

## I Spy Math Academy Planning Template

Content area integration for the first 6 weeks of school: El Camino Real Academy  
 Mathematics, ELA, and Science

**Teacher:** Caren Garcia  
**Grade:** 3rd Grade  
**School:** El Camino Real Academy, Santa Fe Public Schools

### Mathematics CCSS

### ELA CCSS

### NGSS Science

#### Math Content Standards

**3.NBT.A.1** Use place value understanding to round whole numbers to the nearest 10 or 100.

**3.NBT.A.2** Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

**3.OA.C7** Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ ) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

**3.OA.A.1** Interpret products of whole numbers, e.g., interpret  $5 \times 7$  as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as  $5 \times 7$ .

#### ELA Content Standards

**RI.3.1:** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RL.3.9:** Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).

**RI.3.2** Determine the main idea of a text; recount the key details and explain how they support the main idea.

#### Science Standards

**3-LS2** Ecosystems: Interactions, Energy, and Dynamics

**3-LS2-1.** Construct an argument that some animals form groups that help members survive.

<p><b>3.OA.A.3</b> Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p><b>3.OA.B.5</b> Apply properties of operations as strategies to multiply and divide.2 Examples: If <math>6 \times 4 = 24</math> is known, then <math>4 \times 6 = 24</math> is also known. (Commutative property of multiplication.) <math>3 \times 5 \times 2</math> can be found by <math>3 \times 5 = 15</math>, then <math>15 \times 2 = 30</math>, or by <math>5 \times 2 = 10</math>, then <math>3 \times 10 = 30</math>. (Associative property of multiplication.) Knowing that <math>8 \times 5</math>.</p>		
<p style="text-align: center;"><b>Math Learning Targets</b></p> <p>I am learning how to recognize the place value system to ones, tens and hundreds. I am learning how to round numbers to the nearest 10. I am learning how to round numbers to the nearest 100. I am learning how to interpret factors. I am learning how to interpret products of whole numbers. I am learning how to represent and solve multiplication and division problems. I am learning how to be fluent with multiplication and division facts. I am learning how to use strategies, knowledge of relationships between multiplication and division, and the properties of</p>	<p style="text-align: center;"><b>ELA Learning Targets</b></p> <p>I am learning how to ask and answer questions to show I understand the text. I am learning how to use specific details in the text to support my answer. I am learning how to compare and contrast characters, themes, settings, and plots in stories written by the same author I am learning how to determine the main idea of a text. I am learning how to recount the key details. I am learning how to explain how the key details support the main idea.</p>	<p style="text-align: center;"><b>Science Learning Targets</b></p> <p>I am learning how interaction, energy and dynamics form different ecosystems.  I'm learning how to construct some animals from groups that help members survive.  I'm learning how to argue about some animals from groups that help members survive.</p>

operations, to recall basic facts quickly and accurately.  
I am learning how to recall facts from memory and from experiences with manipulatives, pictures, arrays, and word problems to internalize the basic facts.  
I am learning how to use multiplication and division strategies to solve word problems.  
I am learning how to model multiplication and division to solve word problems.  
I am learning how to write an equation with a symbol to represent the unknown number.  
I am learning how to use the commutative property of multiplication.  
I am learning how to use the associative property of multiplication.  
I am learning how to use the distributive property.  
I am learning how to explain the relationship between addition and subtraction.  
I am learning how to identify and use properties of addition and subtraction.  
I am learning how to subtract within 1000 using strategies and algorithms based on place value.  
I am learning how to fluently add within 1000 using place value strategies.

## II. Unit Theme: Math Here, Math There, Math Everywhere

### III. Materials

#### Resources:

[Number Talks Calendar Frame\(example\).](#)

<https://www.k5learning.com/free-worksheets-for-kids>.

## Rounding

### Round to estimate the sum

## Books

Place Value

Mall Mania By Stuart J. Murphy (Addition and Subtraction)

Coyotes all Around

Let's Estimate.

Mission Addition

Stacks of Trouble

Divide and Ride

*Arimethichicks Add Up* ( Extra support with addition) RTI What is Subtraction ?

*Arimethichicks Take Away* ( Extra support with Subtraction) RTI What is Addition?

## Manipulatives

Place Value chart/ Ones to Hundreds




Foam base ten Blocks

Novel Effect for Read a Books (App) optional

Craft materials for project

ST Math

Math Centers to continue practicing previous Math skills. (4 squares Worksheets, Fluency Math, Bingos etc.)

- Modelo o dibujo.**  
Model or drawing. 
- Ecuación.** **1+2=3**  
Equation.
- Respuesta correcta.**  
Correct answer. 
- Puedo explicar mi respuesta.**  
I can explain my answer. 



Word Problems Rubrics.

Virtual

([https://docs.google.com/presentation/d/1jadIq9nk64U9gWtj4QEbd-AEzVtCXQeH-y44LPXIF3M/present?slide=id.g27b693dca5\\_0\\_261](https://docs.google.com/presentation/d/1jadIq9nk64U9gWtj4QEbd-AEzVtCXQeH-y44LPXIF3M/present?slide=id.g27b693dca5_0_261)).

#### IV. Lesson Delivery Strategies and Activities Identified and Described

##### Week 1: Introduction Building Background knowledge (Place Value)

**Monday** /Teacher will create an observation chart related to the topic to assess what students know and to build a background knowledge from the topic. Observation chart will include pictures about addition, place value, subtraction,



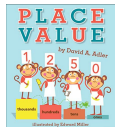
rounding, estimate, arrays, multiplications etc..time to introduce the topic. (**summative assessment**)  
Examples (Click on the picture).

Dictado: Numbers to ones to tens/ Students will use 3 different colors to Highlight ones, tens, hundreds.

**Activity:** Students will write the vocabulary in their notebooks as a reference and sketch the words.

Vocab: place value, tens, ones, thousands, hundreds, expanded form, standard form, model form, writer form (teachers can add words that are important about place value).

Number Talk:Friendly Numbers



**Tuesday:**Teacher will Read the book/ Place Value . After the first reading teachers will ask questions and create a discussion about why this book will be helpful in our unit.

**Activity:** Students Will use a worksheet to identify the value of the number. Students will use the same number to write the number in different forms (expanded form, standard form, model form, writer form).

Number Talks:Friendly Numbers

**Wednesday:** Students will walk around the classroom to observe the pictures from the observation charts and write what they see, write questions, predictions etc.

**Activity:** Word Math Problem.

Number Talks/Addition: Friendly Numbers with Compensation.

**Thursday:** Teachers and students will discuss the activity and create an inquiry chart (GLAD) about what they know and what they would like to learn related to the pictures.

Number Talk: Addition: Friendly Numbers with Compensation.

**Activity:** Word Problem/Place Value/Close reading strategies.

**Friday:** Teacher will use CCD from GLAD to add words according to the book and words related to the topic. Teacher will present a video about [place value](#) from the ones to the thousands according to the standards. ( This chart will be used for the whole unit to add words from different concepts.)

words: Digit, place value, ones, tens, hundreds, thousands.

-Students will provide predictions of the meaning of the words and add words in their personal CCD.

Independent Activity: Worksheet to identify the place value of numbers from ones to tens.

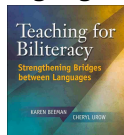
Formative Assessment of Place value.

## [Week 2: Practicing place value and introducing rounding to estimate.](#)

**Monday :** Teacher will read the book Place Value for second time using strategies from GLAD ([Narrative input chart](#)) to reinforce the learning process and continue building new words related to place value.

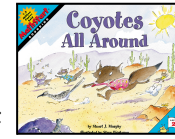
**Activity:** Worksheet to identify the value of different numbers from ones to tens and ST math

- Teachers will use Billetercy strategies to bridge the Vocabulary words of the content (estimate, rounding, nearest ten, nearest hundred) English to Spanish or viceversa to create connections between both languages. This activity will provide students to transfer the language and continue building vocabulary in their process of learning a new language.



- Teacher will use a video to introduce the concept of rounding and addition to estimate to the [nearest ten](#). (link)

Number Talk: Making tens/Supporting Addition Strategies/Providing Mini Lesson to practice new skills.



**Tuesday:** Teacher will be start building the concept of rounding using the book of [Coyotes All Around](#). Teacher will read it to the students and start creating questions to predict what math skill we are talking about. Students will turn and talk to try to identify the concept they are learning. (Teachers can start to add words to the CCD GLAD chart).

Activity:

Students will work as a team to identify clue words that are related to round numbers.

Number Talk: Making tens/supporting addition strategies/providing Mini Lessons to practice new skills.

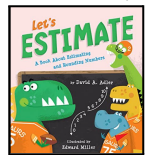
**Wednesday:** Will read for a second time the book of [Coyotes all around](#) to reinforce the concept of rounding. Teacher Will use the Poem to reinforce the concept of rounding to the nearest ten and start jumping to nearest hundred.

Find your number.  
Look right next door.  
4 or less just ignore.  
5 or more, add 1 more.

Activity: Students will use a worksheet with different numbers and round them according to the poem. This activity can be independent or guided.

Number Talk: Doubles & Near doubles with compensation.

**Thursday:** During Thursday and Friday teachers will use the concept of [round to estimate the sum](#). Teacher will read a new



book related with estimation [Let's ESTIMATE](#). Teacher will use a video to provide extra support for understanding the new math skill.

Activity: Word problem with the concept of round to estimate the sum (close reading strategies).

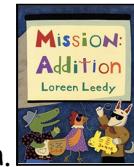
**Friday:** Teacher will use the same word problem from Thursday to review the concept and focus on close reading strategies. Students will revise and have a discussion about how they did? What was wrong? or Where do they need to put more attention? Questions can be different.

**Activity:** Word Problem of round to estimate the sum/Selected by teacher. Students will solve it using 4 squares.

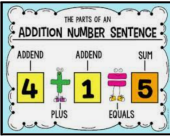
**Number talk:** Doubles & Near Doubles with compensation.

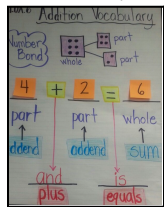
- Teacher will review concepts from the week to start to deliver the *Formative assessment* of Round and Estimation.
- Summative Assessment of Place Value, Round and Estimation. This supports students to continue learning new concepts and still practicing concepts from past weeks.

### Week 3: Addition with Regrouping.

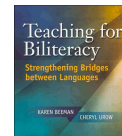


**Monday:** Teacher will read the book, Mission Addition to introduce the concept of addition. .chapter 1

- Teachers will use Billetercy strategies to bridge the vocabulary words of the content (  ) English to Spanish or viceversa to create connections between both languages. This activity will provide students to transfer



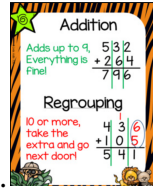
the language and continue building vocabulary in their process of learning a new language.



**Activity:** Students will write in their notebooks the activity that the teacher presents as a reference for other concepts/ST math.

**Tuesday:** Teacher will continue reading the book chapter 2: When adding 2-digit numbers, add the ones and tens column. Continue asking relevant questions to support students when they are adding 2 digit numbers. Introduce adding numbers with regrouping. Teacher will present a video to reinforce the instruction. [Addition video](#)





Continue using Addition Poem for extra support.

**Activity:** Students will work with an individual activity using different additions and they will put a check mark if they are going to regroup. Students will have a small discussion in table teams to orally share how and why they need to regroup. Students will use an addition equation to solve it using 4 squares as a strategy.

**Number Talk:** Decomposing by place value/partial sums.

**Wednesday:** Teachers will use Close Reading strategies to deeply analyze the Word Problem and discuss what Math operation we will use and why? Students will find clue words with guidance and support.

**Activity:** Use a similar word problem for students to work independently or/and Teams. Word problems will have Model, Equation and Answer. Teachers can add a 4 square to let students explore different strategies to solve the word problem. Important Reinforce regrouping, make students analyze why they are regrouping using place value.

**Number Talk:** Decomposing by place value/partial sums.

**Thursday:** Teacher will model the concept of regrouping with students and reinforce clue words from the previous book.

**Activity:** Students will be working in teams using a rubric for teamwork with a word problem to develop collaboration. Students will solve an Addition word problem trying to develop different strategies with guidance and support.

Number Talks: Addition with Number line

### **Associative Property**

**Friday:** Teacher will review previous concept and clue words for Addition to prepare students to assess this concept.

**Activity:** Word Problem without guidance and support using 4 Square strategies.

**Number Talk:** Decomposing by place value/partial sums.

### **Week 4: Subtraction with regrouping**

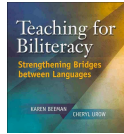


**Monday** Teacher will read the book Elevator Subtraction to introduce the concept of Subtraction ([Narrative input chart](#)). Teacher will not mention what mathematical operation the book is talking about? Students will discover what concept from math they will be learning about.

- Teacher will present a Video about subtraction with regrouping numbers. Teachers will have questions like Why and When do we regroup with subtraction?

**Activity:** Worksheet to identify the value of different numbers from ones to tens and ST math

- Teachers will use Billetercy strategies to bridge the Vocabulary words of the content( estimate,rounding,nearest ten, nearest hundred) English to Spanish or viceversa to create connections between both languages. This activity will provide students to transfer the language and continue building vocabulary in their process of learning a new



language.

- Number Talk: Adding in chunks

**Tuesday:** Teacher will Read the book, [Elevator Magic](#) . After the first reading teachers will ask questions and create a discussion about why this book will be helpful in our unit.

**Activity:** Students will work with an individual activity using different equations of subtraction and they will put a check mark if they are going to regroup. Students will have a small discussion in table teams to orally share how and why they need to regroup.

Number Talk: Adding in Chunks.

**Wednesday:** Teachers will use close reading strategies to deeply analyze the word problem and discuss what math operation we will use and why? Students will find clue words with guidance and support.

**Activity:** Use a similar word problem for students to work independently or/and teams. Word problems will have Model, Equation, and Answer. Teachers can add a 4 square to let students explore different strategies to solve the word problem. Important Reinforce regrouping, make students analyze why they are regrouping using place value.

Number Talk: Adding in chunks.

**Thursday:** Teacher will create Venn Diagram for compare and contrast addition and subtraction. Teacher will model 1 example to the students. Students will be working in their table teams to find 1 more example, teams will share the example and try to explain using relevant vocabulary. Lastly, Students will try to find another example but independently.

Number Talk: Adding by Chunks.

Activity: After this process students will start to fill an individual Venn Diagram.

Number Talk: Adding by chunks.

**Friday:** Teacher will review previous concept and clue words for Addition to prepare students to assess this concept.

Activity: Word Problem without guidance and support using 4 Square strategies.

Number Talk: Addition/ Challenge students with the strategy that they had a hard time with.

### Week 5: Multiplication

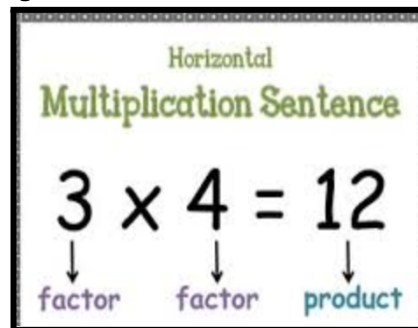
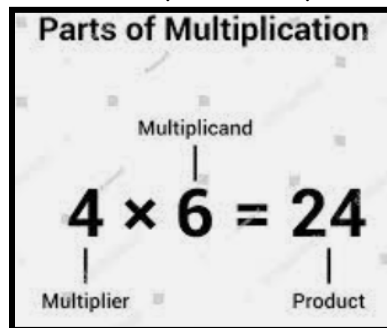


**Monday:** Teacher will read the the book [Stacks of Trouble](#) as an introduction to multiplications. Let students create predictions about what Mathematical Operation they will be learning.

- Teacher will present a video focusing on what is a [multiplication](#) and [commutative property](#). Students will start to add to their notebooks vocabulary with the meaning of the words.

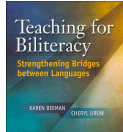
Activity:

- Model 4 Square Math. Use Number Talks to develop 4 different strategies to solve Multiplication strategies: Equal Groups and Skip Counting.



**Tuesday:** Teachers will use Billetercy strategies to bridge the Vocabulary words of the content( estimate,rounding,nearest ten, nearest hundred) English to Spanish or viceversa to create connections between both languages. This activity will

provide students to transfer the language and continue building vocabulary in their process of learning a new language.



- Students will add in their notebook the vocabulary in both languages using red for Spanish and blue for English.

**Activity:** 4 square/ Equal groups, Skip Counting, Array, Repeated Addition.

**Number Talk:** Multiplication/ Distributive Property/4 square equal groups, skip counting, arrays.

**Wednesday:** Teachers will use Close Reading strategies to deeply analyze the Word Problem and discuss what Math operation we will use and why? Students will find clue words with guidance and support.

**Activity:** Use a similar word problem for students to work independently or/and Teams. Word problems will have Model, Equation and Answer. Teachers can add a 4 square to let students explore different strategies to solve the word problem.

**Number Talk:** Associative Property/4 square equal groups, skip counting, arrays, repeated addition.

**Thursday:** Teacher will create Venn Diagrams for compare and contrast Multiplication and Addition. Teacher will model an example to the students. Students will be working with their table teams to find one more example; teams will share the example and try to explain using relevant vocabulary. Lastly, students will try to find another example, but independently.

**Activity:** Students will categorize different strategies they can use for different skills( addition, subtraction, multiplication) Students can use their previous 4 squares to identify these strategies.

**Note:** When students name the strategy and we bring language to Math it is easier for them to recognize what strategy to use to solve different equations.

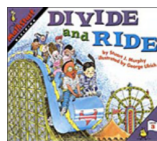
**Number Talk:** Multiplication/4 square equal groups, skip counting, arrays/review all properties.

**Friday:** Teacher will review previous concept from the week (multiplication) to close the concept. Students will have discussions about what they learned? Which strategies were they working with? How did they know it ? etc.

**Activity:** Students are going to write a reflection about what are the clue words from the book that told you what kind of operation you have to do and why.

**Number Talks:** Reinforcement of properties and 4 square strategies.

**Week 6: Division**



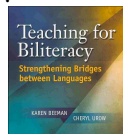
**Monday:** Teacher will read the book [Divide and Ride](#) as an introduction to Divisions. Let students create predictions about what Mathematical Operation they will be learning.

- Teacher will present a video focusing on what is a [Division](#). Students will start to add to their notebooks vocabulary with the meaning of the words. Teacher will teach a standard algorithm and other Division strategies (repeated subtraction, equal groups, array and skips counting).

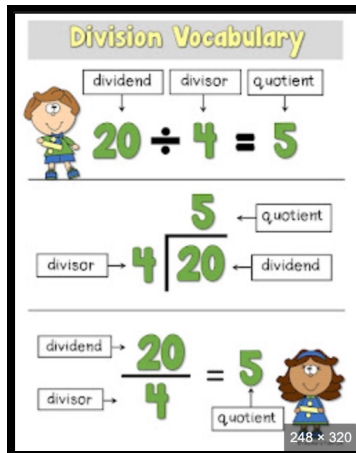
**Activity:** Model 4 square math. Use number talks to develop 4 different strategies to solve division problems: Equal groups and skip counting. Important to start to talk about how division and multiplication are different and the same.

Number Talks: Division/Repeated Subtraction/4 square.

**Tuesday:** Teachers will use biliteracy strategies to bridge the vocabulary words of the content (estimate, rounding, nearest ten, nearest hundred) English to Spanish or viceversa to create connections between both languages. This activity will provide students to transfer the language and continue building vocabulary in their process of learning a new language.



- Students will add in their notebook the vocabulary in both languages using red for Spanish and blue for English.



- **Activity:**
- **Number Talk:** Division/4 square: Repeated subtraction, equal groups.
- **Wednesday** Teachers will use close reading strategies to deeply analyze the word problem and discuss what math operation we will use and why? Students will find clue words with guidance and support.
- **Activity:** Use a similar word problem for students to work independently or/and Teams. Word problems will have Model, Equation and Answer. Teachers can add a 4 square to let students explore different strategies to solve the word problem.
- **Number Talk:** Division/4 square: Repeated subtraction, equal groups, skip counting.
- **Thursday** Teacher will create Venn Diagrams for compare and contrast addition and subtraction. Teacher will model an example to the students. Students will be working with their table teams to find one more example; teams will share the example and try to explain using relevant vocabulary. Lastly, students will try to find another example, but independently.
- **Activity:** Students will write a reflection about what are the similarities and differences between Multiplication and Division.
- **Number Talks:** Division/4 square: Repeated subtraction, equal groups, skip counting and arrays.
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- **Friday:** Teacher will review previous concept and clue words for Division to prepare students to assess for Division.
- **Activity:** Word Problem without guidance and support using 4 Square strategies.
- **Number Talk:** Division/ Challenge students with the strategy that they had a hard time with.

### Assessment/Evaluation (PLC Questions)

#### How will you know if each student has learned?

Using ST Math as a practice and assessment also, Number Talks to listen to how students share ideas about how to solve a Math Problem and 4 square strategies to evaluate individual students. Creating word problems and support using 4 square strategies that they developed previously.

#### What will you do when some students do not learn it (intervention strategies)?

During the unit teacher will be checking on each student in order to group them according to their needs, especially in reading, writing and math. I will be using number talks to reinforce strategies of different math concepts and 4 squares strategies to make sure students are getting math concepts.

#### How can you extend the learning for students who have demonstrated proficiency?

Creating projects where they can apply what they learn and create a connection with parents about what their child is learning at school, also having "Math and Literacy Center"s to keep students practicing past math concepts.

#### What do you hope to achieve with this lesson/unit/project?

To keep students engaged and teach them how to be the leaders of their own learning. The project activities will also include participation of the parents or families and create a community of learning between teacher, students, and families.

#### What are the learning benefits of integrative teaching--math/ELA together and science?

I think it is important that students that are learning a second language have connections between content areas using powerful strategies like bridging or the bridge. Using graphic organizers and biliteracy strategies help students to deeply understand mathematical operations.

Something very significant is that we have to teach more strategies than memorizing concepts like fluency tests. Students can have homework or centers for memorizing.

The purpose of this Unit is to expose students to the main concepts in math along with those in ELA. Students will be reviewing the concepts during the whole year in centers or other activities.