential change is to their lives throughout the unit.

Does it provide opportunities to create or produce something that has meaning to the students?

* The “wall of change” product has meaning to students, it asks students to indicate changes in their personal lives that they feel are important and share them with the school.

Does it relate to the student’s genuine interests?

* Students are not limited to observing change in anything. They can observe change in anything they find interesting including but not limited to: sports, school, home-life, themselves, their friends. This will ensure students are finding changes that are interesting to them.

**Adult Relationships**

Do students meet and observe adults with relevant expertise and experience?

* The teachers and staff members have relevant experience in the changes because they themselves have been through the same changes, physically, emotionally, and mentally. All the teachers have the expertise of proven effective practice for young adolescents in middle school.

Do the Adults collaborate with one another and students on the design and assessment of project work?

* Adults collaborated to come up with the initiating and closing assessment of the unit. Students and teacher will collaborate when coming up with ideas for these assessments and giving their feedback on the unit on change.

Is there adult advocacy for students?

* Teachers will use their homeroom, or free time with students to address change on a personal level for each student. This advisory will allow students to discuss change in relationships, physical, and mental and will promote connecting change not just through curriculum.

**Academic Rigor**

Does the project lead students to acquire and apply knowledge related to one or more disciplines or content area?

* This interdisciplinary unit does include applied knowledge across various content areas.
* The theme of change has been incorporated into mathematics by having students study the order of operations and its changing effects on mathematical equations and solutions.
* The theme of change has been included in social studies by having students study the various changes that have occurred as a result of various inventions that were created near the time of the Industrial Revolution.
* The theme of change has been incorporated into language arts by having students write a persuasive article to their principle about a particular topic of concern within the school.
* The theme of change has been incorporated into the science domain by having students study the rock cycle and the various changes that occur during this process.

Does it help students develop skills in problem-solving and other forms of higher thinking?

* This unit will help student’s problem solve and achieve higher thinking by allotting authentic activities that will engage students and allow them to actively participate in the various lessons. Furthermore, throughout this unit plan students will analyze various problems and changes and look at or formulate solutions to these problems. An example of this would be the students’ persuasive papers that they are to create within language arts, which analyzes a problem within the school and formulate solutions to fix this problem.

Does it broaden students understanding of the world?

* This unit broadens students understanding of the world by allowing students to understand, accept, and deal with in change in a positive manner. Students will also be able to understand how the world has changed over time and how it has evolved over time to become its present day form. For example, students will study how inventions have shaped the world we live in today and how the world and their lives has been effected because of these inventions.

**Applied Learning**

Does the project lead students to acquire and use critical workplace behaviors?

* Students will be encouraged to examine and evaluate change in themselves and everything around them. Adapting to change is essential in the workplace and something employers want in employees. Also, evaluating yourself in the workplace is good practice and can help workers be more effective at their job.

Do students use technology or other media?

* Students will use wide variety in each content area throughout the unit. Among these are PowerPoint, the Internet, smart boards, YouTube, and possible video cameras themselves.

**Active Learning**

Do students spend significant amount of time doing field-based work on the project?

* The students will be asked to look for examples of change in the classroom, the school, their daily experiences, and their home lives.

Does it require students to engage in real investigation, using a variety of methods, media, and sources in their exploration that addresses the needs of your students?

* The students will be asked to look for examples of change in the classroom, the school, their daily experiences, and their home lives.
* Students should look for examples of change in every aspect of their lives, including television, music, peer activity, conversation, etc.

**Assessment**

Do students reflect on their learning and engage in periodic self-assessment?

* Students are constantly asked to examine change in their selves throughout the unit. This will ensure they are constantly self-assessing if they effectively understand that change is all around them.

Is there a culminating experience that is authentic to the overall objectives?

* The predicting of future changes is culminating experiences that will help students accomplish our goals for the unit. They also will be creating a “Web of Change” that will bring home the idea of change in subject areas and outside of school.

Is there public or media recognition of project culminating experience?

* The “change wall” will be displayed throughout the unit and also at the end in the school. It will be visible and accessible to each student even in the other grades. The public will also be able to view the wall.

**Guiding Questions**

Our unit will have a few guiding questions that will help the students acknowledge the theme of change within the school setting and throughout their personal lives. These questions will help students think abstractly; allowing them to make connections to the theme throughout the unit. The ultimate goal of these questions is to help students see that curriculum can relate greatly to life. The NMSA (2010) states that young adolescents “respond positively to opportunities to connect what they are learning to participation in real-life situations” (p. 57). As we attempt to relate the theme of change into their personal lives, we expect that this theme will spark motivation in the students for learning about change in each classroom.

Students in the middle level are going through rapid changes physically, cognitively, emotionally, and socially. Through this unit we hope to help students recognize the changes occurring in the world around them, as well as the changes that are occurring in their curricular studies. We will be using guided questions to help the students understand the concept of change both inside the classroom and out. Guided questioning will also be used to encourage students to think on a higher level and in more abstract ways about the way change affects their lives.

**What changes do you want to make during this unit?**

**What ways can these changes bring positive experiences to your life?**

**What are some of the ways you’ve experienced change?**

**Have you noticed change in your friends or family?**

**Are all changes natural?**

**Is change always welcomed?**

**Goals**

The following are goals for students to accomplish throughout the unit on CHANGE.

**Cognitive**

In Language Arts students will be writing a persuasive letter to the principal that expresses their desire for change in the school that benefits all students. This aligns to NMSA’s (2010) cognitive development stage that states young adolescents “respond positively to opportunities to connect what they are learning to participation in real-life situations” (p.57).

In Mathematics students will be encouraged to think outside the box to come up with a creative and innovative presentation for their classmates. This correlates with the NMSA (2010) cognitive stage that states young adolescents are “increasingly able to think abstractly not only concretely” (p. 56).

Active over passive = students moving to stations looking at different inventions, science pretend rock stations. According to the NMSA (2010) young adolescents “prefer active over passive learning experiences” (p. 56). In Social Studies and Science the students will be involved in active learning by moving around to stations throughout class and constantly being involved in learning.

**Social**

The unit as a whole will involve social development as described by the NMSA (2010). They state young adolescents “increasingly welcome and benefit from positive relationships” (p.61). In the unit we will be asking students to identify and reflect on changes in their lives including in relationships with others.

The entire unit also deals with the NMSA (2010) characteristic that young adolescents “are often intimidated and frightened by their first middle grades experience because of large numbers of students and teachers, the size of the building, and what may be for many their first day-to-day experiences with significant proportions of students who are culturally different from them" (p.62).  In the unit students will be looking at the change in their lives in school, friends, classes, and other areas. They will be asked to look at the positives of the change, which may help with the feeling of intimidation.

**Physical**

According the NMSA (2010) young adolescents “Need daily physical activity because of increased energy” (p. 55). In both science and social studies the students will be allowed to move around the room when going from station to station, this allows for physical movement instead of sitting in seats the entire class.

·         The NMSA (2010) states that middle school students “are concerned with bodily changes” (p. 56). The unit asks students to find changes also in themselves physically and to be aware of them, in this way the students will also be finding physical changes of themselves throughout the unit.

**Moral**

·         The language arts lesson will align with the NMSA (2010) moral development because it will give the students the opportunity to change something in their school. This corresponds to the characteristic that young adolescents “are generally idealistic, desiring to make the world a better place and to make a meaningful contribution to a cause or issue larger than themselves” (p. 58)

**Psychological develop**

·         In both Math and Language Arts students will be able to have a choice in the learning activities. In Math the students will be able to choose what type of presentation they want to do, and in Language Arts the students can choose any type of change they want to write about in their essay. This aligns with the NMSA (2010) in the area of psychological development that states students “seek to become increasingly independent…but continue to need support and boundary-setting from adults” (p. 59). The students will be given overall guidelines for the projects but will ultimately have independence to choose.

**Unit Objectives**

**Science Objectives:**

* Given a PowerPoint presentation, 6th grade students will gain an understanding of how a rock can move through the different stages of the rock cycle. (Cognitive)
* Given a diagram of the rock cycle, 6th grade students will be able to identify the different types of rocks and the different forms of transformation. (Cognitive)
* Given a PowerPoint presentation, 6th grade students will be able to explain the characteristics of sedimentary, igneous and metamorphic rocks that have distinct properties (e.g., color, texture). (Cognitive)
* Following participation in five Rock centered instruction, 6th grade students will be able to experience and analyze various transformations of rocks. (Cognitive, Psychomotor)

**Language Objectives:**

* After reading a book, “Eats, Shoots & Leaves” and following a lesson on comma placement, 6th grade students will be able to identify proper comma placement with 100% accuracy (cognitive).
* Following a group discussion, 6th grade students will be able to organize and brainstorm ideas for persuasive letter using template (cognitive and psychomotor).
* Following a lesson on business letter format and an interactive editing activity, 6th grade students will be able to compose a persuasive letter using business letter format and proper comma placement (psychomotor).
* Given the ability to create their own persuasive letter, 6th grade students will be able to endorse their beliefs to change something in the school (affective).

**History Objectives:**

* The sixth grade students, working in small groups, will be able identify various historical inventions and how they changed the world that we live in today. (Cognitive and affective)
* The sixth grade students, working in small groups, will be able to navigate and use provided technology to conduct research about historical inventions. (Cognitive and psychomotor)

**Math Objectives:**

* Following a lesson about simplifying expressions, 6th grade students will be able to recite the order of operations for problems with 100% accuracy. (Cognitive)
* Given a set of problems, 6th grade students will be able to simplify and solve them both at their desks and on the board with 90% accuracy. (Cognitive/psychomotor)

**Culminating Activity**

To bring closure to this unit the students will participate in a culminating activity. As part of this activity the students will be asked to reflect back over the unit and think about one change they recognized, learned about or experienced that was the most important to them. The students will be given a piece of construction paper and a package of markers and they will illustrate that change. The illustration will be placed on the “Wall of Change” along with their initiative activity.

The students will also have time to discuss and ask questions about any changes they have experienced throughout the unit both in the community and in their classes. The students should be encouraged to talk about changes that they are having difficulty with, don’t understand or a change that they really enjoyed.

Also as part of the culminating activity the students will be asked to think of a charitable organization or something that they would like to see change in the school, or in their community and we will begin their “Change for Change” fundraiser collection. The students will be given a collection jar to put donations in with the label of their idea for change. The students will have the entire rest of the year to collect change for their fundraiser and at the end of the year that money will be donated to their cause.

# Technology Embedded in Unit

**Initiating Activity**: During the initiating activity, students watch a video that presents the idea of change. The goal of the video is to gain the attention of the students and get them thinking about change in the world around them and how change affects them.

**Language Arts**: Students will use the Smart board to edit a document for proper placement of commas. The document is used to show how the placement of a comma can change the meaning of a sentence. The students will go up to the Smart board, one by one and correct mistakes.

**Science:** Students will be presented a PowerPoint presentation on the rock cycle. The PowerPoint will introduce and explain the parts of the rock cycle and how they interact.

**Social Studies:** Websites were used by the students to research information about different inventions. YouTube videos were used by the teacher to introduced inventions to the class.

**Math**: YouTube videos were used to help explain the order of operations.

**Evaluation**

The unit will have a final evaluation that is both formative and summative. The assessment is a “Change Web” that will ask students to find examples of change in each class room, as well as at least two changes that are outside of the classroom. This is formative in that the students will be looking for the changes throughout the unit not just at the end. It is summative because it will allow the staff to see if students actually achieved the goals of the unit, which is to connect change to both scholastic and real world areas of life. The Change Web will be placed on the “Wall of Change” below their initiative activity for everyone to see, this will allow students to receive recognition for their work.

**Bibliography**

Bellis, M. (2012). *The history of the telephone- alexander graham bell*. Retrieved from <http://inventors.about.com/od/bstartinventors/a/telephone.htm>.   
  
This website will explain to students how the telephone was invented, as well as give a brief history about this invention. Moreover, this website will tell students who invented the telephone and give a brief biography about this individual.

Brian, M. (n.d.). *How steam engines work*. Retrieved from <http://science.howstuffworks.com/transport/engines-equipment/steam1.htm>.  
  
This website describes to students who invented the steam engine, as well as describes how the steam engine works. Within this webpage there are several pictures, diagrams, and illustrations to help solidify the concepts of the steam engine.

CScope. (2009). *The Rock Cycle.* Retrieved from <http://bridgecityisd.net/assets/files/middleschool/Science/6th%20CSCOPE/unit%2010%20lesson%201.pdf>.

Lesson was used to engage students in an interactive game that helped them identify the rock cycle.

Elias Howe. (2011, June 3). *YouTube.com*. [Video podcast]. Retrieved from   
<http://www.youtube.com/watch?v=IhKlYIcZ2DY>.  
  
Through this video students will be able to gain an understanding of the sewing machine’s journey to America and Elias Howe’s involvement with the modifications and implementation of the sewing machine in the industrial revolution.

Google Images. (2012). Retrieved from <https://www.google.com/imghp?hl=en&tab=wi>.

Google images were incorporated in our slide show to present interdisciplinary theme.

Mister C. (Performer)(2010, October 31). PEMDAS: Order of Operations Rap. *YouTube*. [Video podcast]. Retrieved from <http://www.youtube.com/watch?v=OWyxWg2-LTY>.

The video PEMDAS was used in the Math class to engage them in learning about the Order of Operations.

Manning, M. & Bucher, K. (2012). *Teaching in the Middle School* (4th Ed.). Boston: Pearson, Inc.

*Teaching in the Middle School* was used during the initiating activity to express research-based information regarding young adolescent choices.

National Middle School Association. (2010). *This we believe: Keys to educating young adolescents*. Westerville: National Middle School Association.

*This We Believe* was used to express research-based information regarding young adolescent development.

National Science Foundation. (2012). *The Rock Cycle.* [PowerPoint slides]. Retrieved from

<http://step.nn.k12.va.us/science/ES/Earth_Science_PowerPoint/rockcyc.ppt>.

We used the Rock Cycle PowerPoint to copy slides to present direct instruction to students.

Schoelles, L. (n.d.). *Social reaction*. Retrieved from <http://www.schoelles.com/Telephone/telsocial.htm>.   
  
This website will allow students to study the various effects that the invention of the telephone had on society as a whole. This website shows both the positive and negative effects that the telephone has had on society.

Scholastic. (2012). *Business Letter Format*. Retrieved from <http://teacher.scholastic.com/lessonplans/Format.pdf>.

The worksheet was used to help students structure the persuasive letter.

The cotton gin- Eli Whitney. (2010, September). *YouTube.com*. [Video podcast]. Retrieved from <http://www.youtube.com/watch?v=yqbQdOCPpdw>.   
  
This video gives a brief biography about Eli Whitney and how the cotton gin was created. This video also explains how this invention affected the world.

The invention of the sewing machine. (2010, October 10). *YouTube.com*. [Video podcast]. Retrieved from <http://www.youtube.com/watch?v=sfVMvxvt6iU>.  
  
Through this video the students will be able to gain an understanding of the original invention of the sewing machine by Isaac Singer and its effects on the world.

Truss, L. (2003). *Eats, Shoots & Leaves: The zero tolerance approach to punctuation.* London: Fourth Estate.

This book was used as an opener that helps students identify the importance of proper comma placement in sentences.

Worksheet Place. (2012). *Comma Rules*. Retrieved from <http://worksheetplace.com/mf/Comma-Rules.pdf>.

This worksheet was used to give students examples of comma placement in specific types of sentences.