USERS' GUIDE and LESSON PLANS

Super Star Online
by Help Me 2 Learn

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Summary of Standards
Correlations by Course

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Note: Silly Pictures and Silly Sentences are extended versions of activities found in Beginning Reading with Phonics. We do not currently have a Users' Guide and Lesson Plans for them, though the standards correlations are the same as the similar activities found in Beginning Reading with Phonics.

Beginning Reading with Phonics
Lesson 1: Learning to Read

Don't You Just Love to Read – Song (featuring Dr. Jean Feldman)
Objective
To get kids excited about reading and show some of the wonderful things you can learn about by reading books.

Learning to Read – Story
Objective
To demonstrate early concepts of looking at books and reading words.

Standards
- *Lily reads a book out loud and points to the words as she reads them and turns the pages*
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Understand that words are separated by spaces in print.
- *The words "yes" and "no" are sounded out showing the individual letter sounds.*
- Demonstrate understanding of spoken words, syllables, and sounds
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.[1] (This does not include CVCs ending with /l/, /r/, or /x/.)
- *Scooter asks about some words that are difficult to read. He asks if he is reading the word correctly.*
- With prompting and support, ask and answer questions about unknown words in a text.

Learning Words - Story
Objective
To help kids understand how to use the Learn the Words section to sound out and read new words.

Standards
- *Words are read out loud when you click on them and the individual letter sounds are read out load when they mouse over each letter.*
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- Blend and segment onsets and rimes of single-syllable spoken words.

- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.[1] (This does not include CVCs ending with /l/, /r/, or /x/.)
- Know and apply grade-level phonics and word analysis skills in decoding words.

Learn the Words
Objective
Students can learn to read and sound out new words they may not be familiar with and review words they already know. It also includes a Speed Round to help students test their skills to see how many words they've learned. For the Speed Round in this lesson, students fill in the missing beginning letter for each word.

Standards
- *Words are read out loud when you click on them and the individual letter sounds are read out loud when they mouse over each letter.*
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- Blend and segment onsets and rimes of single-syllable spoken words.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.[1] (This does not include CVCs ending with /l/, /r/, or /x/.)
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant.
- *During the Speed Round, students are tested on matching the correct spelling of a word based off the sounds in the word. Half of the words are from the DOLCH WORDS list of high-frequency sight words.*
- *Read common high-frequency words by sight (e.g., the, of, to, you, she, my, is, are, do, does).*

Build a Story – Game (Pirate Story, Cook Story, Cop Story)
Objective
To encourage writing skills and creativity as well as beginning reading concepts. Students learn that writing can be fun as they get to help decide what the story will be about. They see that the illustrations in a book match the words and can help give clues to what the story is about.

Standards
- *Scooter and Lily explain what an author and illustrator are, and show where their names go on the title page.*
- With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.

- Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.
- *The user helps put together the title page of the book. This includes the names of the author and illustrator, title of the book that shows what the story is about and an illustration to represent the story.*
- Identify the front cover, back cover, and title page of a book.
- *The individual words in the story are highlighted as they are read and the book is read page by page.*
- Follow words from left to right, top to bottom, and page by page.
- Understand that words are separated by spaces in print.
- *Students help make a story by choosing words to complete the sentences. Then they get the opportunity to read the story they helped write.*
- Read emergent-reader texts with purpose and understanding
- *A story is read out loud and they must choose a word to finish a sentence from the story.*
- Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

Lesson 2: Reading Words

This is How You Learn to Read – Song (featuring Dr. Jean Feldman)
Objective
This song teaches students about different techniques they can use to figure out how to read words and sentences that they may find challenging.

Standards
- *Use your ears to help you read by listening for the sounds of letters and sound groups that you recognize. You put sounds together to make words.*
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- *Use your eyes to help you read by looking at the illustrations that go along with the text.*
- With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
- *Skip over words you don't know and read the rest of the sentence. Try to figure out what the missing word is by what would make sense for the sentence.*
- With prompting and support, ask and answer questions about unknown words in a text.
- *If a word is difficult, look for part of the word you know. You may know a rhyming word that ends in the same sound. Sound out the letters on the part you don't know and blend it with the chunk you do know.*

- Recognize and produce rhyming words.
- Count, pronounce, blend, and segment syllables in spoken words.
- Know and apply grade-level phonics and word analysis skills in decoding words.

Reading Words - Story
Objective

To demonstrate different techniques that students can use to figure out a word they don't know.

Standards
- *Use your ears to help you read by listening for the sounds of letters and sound groups that you recognize. You put sounds together to make words.*
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- *Use your eyes to help you read by looking at the illustrations that go along with the text.*
- With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
- *Skip over words you don't know and read the rest of the sentence. Try to figure out what the missing word is by what would make sense for the sentence.*
- With prompting and support, ask and answer questions about unknown words in a text.
- *If a word is difficult, look for part of the word you know. You may know a rhyming word that ends in the same sound. Sound out the letters on the part you don't know and blend it with the chunk you do know.*
- Recognize and produce rhyming words.
- Count, pronounce, blend, and segment syllables in spoken words.
- Know and apply grade-level phonics and word analysis skills in decoding words.

Learn the Words
Objective

Students can learn to read and sound out new words they may not be familiar with and review words they already know. It also includes a Speed Round to help students test their skills to see how many words they've learned. For the Speed Round in this lesson, students click on the 2 words that have the same ending sound.

Standards
- *Words are read out loud when you click on them and the individual letter sounds are read out loud when they mouse over each letter.*
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).

- Blend and segment onsets and rimes of single-syllable spoken words.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.[1] (This does not include CVCs ending with /l/, /r/, or /x/.)
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.[1] (This does not include CVCs ending with /l/, /r/, or /x/.)
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant.
- *Associate the long and short sounds with the common spellings (graphemes) for the five major vowels.*
- *During the Speed Round, the student is given three words and is asked to pick the two words that have the same ending sounds.*
- Recognize and produce rhyming words.

Picture Builder
Objective
To practice using words to describe people and objects as well as demonstrating how illustrations and words relate to each other. This activity also provides more practice for sounding out words to figure out what letter they start with.

Standards
- *Fill in the missing letters to complete a sentence.*
- With prompting and support, ask and answer questions about unknown words in a text.
- Read emergent-reader texts with purpose and understanding.
- *Illustrations are used to help figure out what the unknown words are.*
- With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
- *Only the first letter of the unknown words is missing, so rhyming skills can be used to help figure out what the word is.*
- Recognize and produce rhyming words.

The Bike Ride Story Game
Objective
To practice comprehension skills and understanding context to figure out what word should be used in each sentence. It also allows students to see the relationship between text and illustrations as they use the pictures to help them know what word is missing.

The Big Hike Story Game
Objective

To practice comprehension skills and understanding context to figure out what word should be used in each sentence. It also allows students to see the relationship between text and illustrations as they use the pictures to help them know what word is missing.

Standards

- *A series of sentences are given to form a complete story. Each sentence has a missing word and students must figure out which is the correct word to go in each spot.*
- Read emergent-reader texts with purpose and understanding.
- *The illustrations help show what word goes in the sentence.*
- With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).

The Bog Log Story Game
Objective

To practice comprehension skills and understanding context to figure out what word should be used in each sentence. It also allows students to see the relationship between text and illustrations as they use the pictures to help them know what word is missing.

Lesson 3: Reading Sentences

Frog and Fly Story Game
Objective

To practice comprehension skills and understanding context to figure out what word should be used in each sentence. It also allows students to see the relationship between text and illustrations as they use the pictures to help them know what word is missing.

Standards
- *A series of sentences are given to form a complete story. Each sentence has a missing word and students must figure out which is the correct word to go in each spot.*
- Read emergent-reader texts with purpose and understanding.
- *The illustrations help show what word goes in the sentence.*
- With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).

Little Turtles Story Game
Objective

To practice comprehension skills and understanding context to figure out what word should be used in each sentence. It also allows students to see the relationship between text and illustrations as they use the pictures to help them know what word is missing.

Standards
- *A series of sentences are given to form a complete story. Each sentence has a missing word and students must figure out which is the correct word to go in each spot.*
- Read emergent-reader texts with purpose and understanding.
- *The illustrations help show what word goes in the sentence.*

- With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
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Reading Sentences Presentation - Story
Objective
To practice comprehension skills and understanding context to figure out what word should be used in each sentence. It also allows students to see the relationship between text and illustrations as they use the pictures to help them know what word is missing.

Standards
- *A series of sentences are given to form a complete story. Each sentence has a missing word and students must figure out which is the correct word to go in each spot.*
- Read emergent-reader texts with purpose and understanding.
- *The illustrations help show what word goes in the sentence.*
- With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).

Learn the Words
Objective
To demonstrate how to use words to form sentences and teach the correct way to start and end a sentence.

Standards
- *The student is shown that you put words together to make sentences and that sentences are complete ideas.*
- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- *Students are asked to copy a sentence.*
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- *Students are asked to look at a sample sentence and point out that the first letter of the sentence should be capitalized.*
- Capitalize the first word in a sentence and the pronoun I
- *Periods, exclamation marks and question marks are explained. They are asked to look at a sample sentence and point out that it is missing the period at the end.*
- Recognize and name end punctuation.
- *Students are shown a sentence and asked to match it with the correct picture.*
- With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).

It's Bed Time! - Game
Objective

To help students practice reading sentences and understand their meanings as well as demonstrate the relationship between the text and illustration. Students are also asked to read a word with a descriptive adjective and pick the correct object.

Standards

- *Students read three sentences and choose the one that matches the picture.*
- *Read emergent-reader texts with purpose and understanding.*
- *With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).*
- *Sentences are made from DOLCH WORDS list of high-frequency sight words.*
- *Read common high-frequency words by sight (e.g., the, of, to, you, she, my, is, are, do, does).*
- *The three sentences are very similar. They must identify what makes them different to determine which sentence matches the picture.*
- *With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).*

Coloring Sentences - Game
Objective

To learn how to form short sentences using simple words and to see the relationship between the text and illustration.

Standards

- *Students rearrange a group of words to make a 3 or 4 word sentence. There are extra words that are not needed and are often several different sentences that can be made from the group of words.*
- *Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.*
- *After students make a sentence, they see an illustration that matches their sentence.*
- *With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).*

Letters & Numbers

Lesson 1: Letter Recognition

OBJECTIVE
To help the child learn the names of each letter for both upper case and lower case letters.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-name correspondences by producing the name of each letter.

Lesson 2: Matching Letters

OBJECTIVE
This lesson is designed to help the child know their alphabet by being able to identify the matching letter.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-name correspondences by producing the name of each letter.
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Understand that words are separated by spaces in print.

Lesson 3: Alphabet Order A-Z

OBJECTIVE
This activity will enable the students to learn the order of the alphabet.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-name correspondences by producing the name of each letter.
- Follow words from left to right, top to bottom, and page by page.

- Recognize that spoken words are represented in written language by specific sequences of letters.
- Understand that words are separated by spaces in print.

Lesson 4: Letters & Words

OBJECTIVE
This activity is designed to allow the children to see how the beginning letter of a word looks and sounds.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-name correspondences by producing the name of each letter.
- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Understand that words are separated by spaces in print.

Lesson 5: Letter Sounds

OBJECTIVE
This lesson will allow the students to begin to hear the sound that letters make at the beginning of words.

STANDARDS
- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Demonstrate basic knowledge of one-to-one letter-name correspondences by producing the name of each letter.
- Write a letter or letters for most consonant and short-vowel sounds (phonemes).
- Recognize that spoken words are represented in written language by specific sequences of letters.
- Understand that words are separated by spaces in print.

Lesson 6: Spelling

OBJECTIVE
This lesson simply shows how the alphabet can be used to create poems and stories. This lesson gives the student a great start at spelling concepts.

- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Lesson 7: Number Recognition

OBJECTIVE

This is a great lesson on learning the number names and recognizing them in any order.

STANDARDS

- Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- Count to 100 by ones and by tens.
- Count forward beginning from a given number within the known sequence.

Lesson 8: Counting to 5

OBJECTIVE

This lesson introduces basic counting in level 1 and basic addition in level 2.

STANDARDS

- Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- Count to 100 by ones and by tens.
- Count forward beginning from a given number within the known sequence.

Lesson 9: Counting to 10

OBJECTIVE

This lesson teaches the students how to count in order from 1-10 and 1-20. This also helps them with number recognition.

STANDARDS

- Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- Count to 100 by ones and by tens.
- Count forward beginning from a given number within the known sequence.

Lesson 10: Counting to 20

<u>OBJECTIVE</u>
Enhance the students counting skills by showing them how learning their number order can complete a dot-to-dot.

<u>STANDARDS</u>
- Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- Count to 100 by ones and by tens.
- Count forward beginning from a given number within the known sequence.
- Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

Lesson 11: Beginning Math

<u>OBJECTIVE</u>
This lesson is a review of counting, adding and subtracting by using objects and numbers.

<u>STANDARDS</u>
- Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
- Fluently add and subtract within 5.
- For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

Phonics 1a – Vowel Sounds

Lesson 1: Short Vowels

<u>**OBJECTIVE**</u>
The students will be able to identify and learn the sounds of short vowels found in words.

<u>**STANDARDS**</u>
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 2: Short "a"

<u>**OBJECTIVE**</u>
The students will be able to identify and learn the sound of the short "a" vowel and the sounds of other vowels found in words.

<u>**STANDARDS**</u>
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 3: Short "e"

OBJECTIVE

The students will be able to identify and learn the sound of the short "e" vowel and the sounds of other vowels found in words.

STANDARDS

- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 4: Short "i"

OBJECTIVE

Tell your students that they will be learning about the short "i" and have them say the short "i" sound with you.

STANDARDS

- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 5: Short "o"

OBJECTIVE
The students will be able to read CVC words with the short "o" sound.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 6: Short "u"

OBJECTIVE
The students will be able to read CVC words with the short "u" sound.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.

- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 7: Long Vowels

OBJECTIVE

The students will be able to identify and know the sounds of long vowels found in words.

STANDARDS

- Recognize that spoken words are represented in written language by specific sequence of letters.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 8: Long "a"

OBJECTIVE

The students will be able to read CVCE words with the long "a" sound.

STANDARDS

- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 9: Long "e"

OBJECTIVE

The students will be able to read CVCE words with the long "e" sound.

STANDARDS

- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 10: Long "i"

OBJECTIVE

The students will be able to read CVCE words with the long "I" sound.

STANDARDS

- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 11: Long "o"

OBJECTIVE
The students will be able to read CVCE words with the long "o" sound.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 12: Long "u"

OBJECTIVE
The students will be able to read CVCE words with the long u sound.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 13: "y" as a vowel

OBJECTIVE

Explain to your students that the letter y can have either the long "e" sound, or the long "i" sound when it is at the end of a word. Show examples for each sound and have them say the sounds with you.

STANDARDS

- Recognize that spoken words are represented in written language by specific sequence of letters.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson 14: Vowel Review

OBJECTIVE

The students will distinguish long from short vowels.

STANDARDS

- Recognize that spoken words are represented in written language by specific sequence of letters.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Decode regularly spelled one-syllable words.
- Distinguish long from short vowel sounds in spoken single-syllable words.

Lesson Plans for Phonics 1b

Lesson 1: What Are Consonants?

OBJECTIVE
The students will understand what consonants are and how they are used to make words.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.

Lesson 2: Talking One Sound Consonants

OBJECTIVE
Students will understand that the 21 letters of the alphabet known as Consonants have only one sound and they will be able to see how those sounds are used to sound out words.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.

Lesson 3: Talking Multi-sound Letters

OBJECTIVE
The students will understand that there are 4 letters of the alphabet that make more than one sound. They are C, G, X and Y and are known as Multi-sound Consonants. All of these letters make 2 sounds except for the letter "y". It is amazing as it makes 3 sounds.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.

Lesson 4: Consonants B C D F

OBJECTIVE
The students will know the consonants B, C, D, and F and the sounds they make.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
  - Understand that words are separated by spaces in print.
  - Recognize and name all upper- and lowercase letters of the alphabet.
  - Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
  - Count, pronounce, blend and segment syllables in spoken words.
  - Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
  - Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
  - Decode regularly spelled one-syllable words.

Lesson 5: Letter Sounds

OBJECTIVE
 The students will know the letter have names and the letters make sounds. Some letters make more than one sound.

STANDARDS
- Recognize and name all upper- and lowercase letters of the alphabet.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.

Lesson 6: Consonants G H J K

OBJECTIVE
The students will know the consonants G, H, J, and K and the sounds they make.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.

- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.

Lesson 7: Phonics Rules and Making Sounds

<u>OBJECTIVE</u>
The students will know basic phonics rules. The students will know how to put letters together to create words. The student will know sight words can not be sounded out.

<u>STANDARDS</u>
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Recognize and read grade-appropriate irregularly spelled words.

Lesson 8: Consonants L M N P

<u>OBJECTIVE</u>
The students will know the consonants L, M, N, and P and the sounds they make.

Lesson 9: Phonics Blending and Spelling

OBJECTIVE

Review your student's knowledge about basic phonics rules with a little lesson from Lily and Scooter. They will prepare your students to learn how to sound out words and how to read.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.

Lesson 10: Consonants Q R S T

OBJECTIVE
The students will know the consonants Q, R, S, and T and the sounds they make.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.

Lesson 11: Consonants V W X Y Z

OBJECTIVE
The students will know the consonants V, W, X, Y, and Z and the sounds they make.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.

Lesson 12: Lily's Party

OBJECTIVE
The students will understand that words can make up stories and how using different words can change the meaning of a story.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Decode regularly spelled one-syllable words.
- Recognize the distinguishing features of a sentence.

Lesson 13: Lily's Phonics Finder Game
Consonants B-N

OBJECTIVE
The students will recognize and identify words with the beginning sounds of the consonants B-N.

STANDARDS
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.

Lesson 14: Consonant Parade

OBJECTIVE
The students will recognize and identify words with the beginning sounds of the consonants P-Z.

STANDARDS
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

Lesson 15: Scooters Word Finder Game
Consonants P-Z

OBJECTIVE
The students will identify beginning letters of words as the sound of the word is presented.

STANDARDS
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Recognize the distinguishing features of a sentence.

Lesson 16: Curly's Birthday Party

OBJECTIVE
The students will identify sounds that appear in the middle of words.

STANDARDS
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.

Lesson 17: Sight Word Game

OBJECTIVE
The students will recognize and be able to read irregularly spelled words.

STANDARDS
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Read common high-frequency words by sight.
- Recognize and read grade-appropriate irregularly spelled words.

Lesson 18: Treasure Hunt Game

OBJECTIVE
The student will use phonics skills to identify the initial sounds of words.

STANDARDS
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Recognize and name all upper- and lowercase letters of the alphabet.

- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Decode regularly spelled one-syllable words.

Lesson 19: BMX Spelling Race Game

OBJECTIVE
Help your students use their phonics skills to fill in the missing letter based on a picture.

STANDARDS
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Decode regularly spelled one-syllable words.

Lesson 20: Phonics Review

OBJECTIVE
The students will use their phonics skills to answer questions correctly and earn a star.

STANDARDS
- Follow words from left to right, top to bottom, and page by page.
- Recognize that spoken words are represented in written language by specific sequence of letters.
- Understand that words are separated by spaces in print.
- Recognize and name all upper- and lowercase letters of the alphabet.
- Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and spoken single-syllable words.
- Count, pronounce, blend and segment syllables in spoken words.
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.

Lesson Plans for Phonics 2a

Lesson 1: A Phonics Review

OBJECTIVE
The students will review their knowledge about basic phonics concepts with a little lesson from Scooter, Curly, Penny, Buddy and Jo. They will be prepared for more great phonics learning.

STANDARDS
- Distinguish long from short vowel sounds in spoken single-syllable words.
- Recognize and read grade-appropriate irregularly spelled words.
- Decode regularly spelled one-syllable words.

Lesson 2: Long and Short Vowels Review

OBJECTIVE
Review your knowledge about long and short vowels, the sounds they make and how they are used in words.

STANDARDS
- Distinguish long from short vowel sounds in spoken single-syllable words.
- Decode regularly spelled one-syllable words.
- Know final-e and common vowel team conventions for representing long vowel sounds.

Lesson 3: One Sound Consonants Review

OBJECTIVE
Review your knowledge about one sound consonants and how they are used in words.

STANDARDS
- Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sound for each consonant.
- Decode regularly spelled one-syllable words.

Lesson 4: Multi-sound Consonants Review

OBJECTIVE
Review your knowledge about Multi-sound consonants and how they are used in words.

- Decode regularly spelled one-syllable words.

Lesson 5: Consonant Blends sn, sk, gl, fr

OBJECTIVE
The students will know what consonant blends are and will be able to read and write the blends sn, sk, gl, and fr.

STANDARDS
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long and short vowels when reading regularly spelled single syllable words.

Lesson 6: Consonant Blends cl, pl, st, dr

OBJECTIVE
The students will be able to read and write the consonant blends cl, pl, st, and dr.

STANDARDS
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Decode regularly spelled one-syllable words.
- Distinguish long and short vowels when reading regularly spelled single-syllable words.

Lesson 7: Digraphs

OBJECTIVE
The students will be able to read and write the digraphs ch, qu, kn, sh, th, and wh.

- Know the spelling-sound correspondence for common consonant digraphs.
- Decode regularly spelled one-syllable words.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Distinguish long and short vowels when reading regularly spelled single-syllable words.

Lesson 8: Diphthongs

OBJECTIVE

The students will be able to read and write the diphthongs oi, oy, ew, and au.

STANDARDS
- Decode regularly spelled one-syllable words.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Know spelling-sound correspondence for additional common vowel teams.
- Recognize and read grade-appropriate irregularly spelled words.

Lesson 9: Compound Words

OBJECTIVE

The students will be able to predict the meaning of compound words.

STANDARDS
- Use knowledge of the meaning of individual words to predict the meaning of compound words.
- Decode two-syllable words following basic patterns by breaking the words into syllables.

Lesson 10: Rhyming Words

OBJECTIVE

The students will be able to identify and produce rhyming words.

- Recognize and produce rhyming words.
- Decode regularly spelled one-syllable words.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Distinguish long and short vowels when reading regularly spelled single-syllable words.

Lesson 11: Antonyms

OBJECTIVE
The students will be able to relate words to their opposite.

STANDARDS
- Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).
- Decode regularly spelled one-syllable words.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Distinguish long and short vowels when reading regularly spelled single-syllable words.

Lesson 12: Synonyms

OBJECTIVE
The students will demonstrate an understanding of words by being able to identify and produce synonyms.

STANDARDS
- Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
- Know the spelling-sound correspondence for common consonant digraphs.
- Decode regularly spelled one-syllable words.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

Lesson 13: Homonyms

OBJECTIVE
The students will show word knowledge by being able to identify and produce homonyms.

STANDARDS
- Decode regularly spelled one-syllable words.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Distinguish long and short vowels when reading regularly spelled single-syllable words.

Lesson 14: Spelling

OBJECTIVE
The students will use common spelling patterns to spell words.

STANDARDS
- Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words.
- Generalize learned spelling patterns when writing words.

Lesson 15: Review

OBJECTIVE
The students will show their understanding of the concepts taught in this program.

STANDARDS
- Recognize and read grade-appropriate irregularly spelled words.
- Decode regularly spelled one-syllable words.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
- Distinguish long and short vowels when reading regularly spelled single-syllable words.

- Know the spelling-sound correspondence for common consonant digraphs.
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- Recognize and produce rhyming words.
- Use knowledge of the meaning of individual words to predict the meaning of compound words.

Lesson Plans for Phonics 2b

Lesson 1: Syllables

OBJECTIVE
The students will be able to apply knowledge of basic syllabication rules when reading and to be able to identify open and closed syllables.

STANDARDS
- Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
- Decode two-syllable words following basic patterns by breaking the words into syllables.
- Know and apply grade-level phonics and word analysis skills in decoding words.

Lesson 2: R Controlled Vowels

OBJECTIVE
The students will read and spell r-controlled vowels correctly.

STANDARDS
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Count, pronounce, blend, and segment syllables in spoken words.
- Decode two-syllable words following basic patterns by breaking the words into syllables.
- Decode regularly spelled two-syllable words with long vowels.
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.

Lesson 3: Vowel Spellings

OBJECTIVE
The students will recognize and use knowledge of vowel spelling patterns.

STANDARDS
- Know spelling-sound correspondences for additional common vowel teams.
- Know and apply grade-level phonics and word analysis skills in decoding words.

- Distinguish long and short vowels when reading regularly spelled one-syllable words.
- Decode regularly spelled two-syllable words with long vowels.
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.

Lesson 4: 3 Letter Blends

OBJECTIVE
The students will be able to read and spell consonant blend patterns correctly.

STANDARDS
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Distinguish long and short vowels when reading regularly spelled one-syllable words.

Lesson 5: Ending Blends

OBJECTIVE
The students will learn the ending blends LD, ND, NT, FT, MP, NK, ST, and SK.

STANDARDS
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Distinguish long and short vowels when reading regularly spelled one-syllable words.

Lesson 6: Regular and Irregular Plurals

OBJECTIVE
The students will be able to identify and correctly use regular and irregular plurals.
STANDARDS
- Use singular and plural nouns with matching verbs in basic sentences.
- Form and use frequently occurring irregular plural nouns.

- Form and use regular and irregular plural nouns.
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Distinguish long and short vowels when reading regularly spelled one-syllable words.

Lesson 7: Complete/Incomplete Sentences

<u>OBJECTIVE</u>
The students will be able to distinguish between complete and incomplete sentences.

<u>STANDARDS</u>
- Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Distinguish long and short vowels when reading regularly spelled one-syllable words.
- Decode two-syllable words following basic patterns by breaking the words into syllables.
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.

Lesson 8: Reading and Writing

<u>OBJECTIVE</u>
There are two activities in this lesson. First, the students will be able to read and create a story about Lily's First Pet. The objective is to develop reading comprehension as they learn that sometimes they get to make their own choices and sometimes they must be guided by the story. Next, they will learn to write a friendly letter complete with the date, salutation, body, closing, and signature. They must learn to listen to the instruction and learn to use the reference materials provided.

<u>STANDARDS</u>
- Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.

- By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
- Use commas in greetings and closing of letters.
- With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Distinguish long and short vowels when reading regularly spelled one-syllable words.
- Decode two-syllable words following basic patterns by breaking the words into syllables.
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.

Lesson 9: Review

OBJECTIVE
The students will practice and apply the new reading and spelling strategies learned in this program.
STANDARDS
- Generalize learned spelling patterns when writing words.
- By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Know spelling-sound correspondences for additional common vowel teams.
- Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
- Use singular and plural nouns with matching verbs in basic sentences.
- Form and use frequently occurring irregular plural nouns.
- Decode two-syllable words following basic patterns by breaking the words into syllables.
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- Distinguish long and short vowels when reading regularly spelled one-syllable words.

Language Arts Review 3a – Advanced Level with Sports

Lesson 1: Word Families and Patterns

OBJECTIVE
Students will be able to recognize word families and patterns when reading, helping them learn new words.

STANDARDS
*   Use spelling patterns and generalizations (e.g., *word families, position-based spellings, syllable patterns, ending rules, meaningful word parts*) in writing words.
*   Generalize learned spelling patterns when writing words (e.g., *cage → badge; boy → boil*).

Lesson 2: Syllables

OBJECTIVE
Students will understand basic ways to break words into syllables, to help them spell and learn new words.

STANDARDS
*   Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
*   Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
*   Decode two-syllable words following basic patterns by breaking the words into syllables.

Lesson 3: Antonyms and Synonyms

OBJECTIVE
Students will be able to identify and use common antonyms and synonyms.

STANDARDS
*   Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).

- Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
- Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

Lesson 4: Homophones and Homographs

OBJECTIVE
Students will understand and be able to use the basic rules for identifying homophones and homographs, and the difference between the two.

STANDARDS
- Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

Lesson 5: Classifying and Sorting

OBJECTIVE
Understand how to classify and sort words, and be able to sort words into classification groups.

STANDARDS
- Classify grade-appropriate categories of words
(e.g., concrete collections of animals, foods, toys).

Lesson 6: Prefixes, Root Words, and Suffixes

OBJECTIVE
Students will be able to identify and use basic prefixes, root words, and suffixes in reading and writing.

STANDARDS
- Know and apply grade-level phonics and word analysis skills in decoding words.
- Decode words with common prefixes and suffixes.
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.

- Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., happy/unhappy, tell/retell).
- Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., addition, additional).
- Identify and know the meaning of the most common prefixes and derivational suffixes.

Lesson 7: Reading Comprehension Strategies

<u>OBJECTIVE</u>
Students reading comprehension skills by reading short stories, and then by answering who, what, where, when, and how questions about the stories.

<u>STANDARDS</u>
- Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
- Know and apply grade-level phonics and word analysis skills in decoding words
- Identify words with inconsistent but common spelling-sound correspondences.
- Read on-level text with purpose and understanding.
- Identify real-life connections between words and their use (e.g., describe people who are friendly or helpful).
- Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., After dinner that night we went looking for them).

Lesson 8: Review Games

<u>OBJECTIVE</u>
Students will be able to spell words correctly and quickly, first when seeing and hearing them, and then hearing them only.
Students will be able answer questions based on the all of the previous lessons.

<u>STANDARDS</u>
- Generalize learned spelling patterns when writing words (e.g., cage-->badge; boy-->boil).
- Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words.

Language Arts Review 3b – Advanced Level II with Sports

Lesson 1: Types of Literature

OBJECTIVE
Your students will be able to decipher between poems, fiction and non-fiction literature. They will also be able to recognize characters, the setting, and plot in stories they read.

STANDARDS
- Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.
- Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.
- By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Lesson 2: Writing a Paragraph

OBJECTIVE
Students will learn the definition of a paragraph and to use topic sentences, supporting sentences and concluding sentences.

STANDARDS
- Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).
- Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
- Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
- Identify the main topic and retell key details of a text.

Lesson 3: Nouns, Pronouns, Verbs, and Adjectives

<u>OBJECTIVE</u>
Students will be able to identify and correctly use nouns, pronouns, adjectives and verbs.

<u>STANDARDS</u>
- Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.
- Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).

Lesson 4: Subject Verb Agreement and Verb Tenses

<u>OBJECTIVE</u>
Students will understand and practice using subject verb agreement, as well as the past, present, and future tenses of verbs.

<u>STANDARDS</u>
- Form and use the past tense of frequently occurring irregular verbs (e.g., *sat, hid, told*).
- Form and use the simple (e.g., *I walked; I walk; I will walk*) verb tenses.
- Ensure subject-verb and pronoun-antecedent agreement.
- Form and use the progressive (e.g., *I was walking; I am walking; I will be walking*) verb tenses.

Lesson 5: Punctuation and Capitalization

<u>OBJECTIVE</u>
Students will learn the importance and correct use of periods, question marks and exclamation points.

<u>STANDARDS</u>
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- Choose punctuation for effect.

Lesson 6: Spelling Strategies

<u>OBJECTIVE</u>
Students will understand and properly use various spelling strategies.

<u>STANDARDS</u>
* Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).

Lesson 7: Reading Comprehension Strategies

<u>GOAL</u>
Students will use different reading strategies to understand what they read. Students will understand the main idea of the story, remember details, make connections, make predictions, and summarize.

<u>STANDARDS</u>
* By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
* Determine the main idea of a text; recount the key details and explain how they support the main idea.
* Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*).
* Read on-level text with purpose and understanding.
* Identify real-life connections between words and their use (e.g., describe people who are friendly or helpful).
* Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., After dinner that night we went looking for them).

Lesson 8: Review Games

<u>GOAL</u>
Students will be able to spell words correctly and quickly. Students will review all the lessons of this course.

<u>STANDARDS</u>
* Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).

Games of Math 1 – Addition & Money

Lesson 3 – Build a Pet

OBJECTIVE
Students will work on number sense skills as they earn points that they can spend to build and customize a pet.

Stage 1 - 1st GRADE STANDARDS
- Students understand and use numbers up to 100:
    - Count, read, and write whole numbers to 100.
    - Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than (<, =, >).
    - Count by 2s, 5s, and 10s to 100.

Skills developed by level
- Level 1 - Count groups of objects to 12.
- Level 2 - Know the numbers up to 30.
- Level 3 - Compare groups of objects to 30.
- Level 4 - Compare numbers to 100.
- Level 5 - Put numbers in order up to 100.

2nd GRADE STANDARDS
- Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000:
    - Count and read, whole numbers to 1,000 and identify the place value for each digit.
    - Use words, models, and expanded forms (e.g., 45 = 4 tens + 5) to represent numbers (to 1,000).
    - Order and compare whole numbers to 1,000 by using the symbols <, =, >.
- Students estimate, calculate, and solve problems involving addition of two- and three-digit numbers.

Skills developed by level
- Level 1 - Know the numbers up to 1,000.
- Level 2 - Know the place value with numbers up the thousands.
- Level 3 - Compare numbers to 1,000.
- Level 4 - Put numbers in order up to 1,000.
- Level 5 - Know the expanded forms for numbers to 1,000.

3rd GRADE STANDARDS
- Students understand the place value of whole numbers:
    - Count and read whole numbers to 10,000.

- o Compare and order whole numbers to 10,000.
- o Identify the place value for each digit in numbers to 10,000.
- o Round off numbers to 10,000 to the nearest ten, hundred, and thousand.
- o Use expanded notation to represent numbers (e.g., 3,206 = 3,000 + 200 + 6).

Skills developed by level
- Level 1 – Know place value of each digit up to 10,000.
- Level 2 - Compare numbers to 10,000.
- Level 3 – Put numbers in order to 10,000.
- Level 4 - Expanded forms for numbers up to 10,000.
- Level 5 - Rounding numbers up to 10,000 to the nearest thousand, hundred or ten.

Lesson 5: Catch It

OBJECTIVE
Students will build beginning addition skills as they answer untimed addition problems and then throw a flying disk to their pet.

Stage 1 - 1st GRADE STANDARDS
- Students demonstrate the meaning of addition and use these operations to solve problems:
  - o Know the addition facts (sums to 20) and commit them to memory.
  - o Solve addition problems with one- and two-digit numbers (e.g., 5 + 58 = __).
  - o 2.7 Find the sum of three one-digit numbers.

Skills developed by level
- Add 1-5.
- Add 1-10.
- Add 1-15.
- Add 1-20.
- Add 1-20 (3 numbers).

2nd GRADE STANDARDS
- Students estimate, calculate, and solve problems involving of two- and three-digit numbers:
  - o Find the sum of two whole numbers up to three digits long.

Skills developed by level
- Add 1-50 (both 2 digit numbers no carrying).
- Add 1-50 (both 2 digit numbers with some carrying).
- Add 1-100 (both 2 digit numbers with lots of carrying).
- Add 1-300 (one 3 digit one 2 digit number with lots of carrying).

- Add 1-500 (one 3 digit one 2 digit number with lots of carrying and no help).

3rd GRADE STANDARDS

- Students calculate and solve problems involving addition.
  - o Find the sum of two whole numbers between 0 and 10,000.

Skills developed by level
  - Add 1-500 (3 digit and 3 digit no carrying).
  - Add 1-1000 (3 digit number and a 3 digit number carrying with help).
  - Add 1-1,000 (3 digit number and a 3 digit number caring no help).
  - Add 1-10,000 (4 digit number and a 4 digit number).
  - Sums up to 20,000 (5 digit number and a 4 digit number).

Lesson 6: Pet Competition

OBJECTIVE
Students will build addition fluency as they answer addition problems and enter a 3 event pet competition.

Stage 1 - 1st GRADE STANDARDS
- Students understand and use numbers up to 100:
  - o Count and read whole numbers to 100.
- Students demonstrate the meaning of addition and use these operations to solve problems:
  - o Solve addition problems with one- and two-digit numbers (e.g., 5 + 58 = __).
  - o Find the sum of three one-digit numbers.

Skills developed by level
  - Add by counting two groups of objects sums up to 8.
  - Add to a sum of 10 with numbers. Hands and fingers will be placed under each number to represent that number.
  - Add with sums up to 15. Use only single digit numbers.
  - Add with sums up to 20. Use all single digit numbers with the exception of 10.

2nd GRADE STANDARDS
- Students estimate, calculate, and solve problems involving of two- and three-digit numbers:
  - o Find the sum of two whole numbers up to three digits long.
  - o Use mental arithmetic to find the sum of two two-digit numbers.

Skills developed by level
  - Add with sums up to 25. One double digit number and a single digit number.

- Add with sums up to 50. One double digit number and a single digit number.
- Add with sums up to 50. Two double digit numbers.
- Add with sums up to 100. Two double digit numbers.
- Add with sums up to 100. Two double digit numbers.

3rd GRADE STANDARDS
- Students calculate and solve problems involving addition.
  - o Find the sum of two whole numbers between 0 and 10,000.

Skills developed by level
- Add with sums up to 100. Two double digit numbers.
- Add with sums up to 200. One triple digit number one double digit number.
- Add with sums up to 500. Two triple digit numbers.
- Add with sums up to 5000. One 4 digit number one 3 digit number.
- Add with sums up to 10000. Two 4 digit numbers.

Lesson 7 – Gold Tower

OBJECTIVE
Students will learn to solve math problems as presented in word problems. Students will understand that math is used to solve real life problems.

Stage 1 - 1st GRADE STANDARDS
- Students use number sentences with operational symbols and expressions to solve problems:
  - o Solve number sentences from problem situations that express relationships involving addition.
  - o Understand the meaning of the symbol +.
- Students demonstrate the meaning of addition and use these operations to solve problems:
  - o Know the addition facts (sums to 20) and commit them to memory.
  - o Identify one more than and one less than.
  - o Show the meaning of addition (putting together, increasing).
  - o Solve addition problems with one- and two-digit numbers (e.g., 5 + 58 = __).
  - o Find the sum of three one-digit numbers.
- Students use direct comparison and nonstandard units to describe the measurements of objects.
- Students make decisions about how to set up a problem.

Skills developed by level
- Number sentences for word problems. Max sum of 20.
- Using numbers instead of number words. Have zero added to a number.

- Ten plus seven equals?
- Ten + seven = ?

2nd GRADE STANDARDS
- Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000:
    - Count and read, whole numbers to 1,000 and identify the place value for each digit.
    - Find the sum or difference of two whole numbers up to three digits long.
    - Use mental arithmetic to find the sum of two two-digit numbers.
    - Relate problem situations to number sentences involving addition.

Skills developed by level
- Level 1 - Max addition numbers of 18. Uses numbers instead of number words. Simple word problems.
- Level 2 - Max addition numbers of 18. Uses number words instead of digit numbers. Simple word problems.
- Level 3 - Max addition numbers of 25. Problems now have extra unneeded number information.
- Level 4 - Max addition numbers of 25. Problems now have extra unneeded number information and require more logic to know what numbers to add.
- Level 5 - Max addition numbers of 30. Some problems require subtracting one or not adding any number at all.

3rd GRADE STANDARDS
- Students describe and compare the attributes of plane and solid geometric figures and use their understanding to show relationships and solve problems:
    - Find the sum or difference of two whole numbers between 0 and 10,000.
- Students make decisions about how to approach problems:
    - Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
    - Determine when and how to break a problem into simpler parts.

Skills developed by level
- Level 1 - Max addition numbers of 50. Normal word problems but now require them to read the problems.
- Level 2 - Adding 3 or more numbers. With extra information.
- Level 3 - Some problems have you subtracting 1.
- Level 4 - Some problems have you subtracting.
- Level 5 - Longer more complicated questions.

Lesson 9: Money Madness

OBJECTIVE
Students will learn to recognize coins and paper money and the value of money.

Stage 1 - 1st GRADE STANDARDS
- Students understand and use numbers up to 100:
    - Identify and know the value of coins and show different combinations of coins that equal the same value.
- Students demonstrate the meaning of addition and use this operation to solve problems:
    - Know the addition facts (sums to 20) and commit them to memory.
    - Count by 2s, 5s, and 10s to 100.
    - Solve addition and subtraction problems with one- and two-digit numbers (e.g., 5 + 58 = __).
    - Find the sum of three one-digit numbers.

Skills developed by level
- Level 1 – Uses the name of each coin. "penny, nickel, dime, quarter, half dollar, dollar".
- Level 2 - Uses the value of the coins.
- Level 3 - Uses the different ways to show the same amount of money. Also tested on cent sign, dollar sign and decimal points.
- Level 4 - Uses the combining different coins to come up with the value asked for.
- Level 5 - Uses the different combinations of coins that equal the same value.

2nd GRADE STANDARDS
- Students model and solve problems by representing, adding, and subtracting amounts of money:
    - Solve problems using combinations of coins and bills.
    - Know and use the decimal notation and the dollar and cent symbols for money.
- Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000.
- Students estimate, calculate, and solve problems involving addition and subtraction of two- and three-digit numbers:
    - Use mental arithmetic to find the sum or difference of two two-digit numbers.

Skills developed by level
- Level 1 - Uses combining different coins to come up with the value asked for.
- Level 2 - Uses combining different coins and bills to come up with the value asked for.
- Level 3 - Uses combining different coins and bills to come up with the value asked for.

- Level 4 - Uses combining different coins and bills to come up with the value asked for.
- Level 5 - Uses combining different coins and bills to come up with the value asked for.

3rd GRADE STANDARDS
- Students calculate and solve problems involving addition:
  - Find the sum of two whole numbers between 0 and 10,000.
- Students understand the relationship between whole numbers, simple fractions, and decimals:
  - Solve problems involving addition and subtraction of money amounts in decimal notation.
  - Know and understand that fractions and decimals are two different representations of the same concept (e.g., 50 cents is 1/2 of a dollar, 75 cents is 3/4 of a dollar).
- Students make decisions about how to approach problems:
  - Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
  - Determine when and how to break a problem into simpler parts.
- Students use strategies, skills, and concepts in finding solutions:
  - Use estimation to verify the reasonableness of calculated results.

Skills developed by level
- Level 1 - Uses combining different coins and bills to come up with the value asked for.
- Level 2 - Uses combining different coins and bills to come up with the value asked for.
- Level 3 - Uses combining different coins and bills to come up with the value asked for.
- Level 4 - Uses combining different coins and bills to come up with the value asked for.
- Level 5 - Uses combining different coins and bills to come up with the value asked for.

Lesson 10: Pet Shop

OBJECTIVE
Students will use money as they buy pets, feed their pets and try to sell their pets at a profit at a sidewalk pet shop. This game is designed to let students use problem solving and reasoning skills as they make decisions using money.

Stage 1 - 1st GRADE STANDARDS
- Students understand and use numbers up to 100:
  - Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than (<, =, >).
- Students organize, represent, and compare data by category on simple graphs and charts:
  - Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs.
- Students make decisions about how to set up a problem:
  - Determine the approach, materials, and strategies to be used.
- Students demonstrate the meaning of addition and subtraction and use these operations to solve problems:
  - Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).
  - Solve addition and subtraction problems with one- and two-digit numbers (e.g., 5 + 58 = __).
  - Find the sum of three one-digit numbers.

2nd GRADE STANDARDS
- Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000:
  - Order and compare whole numbers to 1,000 by using the symbols <, =, >.
- Students estimate, calculate, and solve problems involving addition and subtraction of two- and three-digit numbers:
  - Understand and use the inverse relationship between addition and subtraction (e.g., an opposite number sentence for 8 + 6 = 14 is 14 − 6 = 8) to solve problems and check solutions.
  - Use mental arithmetic to find the sum or difference of two two-digit numbers.
- Students model and solve simple problems involving multiplication and division:
  - Use repeated addition, arrays, and counting by multiples to do multiplication.
- Students model and solve problems by representing, adding, and subtracting amounts of money:
  - Know and use the decimal notation and the dollar and cent symbols for money.
- Students model, represent, and interpret number relationships to create and solve problems involving addition and subtraction:
  - Solve addition and subtraction problems by using data from simple charts, picture graphs, and number sentences.
- Students make decisions about how to set up a problem:
  - Determine the approach, materials, and strategies to be used.

3rd GRADE STANDARDS

- Students calculate and solve problems involving addition, subtraction, multiplication, and division:
    - Find the sum or difference of two whole numbers between 0 and 10,000.
    - Determine the unit cost when given the total cost and number of units.
- Students understand the relationship between whole numbers, simple fractions, and decimals:
    - Solve problems involving addition, subtraction, multiplication, and division of money amounts in decimal notation and multiply and divide money amounts in decimal notation by using whole-number multipliers and divisors.
- Students represent simple functional relationships:
    - Solve simple problems involving a functional relationship between two quantities (e.g., find the total cost of multiple items given the cost per unit).
- Students conduct simple probability experiments by determining the number of possible outcomes and make simple predictions:
    - Identify whether common events are certain, likely, unlikely, or improbable.
- Students make decisions about how to approach problems:
    - Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.

Games of Math 2 – Subtraction & More

Lesson 3 – Pet Lab

OBJECTIVE
Students will work on non-timed subtraction skills as they earn points that they can spend to build and customize a pet.

Stage 1 - 1st GRADE STANDARDS
Concepts
- Level 1 - Adding and subtraction blocks - small numbers to 10.
- Level 2 - Counting on number line to add and subtract to 6
- Level 3 - Counting on number line to add and subtract to 12, then just addition or subtraction equation within 12.
- Level 4 - Subtraction equation with numbers within 15
- Level 5 - Subtraction equation with numbers within 20

Standards by level
- Level 1 - **1.OA.5.** Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- Level 2 - Introduction – critical areas (1). They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two).
- Level 3, 4 and 5 - **1.OA.6.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 − 4 = 13 − 3 − 1 = 10 − 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 − 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Stage 2 - 2nd GRADE STANDARDS
Concepts
- Level 1 - Subtraction equation with numbers within 20 (the number you subtract is always single digit).
- Level 2 - Subtract 5 from multiples of 5. Subtract 10 from multiples of 10. Subtract 100 from multiples of 100. Subtract 1000 from multiples of 1000.

- Level 3 - Subtract two, two digit numbers with no regrouping. Do problems in multiple steps. Numbers (10-50).
- Level 4 - Subtract two, two digit numbers with regrouping. Do problems in multiple steps. Numbers (10-50).
- Level 5 - Subtract two, two digit numbers with regrouping. Do problems in multiple steps. Numbers (10-99).

Standards by level
- Level 1 - **2.OA.2.** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
- Level 2 - **2.NBT.8.** Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- Level 3, 4 and 5 - **2.NBT.5.** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

- **2.NBT.6.** Add up to four two-digit numbers using strategies based on place value and properties of operations.

Stage 3 - 3rd GRADE STANDARDS
Concepts
- Level 1 - Subtract two, two digit numbers with regrouping. Do problems in multiple steps. Numbers (10-99).
- Level 2 - Subtract two, three digit numbers with regrouping. No "0" regrouping with a "0" in middle spot of top number such as 202 -155. Do problems in multiple steps. Numbers (100-999).
- Level 3 - Subtract two, four digit numbers with regrouping. No "0" regrouping with a "0" in middle spot of top number such as 2022 -1555. Do problems in multiple steps. Numbers (1000-9999).
- Level 4 - Subtract two, three digit numbers with regrouping. With "0" regrouping with a "0" in middle spot of top number such as 202 -155. Do problems in multiple steps. Numbers (100-999).
- Level 5 - Subtract two, four digit numbers with regrouping. With "0" regrouping with a "0" in middle spot of top number such as 2022 -1555. Do problems in multiple steps. Numbers (1000-9999).

Standards by level
- Level 1, 2, 3, 4 and 5 - **3.NBT.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.

Lesson 4: Shell Diving

OBJECTIVE
Students will build subtraction fluency as they answer timed addition and subtraction problems while diving for shells.

Stage 1 - 1st GRADE STANDARDS
Concepts
- Level 1 - Timed subtraction. Numbers within 5. Relationship between addition and subtraction problems (3+2=5 so 5-2=3) (5-2=3 so 3+2=5). Unknown number is always at the end.
- Level 2 - Timed subtraction. Numbers within 10. Relationship between addition and subtraction problems (8+2=10 so 10-2=8) (10-2=8 so 8+2=10). Unknown number is always at the end.
- Level 3 - Timed subtraction. Numbers within 10. Relationship between addition and subtraction problems (8+2=10 so 10-N=8) (10-2=8 so 8+N=10). Unknown number is always in middle position of second equation.
- Level 4 - Timed subtraction. Numbers within 5. Subtraction or addition equations with a symbol for the unknown number (2-N=1 or 1+N=2). Unknown number is always in middle position of the equation.
- Level 5 - Timed subtraction. Numbers within 10. Subtraction or addition equations with a symbol for the unknown number (10-N=1 or 7+N=10). Unknown number is always in middle position of the equation.

Standards by level
- Level 1 and 2 - **1.OA.3.** Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)

- **1.OA.4.** Understand subtraction as an unknown-addend problem. For example, subtract 10 − 8 by finding the number that makes 10 when added to 8. Add and subtract within 20.

- **1.OA.6.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

- Level 3 - **1.OA.8.** Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the

unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ − 3, 6 + 6 = _.

- **1.OA.3.** Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)

- **1.OA.4.** Understand subtraction as an unknown-addend problem. For example, subtract 10 − 8 by finding the number that makes 10 when added to 8. Add and subtract within 20.

- **1.OA.6.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

- Level 4 and 5 - **1.OA.8.** Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ − 3, 6 + 6 = _.

- **1.OA.6.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Stage 2 - 2nd GRADE STANDARDS

Concepts
- Level 1 - Timed subtraction. Numbers within 10 (10-8 = N).
- Level 2 - Timed subtraction. Numbers within 20. Second number is always single digit. (20-9 = N).
- Level 3 - Timed subtraction. Numbers within 20. Second number can be double digit. (20-13 = N).
- Level 4 - 5 number patterns. Subtract 5 from multiplies of 5 (45-5=N or 50-5=N). Subtraction 10 100 or 1000 from any number (23-10=N or 345-100=N or 2340-1000=N).
- Level 5 - Timed subtraction. Numbers within 20. Subtraction equations with a symbol for the unknown number (20-N=8 or 15-N=7). Unknown number is always in middle position of the equation.
- Standards by level

- Level 1, 2 and 3 - **2.OA.2.** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
- Level 4 - **2.NBT.8.** Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- Level 5 - **2.OA.2.** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

- **2.OA.1.** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Stage 3 - 3rd GRADE STANDARDS
Concepts
- Level 1 - Timed subtraction. Numbers within 20. Subtraction equations with a symbol for the unknown number (20-17=N or 15-N=7). Unknown number is at the end or in middle position of the equation.
- Level 2 - Timed subtraction. Numbers within 50. Subtraction equations with a symbol for the unknown number (50-37=N or 42-N=14). Unknown number is at the end or in middle position of the equation.
- Level 3 - Timed subtraction. Subtract 1,20,100, or 200 and unknown number is in a random position. (995-1=N or 523-N=513 or N-100 = 345).
- Level 4 - Timed subtraction. Numbers within 20. Use Subtraction and addition with an equation with three numbers (20-5+3=N). Unknown number is at the end of the equation.
- Level 5 - Timed subtraction. Numbers within 20. One operation on each side of the equation (15-5 = N+5 or N-5 = 5+5). Unknown number in a random position.

Standards by level
- Level 1, 2, 3, 4 and 5 - **3.NBT.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.

Lesson 5: Lava Cave

OBJECTIVE
Students will learn to solve math problems as presented in word problems. Students will understand that math is used to solve real life problems.

Stage 1 - 1st GRADE STANDARDS
Concepts

- Level 1 - Word problems. Simple subtraction or addition. Number sentence. Use numbers in sentences. Numbers within 5. "3 subtracted from two equals?" "What is 5 minus 2?"
- Level 2 - Use numbers in sentences. Numbers within 5. Use different terms for subtraction like: lost, spent, ate, and sold. Use different terms for addition like: grew, baked, earned, bought, and made. Decide if you should add or subtract. "Scooter has 5 frogs. He sells 4 frogs. How many frogs does he have now?"
- Level 3 - Use numbers in sentences. Numbers within 8. Decide if you should add or subtract. More logic required. "Scooter has 7 frogs and 3 turtles. How many pets does he have all together?"
- Level 4 - Use words for numbers in sentences. Numbers within 10. Decide if you should add or subtract. There is extra information in questions that is not needed to solve the problem. "There are ten carrots in the garden. Three rabbits ate four carrots, and two turtles ate three carrots. How many carrots are left in the garden?"
- Level 5 - Use words for numbers in sentences. Numbers within 10. Some problems require both adding and subtracting. "Jo's chicken laid ten eggs. Jo gave seven eggs to Penny. Penny did not want that many eggs, so she gave one egg back to Jo. How many eggs does Jo have now?"

Standards by level
- Level 1, 2, 3, 4 and 5 - **1.OA.1.** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

- **1.OA.6.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Stage 2 - 2nd GRADE STANDARDS
Concepts
- Level 1 - Use numbers in sentences. Numbers within 10. Simple addition or subtraction word problems. "Buzz has 10 hamsters. He sells 4 of his hamsters to Jo. How many hamsters does Buzz have now?"
- Level 2 - Use words for numbers in sentences. Numbers within 10. Simple addition or subtraction word problems. Problems use units of measurement: cent, minute, inch, foot, ounce, pound. "Jo's snake was ten feet long in April. The next month, the snake grew three feet. How many feet long was the snake in May?"

- Level 3 - Use words for numbers in sentences. Numbers within 15. Decide if you should add or subtract. There is extra information in questions that is not needed to solve the problem. "Sissy has fifteen dollars and walks seven miles to the pet store to buy cat food for her three cats. She spends ten dollars on cat food. How many dollars does Sissy have now?"
- Level 4 - Use words for numbers in sentences. Numbers within 15. Some problems require two steps to solve and have extra information. "Jo has nine snakes with black stripes, ten lizards with yellow spots, six snakes with red spots and nine lizards with orange stripes. How many pets does Jo have with spots?"
- Level 5 - Use words for numbers in sentences. Numbers within 20. Up to three steps required to solve problems and there may be extra information. "Buddy won twenty dollars from a dog contest. He spent three dollars on soda, four dollars on dog treats, and two dollars on a red dog scarf. How many dollars does Buddy have left?"

Standards by level
- Level 1, 2 and 3 - **2.OA.1.** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

-**2.OA.2.** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
- Level 4 and 5 - **2.OA.1.** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

-**2.OA.2.** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

-**2.NBT.6.** Add up to four two-digit numbers using strategies based on place value and properties of operations.

Stage 3 - 3rd GRADE STANDARDS
Concepts
- Level 1 - Timed subtraction. Numbers within 20. Subtraction equations with a symbol for the unknown number (20-17=N or 15-N=7). Unknown number is at the end or in middle position of the equation.
- Level 2 - Timed subtraction. Numbers within 50. Subtraction equations with a symbol for the unknown number (50-37=N or 42-N=14). Unknown number is at the end or in middle position of the equation.
- Level 3 - Timed subtraction. Subtract 1, 20, 100, or 200 and unknown number is in a random position (995-1=N or 523-N=513 or N-100 = 345).

- Level 4 - Timed subtraction. Numbers within 20. Use Subtraction and addition with an equation with three numbers (20-5+3=N). Unknown number is at the end of the equation.
- Level 5 - Timed subtraction. Numbers within 20. One operation on each side of the equation (15-5 = N+5 or N-5 = 5+5). Unknown number in a random position.

Standards by level
- Level 1, 2, 3, 4 and 5 - **3.NBT.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.

Lesson 7: Pet House Party

OBJECTIVE
Students will build measurement and graphing skills as they answer measurement, graphing, measuring liquid volume, measuring mass, subtracting volume and subtracting mass problems while diving for building a house for their pet.

Stage 1 - 1st GRADE STANDARDS
Concepts
- Level 1 - Order two squares you can move. Then order three squares you can move. Then 4.
- Level 2 - Compare two squares. You can only move a third object used to compare the other two. The third object will be equal to or between the other two objects' length.
- Level 3 - Measure objects using small blocks that you line up.
- Level 4 - Measure objects using a group of joined blocks.
- Level 5 - Measure objects using a simple ruler, then asked how much bigger is Block "a" than block "b".

Standards by level
- Level 1 and 2 - **1.MD.1.** Order three objects by length; compare the lengths of two objects indirectly by using a third object.
- Level 3 and 4 - **1.MD.2.** Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.
- Level 5 - **1.OA.6.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g.,

8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

- **1.MD.2.** Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

Stage 2 - 2nd GRADE STANDARDS

Concepts
- Level 1 - Measure object with inches ruler. Then centimeter. No rounding needed.
- Level 2 - Measure in both inches and centimeter. They must round to the nearest inch or centimeter.
- Level 3 - Asked to measure a shape in inches or centimeters. They must pick the correct ruler to use and round the measurement if needed.
- Level 4 - You can not move the rulers. They must pick what units a measurement should be given in. They are told a shape is 12__ long. Estimate the length of an object in inches or centimeter. The estimation can be off by one number.
- Level 5 - Subtract the two objects' lengths to get the difference. Measure two objects tell difference in length in centimeters or inches. No rounding needed.

Standards by level
- Level 1 - **2.MD.1.** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- Level 2 - **2.MD.1.** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

- **2.MD.2.** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- Level 3 - **2.MD.1.** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- Level 4 - **2.MD.3.** Estimate lengths using units of inches, feet, centimeters, and meters.
- Level 5 - **2.MD.1.** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

- **2.MD.4.** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
- **2.OA.2.** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

- **2.MD.5.** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

Stage 3 - 3rd GRADE STANDARDS
Concepts
- Level 1 - Numbers to 20. Measure five shapes and chart their lengths on bar graph. Then answer five questions with the information on the graph. What shape is the longest, how much shorter is shape one than shape two and how much longer is shape three than shape one.
- Level 2 - Measure ten shapes with an inch ruler marked halves and fourths of an inch and chart them on a line plot.
- Level 3 - Mass and volume of liquids. Measure volume or weight of liquid. Add liquid to the container until it reaches the desired volume or weight.
- Level 4 - Measure weight or volume of a liquid. They must pour the correct volume or weight of liquid into a container. They are given four cups each with different amounts of liquid in them. They must figure out what combination of cups would give them the correct amount of liquid when added to the big container.
- Level 5 - Figure out how much liquid was taken away or added to a container by using subtraction. Subtract the starting amount of liquid from the ending amount of liquid to get how much liquid was added. Subtract the ending amount of liquid from the starting amount of liquid to get how much liquid was removed.

Standards by level
- Level 1 - **3.MD.3.** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.
- Level 2 - **3.MD.4.** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

- **3.NF.1.** Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
- Level 3, 4 and 5 - **3.MD.2.** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

Lesson 9 – Puzzle Doors

OBJECTIVE
Students will learn to solve geometry problems as they explore an ancient ruin.
Students will understand that math is used to solve real life problems.

Stage 1 - 1st GRADE STANDARDS
Concepts
- Level 1 - Click on the shape that fits in the hole. The shapes are: squares, rectangles, circles, half circles, quarter circles, triangles, and trapezoids. They do not need to know the name of the shape. And all the shapes are the same color and they are not rotated.
- Level 2 - Click on the shape that fits in the hole. The shapes are: squares, rectangles, circles, half circles, quarter circles, triangles, and trapezoids. Now the shapes are all different colors and are rotated.
- Level 3 - You will be given a name of a shape and asked to click on all of the objects that are that shape. The shapes are: squares, rectangles, circles, half circles, quarter circles, triangles, and trapezoids. The shapes are all different colors and are rotated.
- Level 4 - You will be asked to finish a shape by clicking on the piece that will correctly finish the shape.
- Level 5 - You will be asked to finish a shape by dragging the two pieces that will correctly finish the shape. This requires more logic and thinking ahead because some pieces will fit in one spot but will not allow the second piece to finish the shape.

Standards by level
- Level 1, 2 and 3 - **1.G.1.** Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) ; build and draw shapes to possess defining attributes.
- Level 4 and 5 - **1.G.2.** Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

Stage 2 - 2nd GRADE STANDARDS
Concepts
- Level 1 - Shape name. You will see a group of shapes and be asked to click on all the: squares, rectangles, circles, half circles, quarter circles, triangles, trapezoids, pentagons, hexagons, octagons, cubes, rectangular prisms, circular cones,

spheres, pyramids, and circular cylinders. The shapes will be different colors and will be rotated.

- Level 2 - You will have a large group of shapes and be asked to click on all the shapes that are three dimensional or two dimensional.
- Level 3 - You will be asked to click on the shape that is made up of halves, thirds or quarters. Near the end you will be asked to click on the piece that is half, a third, or a fourth of a given shape.
- Level 4 - You will be asked to click on the shape that is broken up into "N" number of equal pieces. "N" will be a number between 2 and 30.
- Level 5 - You will have a large group of shapes and be asked to click on all the shapes that have "N" number of: faces, sides, edges, corners or angles.

Standards by level
- Level 1 and 2 - **2.G.1.** Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- Level 3 - **2.G.3.** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
- Level 4 - **2.G.2.** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- Level 5 - **2.G.1.** Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Stage 3 - 3rd GRADE STANDARDS
Concepts
- Level 1 - A shape will be girded of into equal pieces, square units. Find the area of a shape by counting the squares.
- Level 2 - Find the area of a shape by dragging 1square unit shapes on top of the shape.
- Level 3 - Add up all the side length of a shape to find the perimeter.
- Level 4 - You are given a shape and all of the side length except for one. Find the unknown side length of a shape.
- Level 5 - You are given a shape with two unknown side lengths and are asked to find the perimeter.

Standards by level
- Level 1 - **3.MD.6.** Measure areas by counting unit squares (square centimeter, square m, square in, square ft, and improvised units).
- **3.MD.5.** Recognize area as an attribute of plane figures and understand concepts of area measurement. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. A plane figure which

can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

- **3.G.2.** Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.
  - Level 2 - **3.MD.5.** Recognize area as an attribute of plane figures and understand concepts of area measurement. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

- **3.MD.7.** Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning.
  - Level 3, 4 and 5 - **3.MD.8.** Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Lesson 11: Delivery Time

OBJECTIVE
Students will learn about AM and PM, how to read and set a digital clock and an analog clock and use subtraction with time. This game is designed to let students use problem solving and reasoning skills as they make decisions using time.

Stage 1 - 1st GRADE STANDARDS
Concepts
  - Level 1 - AM and PM (am before noon, pm after noon). Events happen at different times of the day. The student is shown an event and asked if it happened in the first or second half of the day, AM before noon, PM after noon. Hint: a line graph representing the day is shown to help them see when the event took place.
  - Level 2 - Read an analog clock with multiple choice answers shown as: 8 o'clock, 9 o'clock (with audio hints).
  - Level 3 - Read an analog clock with multiple choice answers shown as digital times: 8:30 or 9:00.
  - Level 4 - The student is shown a digital time and asked to click on the analog clock that shows that time.
  - Level 5 - The student is shown a digital time and asked to set an analog clock to that time.

Standards by level

- Level 1, 2, 3, 4 and 5 - **1.MD.3.** Tell and write time in hours and half-hours using analog and digital clocks.

Stage 2 - 2nd GRADE STANDARDS
Concepts
- Level 1 - Read an analog clock with multiple choice answers shown as digital times: 8:05, 8:10 or 8:15.
- Level 2 - The student is shown a list of four events with times (go to store 11:30 am). They are asked to put the events in order by dragging them to a time line.
- Level 3 - The student is shown a digital time and asked to set an analog clock to that time. Time intervals of 5 minutes.
- Level 4 - Match the word sentence to the clock: e.g., five minutes after 9 o'clock.
- Level 5 - The student is asked how much time has passed? They are shown two clocks and must subtract the two times to see how much time has passed. Mix between digital and analog clocks.
- Standards by level
- Level 1, 2, 3, 4 and 5 - **2.MD.7.** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

Stage 3 - 3rd GRADE STANDARDS
Concepts
- Level 1 - Read an analog clock with multiple choice answers shown as digital times e.g., 8:01, 8:03, 8:05.
- Level 2 - The student is shown a digital time and asked to set an analog clock to that time. Time intervals of 1 minute.
- Level 3 - The student is asked how much time has passed? They are shown two clocks and must subtract the two times to see how much time has passed. Mix Uses digital clocks.
- Level 4 - Time word problems: start at 9:15 work took 30 min. What time did they finish? Simple word problems. Find the starting time, end time or how long it took to do something.
- Level 5 - Time word problems: start at 9:15, work took 2 hours and 32 min. What time did they finish? Harder word problems. Find the starting time, end time or how long it took to do something.

Standards by level
- Level 1, 2, 3, 4 and 5 - **3.MD.1.** Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

Games of Math 3 - Multiplication

Lesson 3: Home Run Derby

OBJECTIVE
Students will work on basic multiplication skills in an exciting untimed baseball game.

STANDARDS
- 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. (note: division is covered in Games of Math 4)

Lesson 4: Long Jump

OBJECTIVE
Students will build basic multiplication skills in a timed long jump game.

STANDARDS
- 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. (note: division is covered in Games of Math 4)

Lesson 5: Blowing Balloons

OBJECTIVE
Students will work on basic multiplication skills as presented in word problems in the Blowing Balloons game. This game uses a timer, but the timer is only one factor used to score points.

STANDARDS
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.[1]

Lesson 6: Slam Dunk

OBJECTIVE
Students will work on multiplying negative numbers and decimals in a challenging slam dunk basketball game.

STANDARDS
Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.

Lesson 7: Downhill Ski

OBJECTIVE
Students will work on multiplication patterns in a timed Downhill Ski game.

STANDARDS
Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends*.

Lesson 8: Bowling for Bugs

OBJECTIVE
Students will work on multiplication algebra skills in an untimed bowling game.

STANDARDS
Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*

Games of Math 4 – Division & Fractions

Lesson 1: Pre-Test

OBJECTIVE

Assessment: to determine the student's knowledge of division. Students will take a pre-test to determine their level of Division and Fractions skills before using Games of Math 4 - Division and Fractions. At a later time, the student will take the post-test and the teacher will assess the results.

STANDARDS

Test 1: Division 1-5: Multiple choice division problems, Divisor Range: 1-5, Dividend Range: 1-50

3.OA.7 - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Test 2: Division 1-5: Multiple choice division problems, Divisor Range: 6-12, Dividend Range: 1-144

3.OA.7 - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Test 3: Word Problems: Multiple choice division problems, Divisor Range: 2-11, Dividend Range: 1-121

3.OA.3. - 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.

3.OA.5. - Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)

4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Test 4: Long Division with Remainders: Multiple choice division problems, Divisor Range: 3-8, Dividend Range: 1-80

3.OA.7 - 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.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Test 5: Simplifying Fractions: Simplify the fraction, 16/24 = 2/3

3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.

d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two

fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Test 6: Converting Improper Fractions: Convert the improper fraction to a mixed fraction. The fraction may also need to be simplified, 20/6 = 3 1/3, 11/2 = 5 1/2
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Test 7: Comparing Fractions: Decide what fraction represents the largest number, 20/6 , 11/2 , 4/5, 30/30
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Test 8: Adding Fractions : Add two fractions and simplify the answer, 6/9+1/8

3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Lesson 2: Division Practice

OBJECTIVE
Division practice: Students will prepare for the games by practicing the Division and Long Division problems in a timed or untimed test.

STANDARDS
3.OA.2. - Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.

3.OA.5. - Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)

3.OA.7. - 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.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5.NBT.6 - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Lesson 3: Fractions Practice

OBJECTIVE
Fractions practice. Students will prepare for the games by practicing the fractions problems in: a 1 minute timed test, a 2 minute timed test, a 3 minute timed test or a 30 question untimed test.

STANDARDS
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Lesson 4: Division Racers

OBJECTIVE
Students will build division skills in an exciting stock car race game.

STANDARDS
Level 2 - Show a group of balls and asked how many groups of ___ are there is this group of ___ balls. Multiple choice, Divisor Range: 1-2, Dividend Range: 1-16.
3.OA.2. - Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.

Level 3 - Show a horizontal division problem and asked how many 2's are there in 6. There is a hint below the question. Hint: inverse of 2 x 3 = 6. Multiple choice, Divisor Range: 1-3, Dividend Range: 1-30.

3.OA.2. - Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.

3.OA.5. - Apply properties of operations as strategies to multiply and divide.2 Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)

3.OA.6. - Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 4 - Show a horizontal division problem. No hint is given. Multiple choice, Divisor Range: 1-4, Dividend Range: 1-40

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 5 - Show a horizontal division problem. No hint is given. Multiple choice, Divisor Range: 1-5, Dividend Range: 1-50

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 6 - Show four horizontal division problems at once. Multiple choice with just one choice not used, Divisor Range: 1-6, Dividend Range: 1-60

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 7 - Show four horizontal division problems at once. Multiple choice with just one choice not used. Divisor Range: 1-7, Dividend Range: 1-70.

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one

knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 8 - Show four horizontal division problems at once. Multiple choice with just one choice not used. Divisor Range: 1-8, Dividend Range: 1-80.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 9 - Show four horizontal division problems at once. Multiple choice with just one choice not used. Divisor Range: 1-9, Dividend Range: 1-90.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 10 - Show a horizontal division problem. They must type in the correct answer. Divisor Range: 1-10, Dividend Range: 1-100.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 11 - Show a horizontal division problem. They must type in the correct answer. Divisor Range: 1-11, Dividend Range: 1-121.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6.- Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of

operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 12 - Show a horizontal division problem. They must type in the correct answer. Divisor Range: 1-12, Dividend Range: 1-144.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6 -. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Lesson 5: Hurricane Hurdles

OBJECTIVE
Students will build division fluency in a timed hurdles race game.

STANDARDS
Level 2 - Show a multiple choice division problem. Divisor Range: 1-2, Dividend Range: 0-16.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 3 - Show a multiple choice division problem. Divisor Range: 1-3, Dividend Range: 0-30.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 4 - Show a multiple choice division problem. Divisor Range: 1-4, Dividend Range: 0-40.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one

knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 5 - Show a multiple choice division problem. Divisor Range: 1-5, Dividend Range: 0-50.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 6 - Show a multiple choice division problem. Divisor Range: 1-6, Dividend Range: 0-60.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 7 - Show a multiple choice division problem. Divisor Range: 1-7, Dividend Range: 0-70.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 8 - Show a multiple choice division problem. Divisor Range: 1-8, Dividend Range: 1-80.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 9 - Show a multiple choice division problem. Divisor Range: 1-9, Dividend Range: 1-90.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Level 10 - Show a multiple choice division problem. Divisor Range: 1-10, Dividend Range: 1-100.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 11 - Show a multiple choice division problem. Divisor Range: 1-11, Dividend Range: 1-121.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 12 - Show a multiple choice division problem. Divisor Range: 1-12, Dividend Range: 1-144.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Lesson 6: The Quarter News

OBJECTIVE
Students will work on basic division skills as presented in word problems in the Quarter News game. This game uses a timer, but the timer is only one factor used to score points.

STANDARDS
Level 2 - Simple word problem. Uses numbers in questions: "How many 2's are there in 4?", "I know that 2 times 4 equals 8. What does 8 divided by 4 equal?" Divisor Range: 1-2, Dividend Range: 0-16.

3.OA.3. - 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.

3.OA.5. - Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)

4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 3 - Simple word problem. Uses words in questions. "How many two's are there in four?", "I know that two times four equals eight. What does eight divided by four equal?", Divisor Range: 1-3, Dividend Range: 0-16.

3.OA.3. - 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.

3.OA.5. - Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)

4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 4 - Real life word problem involving division. Uses numbers in questions. "I won 9 game tickets at the arcade. Sour balls cost 3 tickets each. How many sour balls can I get?" Divisor Range: 1-4, Dividend Range: 0-40.

3.OA.3. - 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.

4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 5 - Real life word problem involving division. Uses words in questions. "I won nine game tickets at the arcade. Sour balls cost three tickets each. How many sour balls can I get?", Divisor Range: 1-5, Dividend Range: 0-50.

3.OA.3. - 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.

4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 6 - Word problems relate multiplication to division. "I have twenty four shirts in my closet. I have six times as many shirts as sweaters. How many sweaters do I have?" Divisor Range: 1-6, Dividend Range: 0-60.

3.OA.3. - 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.

3.OA.5. - Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)

4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 7 - Word problems relate multiplication to division. "I have twenty four shirts in my closet. I have six times as many shirts as sweaters. How many sweaters do I have?", Divisor Range: 1-7, Dividend Range: 0-70.

3.OA.3. - 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.
3.OA.5. - Apply properties of operations as strategies to multiply and divide. Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)
4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 8 - Word problems have extra information that is not needed. "I have eight socks and forty shirts in my closet. I have four times as many shirts as sweaters. How many sweaters do I have?", Divisor Range: 1-8, Dividend Range: 1-80.
3.OA.3. - 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.
4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 9 - Word problems have extra information that is not needed. "I have eight socks and forty shirts in my closet. I have four times as many shirts as sweaters. How many sweaters do I have?", Divisor Range: 1-9, Dividend Range: 1-90.
3.OA.3. - 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.
4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 10 - Word problems have extra information that is not needed. "I have eight socks and forty shirts in my closet. I have four times as many shirts as sweaters. How many sweaters do I have?", Divisor Range: 1-10, Dividend Range: 1-100.
3.OA.3. - 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.
4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to

represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 11 - Word problems have extra information that is not needed. "I have eight socks and forty shirts in my closet. I have four times as many shirts as sweaters. How many sweaters do I have?", Divisor Range: 1-11, Dividend Range: 1-121.
4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Level 12 - Word problems have extra information that is not needed. "I have eight socks and forty shirts in my closet. I have four times as many shirts as sweaters. How many sweaters do I have?", Divisor Range: 1-12, Dividend Range: 1-144.
4.OA.2. - Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Lesson 7: Motocross Race

OBJECTIVE
Students will work on long division problems in a challenging motocross race game.

STANDARDS
Level 2 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-3, Dividend Range: 2-30.
3.OA.7. - 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.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 3 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-4, Dividend Range: 2-40.

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 4 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-4, Dividend Range: 2-48.

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 5 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-5, Dividend Range: 2-60.

3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 6 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-6, Dividend Range: 2-70.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 7 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-7, Dividend Range: 2-80.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 8 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-8, Dividend Range: 2-86.
3.OA.7. - Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
4.NBT.6. - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.NBT.6. - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 9 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-9, Dividend Range: 2-108. *4.NBT.6.* - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. *5.NBT.6.* - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 10 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-10, Dividend Range: 2-120. *4.NBT.6.* - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 5.*NBT.6.* - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 11 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-11, Dividend Range: 2-132. *4.NBT.6.* - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. *5.NBT.6.* - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Level 12 - Multi-step (long division) problem. The student must do all the steps to get the correct answer with a remainder. Divisor Range: 2-12, Dividend Range: 2-144. *4.NBT.6.* - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. *5.NBT.6.* - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Lesson 8: Board Breaking

OBJECTIVE
Students will work on fractions in a timed Board Breaking game. The fraction problems used in this game will cover: simplifying fractions and converting fractions.

STANDARDS
Level 2 - Simplify the fraction 2/4 = ½, 3/9 = 1/3. A hint is given such as "3 is the greatest common factor. To find the bottom number divide 9 by 3".
3.NF.1. - Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 3 - Convert the improper fraction to a whole number. The answer is always a whole number between 1-4. A hint is given such as: "Divide 4 by 4 to get a mixed fraction or a whole number. 4/4 = 1, 4/2 = 2.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 4 - Simplify the fraction, 3/15 = 1/3, 2/14 = 1/7. A hint is given such as "Greatest common factor is 3"
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ

even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 5 - Convert the improper fraction to a mixed fraction. A hint is given such as: "Divide 3 by 2 to get a mixed fraction . 3/2 = 1 1/2,13/3 = 4 1/3.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 6 - Simplify the fraction. 8/40 = 1/5. A hint is given such as "Greatest common factors 8".
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 7 - Convert the improper fraction to a mixed fraction. A hint is given such as: "Divide 14 by 3. The remainder goes on top of the fraction." 14/3 = 4 2/3.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 8 - Simplify the fraction 2/18 = 1/9. No hint is given.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ

even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 9 - Convert the improper fraction to a mixed fraction. A hint is given such as: "Divide 11 by 2. The remainder goes on top of the fraction". 11/2 = 5 1/2.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 10 - Simplify the fraction. Now the greatest common factor is not the top number of the fraction. 8/36 = 2/9. No hint is given.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 11 - Convert the improper fraction to a mixed fraction. No hint is given. 46/7 = 6 4/7.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Level 12 - The student must fix the fraction. They must decide if they need to simplify the fraction, convert it to a mixed fraction or both. No hint is given. 20/6 = 3 1/3.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ

even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Lesson 9: Cookie Sale

OBJECTIVE
Students will learn to work with fractions and apply their knowledge of fractions in a simulation game. The fraction problems used in this game will cover: equivalent fractions, comparing fractions, and adding fractions.

STANDARDS
Level 2 - Simplify the fractions to find out what fraction represents the greatest number. Now they only have one cookie recipe to keep track of.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 3 - Simplify the fractions to find out what fraction represents the greatest number.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are

the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 4 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number.

3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a

benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 5 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have two recipes.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 6 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have three recipes.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in

the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 7 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have three recipes.

3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 8 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have four recipes.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 9 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have four recipes.
3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only

when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 10 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have four recipes.

3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 11 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have five recipes.

3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Level 12 - Simplify the fractions and convert improper fractions to mixed fractions to find out what fraction represents the greatest number. Now they have five recipes.

3.NF.3. - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.1. - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

5.NF.1. - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Common Grade Levels for Super Star Online Courses:

Grade	Course Titles
Pre-K	• Letters and Numbers • Silly Pictures *
Kindergarten	• Letters and Numbers • Silly Pictures * • Beginning Reading with Phonics * • Silly Sentences * • Phonics 1a - Vowel Sounds * • Phonics 1b - Consonant Sounds * • Spanish 1a with Phonics • Inglés 1a con Fonética
First Grade	• Beginning Reading with Phonics * • Silly Sentences * • Phonics 1a - Vowel Sounds * • Phonics 1b - Consonant Sounds * • Phonics 2a - Intermediate Level* • Spanish 1a with Phonics • Inglés 1a con Fonética • Games of Math 1 – Addition & Money • Games of Math 2 – Subtraction & More
Second Grade	• Phonics 2a - Intermediate Level* • Phonics 2b - Intermediate Level II • Spanish 1a with Phonics • Inglés 1a con Fonética • Games of Math 1 – Addition & Money • Games of Math 2 – Subtraction & More • Games of Math 3 – Multiplication
Third Grade	• Phonics 2b - Intermediate Level II • Language Arts Review 3a – Advanced Level • Language Arts Review 3b – Advanced Level II • Games of Math 1 – Addition & Money • Games of Math 2 – Subtraction & More • Games of Math 3 – Multiplication
Fourth Grade	• Phonics 2b - Intermediate Level II • Language Arts Review 3a – Advanced Level • Language Arts Review 3b – Advanced Level II • Games of Math 3 – Multiplication • Games of Math 4 – Division & Fractions
Fifth Grade and higher	• Language Arts Review 3a – Advanced Level • Language Arts Review 3b – Advanced Level II • Games of Math 3 – Multiplication • Games of Math 4 – Division & Fractions
Teacher and Admins	• Teacher and Admins Resources * • Super Star Movies *
• **Note:** * also compatible on iPad and Android. You can download our free Super Star Online	

app at: http://helpme2learn.com/school/apps.
- **Language Arts Review 3a – Advanced Level, Language Arts Review 3b – Advanced Level, Games of Math 3 – Multiplication and Games of Math 4 – Division & Fractions all feature our young adult characters so they will be appropriate for older ESL students, older special needs students and older students who are still struggling.**