

# **Unit 4: We Are All Connected - The Numbers We Use**

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## **Unit 4: We Are All Connected - The Numbers We Use**

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### **Department of Curriculum and Instruction**



**Belleville Public Schools**

**Curriculum Guide**

## **Fourth Grade World Language**

# **Unit 4: We Are All Connected - The Numbers We Use**

**Belleville Board of Education**

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## **Unit Overview**

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Learners continue their exploration of the target language by acquiring target language phrases to exchange information about numbers and mathematical computation. Students will complete exercises utilizing the four mathematical operations using the target language. They will continue to recognize the differences of attitudes and experience, even how they might attack their math. Language arts are developed with the addition of more adjectives and opportunity to speak in the target language through chorals and responses.

## **Enduring Understandings**

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Although words used to describe them are different, mathematical computations basically behave the same in both the target language and English.

There are differences in the ways different cultures write numerals and do computations.

Despite the differences, mathematics is a universal language.

## **Essential Questions**

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How do numbers and mathematical computations behave in the target language?

How can I use the target language to communicate cross culturally regarding numbers and mathematical computations?

Who are some famous mathematicians from English speaking countries and the counties of the target language?

What are some diverse ways of writing numerals and grouping from different cultures such as Roman, Mayan and Egyptian?

## Exit Skills

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Students will be able to:

Ask and answer in the target language "What number is this" using numbers 1 to 100.

Count to 100 in the target language, by ones and by tens.

Write dictated numbers in the target language from 1 to 100.

Solve mathematical problems using written form of numbers in the target language.

## New Jersey Student Learning Standards (NJSLS)

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|                 |   |
|-----------------|---|
| WL.7.1.NM.A.2   | Demonstrate comprehension of simple, oral and written directions, commands, and requests through appropriate physical response.   |
| WL.7.1.NM.A.C.7 | Learning about age - and developmentally appropriate content that is of high interest to students and has a direct connection to the cultural contexts of the target language cultivates an awareness of the shared human experience. (Content that assists in the development of this understanding should include, but is not limited to: all content areas and popular culture.) |
| WL.7.1.NM.A.L.1 | The Novice - Mid language learner understands and communicates at the word level and can independently identify and recognize memorized words and phrases that bring meaning to text.   |

## Interdisciplinary Connections

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|             |   |
|-------------|---|
| LA.RL.4.1   | Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.  |
| MA.4.4      | In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry. |
| SOC.K-4.1.1 | Chronological Thinking  |

## Learning Objectives

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Students will be able to:

Ask and answer in the target language 'What number is this'? using numbers 1 to 100.

Count to 100 in the target language.

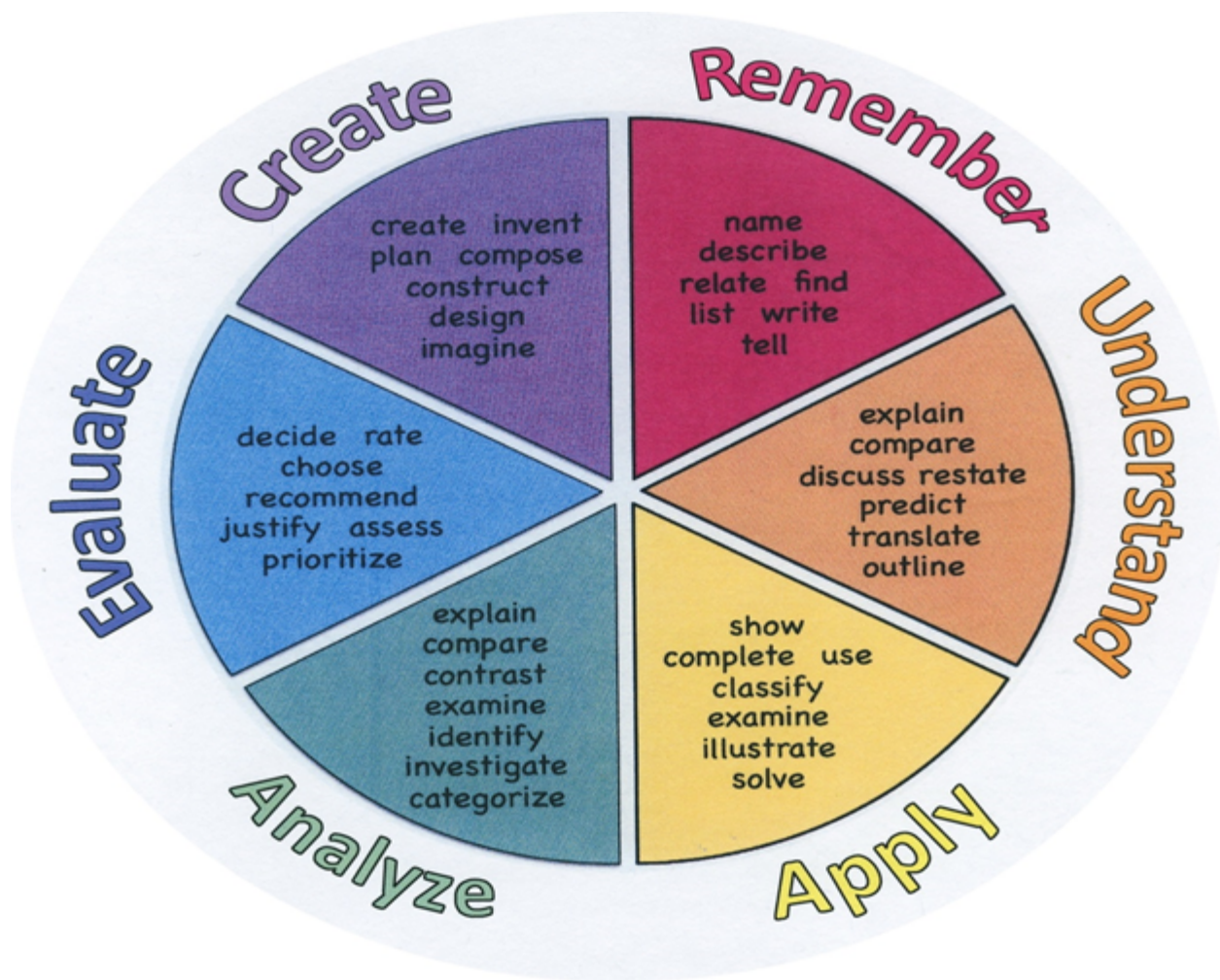
Write number dictated by teacher in the target language from 1 to 100.

Solve mathematical problems using written form of numbers in the target language.

Evaluate the concept of numbers as a universal language.

**Action Verbs:** Below are examples of action verbs associated with each level of the Revised Bloom's Taxonomy.

| <b>Remember</b> | <b>Understand</b> | <b>Apply</b> | <b>Analyze</b> | <b>Evaluate</b> | <b>Create</b> |
|-----------------|-------------------|--------------|----------------|-----------------|---------------|
| Choose          | Classify          | Choose       | Categorize     | Appraise        | Combine       |
| Describe        | Defend            | Dramatize    | Classify       | Judge           | Compose       |
| Define          | Demonstrate       | Explain      | Compare        | Criticize       | Construct     |
| Label           | Distinguish       | Generalize   | Differentiate  | Defend          | Design        |
| List            | Explain           | Judge        | Distinguish    | Compare         | Develop       |
| Locate          | Express           | Organize     | Identify       | Assess          | Formulate     |
| Match           | Extend            | Paint        | Infer          | Conclude        | Hypothesize   |
| Memorize        | Give Examples     | Prepare      | Point out      | Contrast        | Invent        |
| Name            | Illustrate        | Produce      | Select         | Critique        | Make          |
| Omit            | Indicate          | Select       | Subdivide      | Determine       | Originate     |
| Recite          | Interrelate       | Show         | Survey         | Grade           | Organize      |
| Select          | Interpret         | Sketch       | Arrange        | Justify         | Plan          |
| State           | Infer             | Solve        | Breakdown      | Measure         | Produce       |
| Count           | Match             | Use          | Combine        | Rank            | Role Play     |
| Draw            | Paraphrase        | Add          | Detect         | Rate            | Drive         |
| Outline         | Represent         | Calculate    | Diagram        | Support         | Devise        |
| Point           | Restate           | Change       | Discriminate   | Test            | Generate      |
| Quote           | Rewrite           | Classify     | Illustrate     |                 | Integrate     |
| Recall          | Select            | Complete     | Outline        |                 | Prescribe     |
| Recognize       | Show              | Compute      | Point out      |                 | Propose       |
| Repeat          | Summarize         | Discover     | Separate       |                 | Reconstruct   |
| Reproduce       | Tell              | Divide       |                |                 | Revise        |
|                 | Translate         | Examine      |                |                 | Rewrite       |
|                 | Associate         | Graph        |                |                 | Transform     |
|                 | Compute           | Interpolate  |                |                 |               |
|                 | Convert           | Manipulate   |                |                 |               |
|                 | Discuss           | Modify       |                |                 |               |
|                 | Estimate          | Operate      |                |                 |               |
|                 | Extrapolate       | Subtract     |                |                 |               |
|                 | Generalize        |              |                |                 |               |
|                 | Predict           |              |                |                 |               |



### **Suggested Activities & Best Practices**

Practice choral recitations of numbers from 1 to 100 by ones, fives and tens at beginning of class.

Practice simple addition, subtraction, multiplication and division problems vocally.

## **Assessment Evidence - Checking for Understanding (CFU)**

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Administer quiz with math problems using the target language numbers.

Students call out the number in the target language which is spoken by teacher and written on the board.

- Admit Tickets
- Anticipation Guide
- Common Benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- DBQ's
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration
- Journals
- KWL Chart
- Learning Center Activities
- Multimedia Reports
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Surveys
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List

- Unit review/Test prep
- Unit tests
- Web-Based Assessments
- Written Reports

### **Primary Resources & Materials**

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Spanish is Fun workbook, Teach Them Spanish workbook, Teacher made worksheets

### **Ancillary Resources**

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SmartBoard, YouTube, flash cards, classroom objects

### **Technology Infusion**

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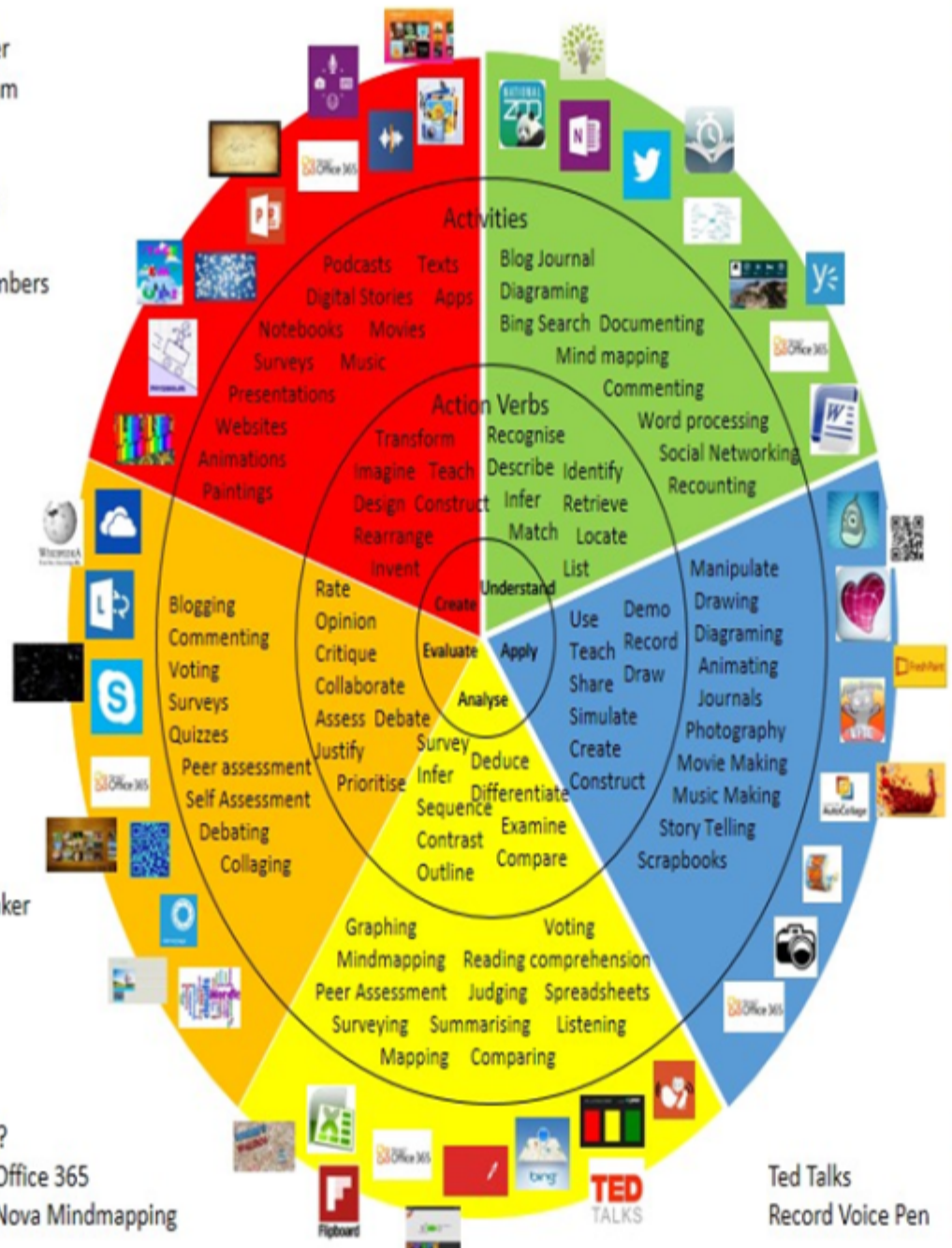
YouTube videos of chorals of numbers in the target language to sing along to.

SmartBoard used for computations in class exercises.

Originally taken from <http://www.coetail.com/vzimmer/files/2013/02/IPadagogy-Wheel.001.jpg>  
And adapted for Windows 8.1 devices by Charlotte Beckhurst @CharBeckhurst

Wikipedia  
Skydrive  
Lync  
SkyMap  
Skype  
Office 365  
Puzzle Touch  
Easy QR  
Memorylage  
Life Moments  
Word Cloud Maker

Ted Talks  
Record Voice Pen



## **Alignment to 21st Century Skills & Technology**

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Mastery and infusion of **21st Century Skills & Technology** and their Alignment to the core content areas is essential to student learning. The core content areas include:

- English Language Arts;
- Mathematics;
- Science and Scientific Inquiry (Next Generation);
- Social Studies, including American History, World History, Geography, Government and Civics, and Economics;
- World languages;
- Technology;
- Visual and Performing Arts.

|                 |   |
|-----------------|---|
| CRP.K-12.CRP1   | Act as a responsible and contributing citizen and employee.   |
| CRP.K-12.CRP2   | Apply appropriate academic and technical skills.  |
| CRP.K-12.CRP2.1 | Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation. |
| CAEP.9.2.4.A.1  | Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.  |
| CAEP.9.2.4.A.2  | Identify various life roles and civic and work - related activities in the school, home, and community.   |
| TECH.8.1.5      | Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.  |

## **21st Century Skills/Interdisciplinary Themes**

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- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

## **21st Century Skills**

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- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

## **Differentiation**

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Students may use counting blocks to complete mathematical computations.

Utilize students in the classroom to represent different numbers by creating sections.

### **Differentiations:**

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

### **Hi-Prep Differentiations:**

- Alternative formative and summative assessments

- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

#### **Lo-Prep Differentiations**

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills
- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

### **Special Education Learning (IEP's & 504's)**

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Allow student to be the counter of the students in creating groups.

Attach a student's favorite number to memorize in the target language.

- printed copy of board work/notes provided
- additional time for skill mastery

- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multi-sensory presentation
- multiple test sessions
- preferential seating
- preview of content, concepts, and vocabulary
- Provide modifications as dictated in the student's IEP/504 plan
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

## **English Language Learning (ELL)**

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Have students share the written formation and pronunciation of numbers in their language.

Utilize visuals on math computations quiz.

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarify
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of work presented or required
- having peers take notes or providing a copy of the teacher's notes

- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

## **At Risk**

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Have students create the shape of the number with their bodies for classmates to guess identity.

Create a picture that represents a certain number for a classmate to identify.

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of work presented or required
- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

## **Talented and Gifted Learning (T&G)**

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Students create a math vocabulary crossword puzzle for classmates to solve.

Students check for understanding of classmates during an exercise of computations.

- Above grade level placement option for qualified students
- Advanced problem-solving
- Allow students to work at a faster pace
- Cluster grouping
- Complete activities aligned with above grade level text using Benchmark results
- Create a blog or social media page about their unit
- Create a plan to solve an issue presented in the class or in a text
- Debate issues with research to support arguments
- Flexible skill grouping within a class or across grade level for rigor
- Higher order, critical & creative thinking skills, and discovery
- Multi-disciplinary unit and/or project
- Teacher-selected instructional strategies that are focused to provide challenge, engagement, and growth opportunities
- Utilize exploratory connections to higher-grade concepts
- Utilize project-based learning for greater depth of knowledge

## Sample Lesson

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Using the template below, please develop a **Sample Lesson** for the first unit only.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology:

