Outline for the Fourth Grade Content Integration Project: Spring 2015
Essential Question: How do people, environment and events cause change and influence the design of towns and cities?

Day	Introductory Content/ Presentation	Content: HISTORY	Content: SCIENCE	Content: ENGINEERING	Objectives	Products/ Decision points	Student Collaboration	Journal/ Notebooking Entry Focus Questions
1	• PPT: **Welcome to Mediana City** Focus Question: • What is Mediana City (Introductory Content Session: 10 minutes)	Lesson: **Geography Piece** Focus Question: • What are the significant geographic features of Mediana City? (History Session: 3 hours)			*Introductory Content:* • Students will read a variety of maps and use the details to create a map of Mediana City • Where is Mediana City	• Students will create a map of Mediana city in groups. • Students set-up a journal/ notebook	Students meet in Collaborative Groups	*Introductory Content*: What is Mediana City? *History:* What are the significant geographic features of Mediana?
2	• Newspaper Article and City Council Meeting Focus Question: • What is the problem in Mediana City? (Introductory Content Session: 3 hours)				*Introductory Content:* • Students will do a close read of the article "Park Not a Fun Place Anymore for Nine Year-Olds", and summarize in a presentation various citizens' groups concerns and solutions to the problem about the park. • Identify Mediana City's Problem	• A presentation that defines the problem and comes up with a solution while working in groups	Students meet in Collaborative Groups	*Introductory Content:* What is the problem in Mediana City?

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3	**The Letter** Letter from the CA Orange Growers Association (Introductory Content Session 2 hours)		Lesson: **Soil Analysis: Four Soil Samples** Focus Question: • What is soil? (Science Session: 1 hour)		*Introductory Content:* Students will do a close read of the letter from the Orange Growers Association and develop project criteria: • Plant and maintain a Navel Orange Tree • Commemorate history of Mediana City • Design a well lit permanent structure for the park *Science* • Students will follow a protocol to observe the properties of soil	Class criteria chart	Students meet in Collaborative Groups	*Introductory Content:* What is a solution to the problems in Mediana City? *Science:* What is soil?
4		Lesson: **Inquiry question: How do places grow and change?** Focus Question: • What happened in the past in Mediana City (History Session: 2 hours)	Lesson: **Mediana City Soil Analysis** Focus Question: • What soil properties are important to think about when writing your proposal to the Mediana City Council? (Science Session: 1 hour)	Lesson: **Technology all Around us: Part 1** Focus Question: • What is technology? (Engineering Session: 1 hour)	*History* • Students will begin to consider what might have happened in the early days of Mediana City *Science* • Students will observe soil samples to determine which of the three parcels of land they will develop • Students will plant radish seeds in the soil samples *Engineering* • Students will reflect upon their knowledge of technology	• Artifact notetaking sheet • Journal entry **DECISION PT.** ✓ **Set-up Project Design Team:** ✓ **Decision on property**	*History:* Students meet in Collaborative Groups *Science:* Teacher will set up "Project Design Teams" (4-5 students max.) that will build toward the final product	*History:* What happened in the past in Mediana City? *Science:* What soil properties are important to think about when writing your proposal to the Mediana City Council?

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5		Lesson: **Inquiry Question: How do places grow and change?** Focus Questions: • How were Chinese Laborers important to the growth and change of Mediana City? • How was coal important to the growth and change of Mediana City? (History Session: 2 hours)	Lesson: **Lighting a Park Part 1** Focus Question: • What are the similarities and differences of series and parallel circuits? (Science Session: 1 hour)	Lesson: **Technology all Around us: Part 2** Focus Question: • What is the problem? • What are the criteria? • What are the constraints? (Engineering Session: 1 hour)	_History_ • Students will use primary and secondary sources to study the cultural and industrial development of the area. _Science_ • Students will design and construct series and/or parallel circuits that run more than one component • Students will observe radish seeds for growth _Engineering:_ • Students will understand the elements of the Engineering Design Process	• Journal entries • Evidence Collection Sheets	_History:_ Students meet in Collaborative Groups _Science:_ Students meet in designated Project Design Teams _Engineering:_ Students meet in Collaborative Groups	_History:_ • How were Chinese Laborers important to the growth and change of Mediana City? • How was coal important to the growth and change of Mediana City? _Science:_ What are the similarities and differences of series and parallel circuits? _Engineering:_ • What is the problem? • What are the criteria? • What are the constraints?

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6		Lesson: **Inquiry Question: How do places grow and change?** Focus Questions: • How was the coaling station important to the growth and change of Mediana City? • How was the railroad important to the growth and change of Mediana City? (History Session: 2 hours)	Lesson: **Lighting a Park Part 2** Focus Question: • How does a closed circuit work? (Science Session: 1 hour)	Lesson: **Designing a Light Motion Detector** Focus Question: • How can you make a light motion detector that tells you that someone has come into your room? (Engineering Session: 1 hour)	*History* • Students will use primary and secondary sources to study the cultural and industrial development of the area *Science* • Students will draw pictures and schematic diagrams to represent electric circuits and communicate understanding • Students will observe radish seeds for growth *Engineering* • Students will design a motion detector	Journal entries Evidence Collection Sheets	*History:* Students meet in Collaborative Groups *Science:* Students meet in designated Project Design Teams *Engineering:* Students meet in Collaborative Groups	*History:* • How was the coaling station important to the growth and change of Mediana City? • How was the railroad important to the growth and change of Mediana City? *Science:* How does a closed circuit work? *Engineering* How can you make a light motion detector that tells you that someone has come into your room?

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7		Lesson: **Inquiry Question- How do places grow and change?** Focus Question: • What is the historical narrative of Mediana City? • How did Mediana City change? • When did important events happen in Mediana City? (History Session: 2 hours)	Lesson: **Observing a Navel Orange Part 1** Focus Question: • What are the main physical properties of the navel orange? (Science Session: 1 hour)	Lesson: **Designing a Park for Mediana City: Part 1** Focus Question: • What are the criteria and constraints for your park design (Engineering Session: 1 hour)	*History* • Students will use primary and secondary sources to study the change that occurred in Mediana City • Students will collaboratively create a historical narrative that describes the change and growth of Mediana City *Science* • Students will compare and contrast the physical properties of the Navel and Valencia orange • Students will understand how a seedless orange is created • Students will observe radish seeds for growth in each of the park soil samples *Engineering* • Students will understand the criteria and constraints for the park design	• Poster depicting Mediana City • Evidence Collection Sheet • Journal Entry • Size of the parcel (park)	*History:* Students meet in Collaborative Groups *Science:* Students meet in Collaborative Groups *Engineering:* Students meet in designated Project Design Teams	*History* How did Mediana City change? *Science:* What are the main physical properties of the navel orange? *Engineering:* What are the criteria and constraints for your park design

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8		Lesson: **Inquiry Question- How do places grow and change?** Focus Question: • How will the history of Mediana city be commemorated? (History Session: 2 hours)	Lesson: **Observing a Navel Orange Part 2** Focus Question: • What does the navel orange tree need to grow successfully in your Mediana Park property? (Science Session: 1 hour)	Lesson: **Designing a Park for Mediana City: Part 2** Focus Question: • What park design will be best for 4th grade students in Mediana City? (Engineering Session: 1 hour)	*History* • Students will design a commemoration of a significant part of the history of Mediana city to be placed in the new park *Science* • To investigate the special needs of the Navel Orange's internal and external structures • Students will set the criteria for the successful growth of the Navel Orange tree for their park design proposal • Students will observe radish seeds for evidence of successful growth *Engineering* Students will create blue print like designs of their park for Mediana City	Engineering Notebook Describe plan of park: How will my group meet the project criteria? (First Draft) **DECISION PT.** ✓ **How will each team commemorate the history?** ✓ **Evaluate their previous decision on the property** ✓ **Decision on what are the criteria and constraints of their park:** • **Size** • **Parcel characteristics** • **Orange Growers requirements** • **Use of the motion detector**	*History:* Students meet in Collaborative Groups *Science:* Students meet in Collaborative Groups *Engineering:* Students meet in designated Project Design Teams	*History:* How will the history of Mediana city be commemorated? *Science:* What does the navel orange tree need to grow successfully in your Mediana Park property? *Engineering:* What park design will be best for 4th grade students in Mediana City?

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9		Lesson: **Inquiry Question-How do places grow and change?** (History Session: 2 hours)	Lesson: **Lighting a Park in Mediana City** Focus Question: • What are the necessary components to light your park? (Science Session: 1 hour)	Lesson: **Designing a Park for Mediana City: Part 3** Focus Question: • Continue what park design will be best for 4th grade students in Mediana City? (Engineering Session: 1 hour)	*History* • Students will apply for a permit to place their monument in the new park *Science* • Students will use understanding of circuitry to light their park *Engineering* • Students will create 3-D models of their blueprint designs of their park for Mediana City	• Complete an application: "Monument Permit" that includes an opinion essay answering the historical inquiry question • Draft of park blueprint by each Project Design Team	*History:* Students meet in Project Design Teams *Science:* Students meet with their Project Design Team *Engineering:* Students meet in Project Design Teams	*History:* How will the history of Mediana City be commemorated? *Science:* What are the necessary components to light your park?
10			Lesson: **Lighting a Park in Mediana City (continued)** Focus Question: • What are the necessary components to light your park? (Science Session: 1 hour)	Lesson: **Designing a Park for Mediana City: Part 3 (continued)** Focus Question: • What are the limitations of your property? • Are there any changes you made and why? (Engineering Session: 1 hour)	*Science* • Students will use understanding of circuitry to light their park *Engineering* • Students will continue to create 3-D models of their blueprint designs of their park for Mediana City • Students will have an opportunity to redesign their models once they have collaborated with other project teams	Blueprint of design to include: • How students will light park 3D model • Provide schematic diagrams of circuits.	*Science:* Students meet with their Project Design Team *Engineering:* Students meet with their Project Design Team	*Science:* What are the necessary components to light your park? *Engineering:* What are the limitations of your property? Are there any changes you made and why?

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11				Lesson: **Design a Label/Logo for Your Mediana City Park** (Engineering Session: 2 hours)	*Engineering* • Students will design a park label/logo that highlights their proposal and will be displayed as part of their presentation • What are the outstanding features of your park?	Students will light park 3D model	*Engineering:* Students meet with their Project Design Team	*Engineering:* What are the outstanding features of your park?
12	Project Review				*Project Review* • Students will review Orange Growers letter and indicate where they meet project criteria and constraints • Students will collect materials and identify their useful properties	**DECISION PT.** ✓ **Teams will evaluate their project and decide if they have met the project criteria and constraints** ✓ **Teams will decide their next steps**	Students continue to meet with their Project Design Team	*Project Review*: How did your team meet the criteria and constraints of the project?
13	Project Review			Review Engineering Design Process Focus Question: • What makes your park special? (Engineering Session: 1 hour)	*Project Review Continued* • Students will review and indicate where they meet project criteria	Students will test design	Students continue to meet with their Project Design Team	*Project Review:* How did you adjust your blueprint to match the project criteria?

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14	Presentation Outline				*Project Presentation* • Students will complete project criteria			*Project Review:* How have we demonstrated the following • Plant and maintain a Navel Orange Tree • Commemorate history of Mediana City • Design a well lit permanent structure for the park
15	Presentation Outline				*Project Presentation* • Students will complete project criteria	• Students will incorporate redesign elements as indicated by EDP • Students will outline answer the essential question for the project	Students continue to meet with their Project Design Team	*Project Review:* **Essential Question** How do people, environment and events cause change and influence the design of towns and cities?
16	Presentation Preparation				*Project Presentation* • Students will complete project criteria	Students will review and complete project criteria	Students continue to meet with their Project Design Team	*Project Review:* **Essential Question** How do people, environment and events cause change and influence the design of towns and cities?