|  |  |
| --- | --- |
| 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. |
| **Essential Question(s)** | |
| * Explain the difference between \_\_\_\_ and \_\_\_\_. (Using any two problem types for the blanks) * What is the problem asking us to find? * What do we already know from the problem? | |

Embed the 8 Mathematical Practices within instruction.

***DPI Unpacking Document***

1.OA.1 builds on the work in Kindergarten by having studetns use a variety of mathematical representations (e.g., objects, drawings, and equations) during their work. The unknown symbols should include boxes or pictures, and not letters.

Teacher should be cognizant of the types of problems. Please refer to DPI Unpacking Glossary Table 1 for all the problem types.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 126

**Materials Needed:**

* Manipulatives (or First Grade Math Kits)
* White Boards and Markers
* Blackline Masters: “*Trail Race Game Board”, “Trail Race Recording Sheet”*
* Cardstock- *Trail Race Problem Cards”(1 of each per pair of students)*
* One game “marker” per person (cube, counter, etc.).
* One die for each pair

Assessment

* Anecdotal notes- including strategies used to solve problems (1.OA.6 for types of strategies)
* Blackline Master-*“Trail Race Recording Sheet”*
* **Homework**
* Blackline Master: *“Trail Race Homework”*
* Vocabulary
* Compare Equation
* Count on More
* Make a Ten Fewer

###### Alignment Lesson

###### Trail Race (Compare Difference Unknown)

*Materials Note: Prior to lesson cut out and prepare materials as noted. In the next few lessons there will be several games. For each game, problem cards have a logo to match the game title.*

***Trail Race*:**

***Part One: Build Background for the problem type***

1. Gather students at the meeting area and tell them

that today they are going to learn about a new type of story problem called compare. Explain that in these problems, we compare two sets of objects to determine which set has more and which set has fewer/less. We are also trying to determine the difference (How much more? How many fewer?) between the two amounts.

1. Work with the class to make a group of 5 students and a group of 1 student with some space in between the two groups.
2. Let’s *compare* use the following questions to enhance Math Talk during this time.

* *Which group has more?*
* *Which group has fewer?*
* *How do you know?*

1. Continue by asking questions such as *How many more does the group of 5 have than the group of 1? How can we show that?*
2. Line the group of 5 students up in a row and place the group of 1 student in front of the group of 5 (Matching strategy)
3. Ask the class how many people do not have a “match”? (4)
4. Write the matching equation on the board to represent. So 5 has 4 more than 1 (5=4+1) OR if I have 1 I need 4 more to make the number 5 (1+4=5).
5. After talking about “more” ask students how you could figure out how many “fewer” 1 is than 5. What is the difference between the two?
6. How far away is 5 from 1? (counting may be helpful) (5-1=4).

***Part Two: Using Comparing to Solve a Story Problem***

1. Select one of the problems included with the game to model with the students.
2. Teacher (or a student leader) reads the problem out loud.
3. Ask students what information is within the problem.

* *What do we know?*
* *What does that mean?*
* *What is the problem asking? (How many more? or how many fewer?).*
* *What strategies can we use to answer the question?*

1. Using students, repeat the process of creating the two groups,

Compare the two groups, using matching strategies and writing the equation/circling the part of the equation that answers the question.

***Part Two: Using Comparing to Solve a Story Problem (Continued)***

1. Select one more problem and repeat the process this time students use manipulatives. Ask students to think of strategies (drawings, ten sticks, etc)
2. Try a third problem with a teen number and have students model the problem using a different strategy (ask them what strategies makes sense when working with a larger amount).
3. Remind students to create the sets, compare, and use an appropriate strategy to determine the answer. Regardless of strategy, all students should write the equation to match their problem.
4. After students have worked the problem ask them to explain what they did. How did they know they were looking for fewer? Or more?

*Note: If time allows have students share how they used different strategies to solve the problems.*

***Part Three: Playing the Game***

1. Tell students that now they are going to use their knowledge of compare problems to play a game called Trail Races.
2. Tell students that they will race their partner to the other end of the trail.
3. Encourage student to use different strategies when solving the problems.
4. To move on the trail they must solve each problem and explain if their answer represented more or fewer and why.
5. As they work each problem they can use any strategy that shows their thinking, but they must write an equation.

***Teacher models how to play with a partn****er :*

* Place the cards face down.
* Both players roll a number cube to see who goes first (Person A) (can be the person who rolls more)
* Student B takes the top card and reads it to Student A (encourage them to look at it together)
* Student A then solves the problem AND writes an equation to represent the story (on their recording sheet; show students how the numbers on the problem cards matches the recording sheet).
* Student A then explains how they solved the problem and which quantity had more/fewer and why.
* Student B checks student A, and asks any clarifying questions to Student A.
* Student A moves their game piece to the appropriate square for the type of answer (more or fewer).
* Students then switch turns and repeat until someone finishes the race.

1. Distribute Blackline Masters, *“Trail Race Game Board”, “Trail Race Recording Sheet”*  and Cardstock, *“Trail Race Problem Cards”*. Allow students to play for 10-15 minutes, have them clean up and rejoin you in the meeting area. Have students explain what strategies they used to solve their problems and how they knew whether to use addition or subtraction to work the problem.
2. As closure, together as a class, create an anchor chart of problem types. Include information about the problem type: what the problem is asking me, and strategies/materials I can use to solve the problem.

**Example:**

|  |  |  |  |
| --- | --- | --- | --- |
| Type of Problem | What the problem is asking | Strategies I can use | Materials I can use |
| Nan has 10 sticks. Tom has 7 sticks. How many more sticks does Nan have than Tom? | Comparing Nan’s group of sticks to Tom’s group.  Which group has more?  How many more? | Matching  Counting on from 7  Take away from 10 until I get to 7. | Counters  Drawings |

**Teacher Notes*:***

* As they play, students can record their equations on the included recording sheet. Students write their equation beside the corresponding card number (located in the top left hand corner of each card).
* As students play, walk around the room and observes who is able to solve the problems and use a variety of strategies (as noted in 1.OA.6).
* Additionally, observe who is able to write an equation to match the problem.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 127

**Materials Needed:**

* Manipulatives (or First Grade Math Kits)
* White Boards and Markers
* Blackline Masters: *“We Want S’More Recording Sheet”, “S’Mores Game Board”*
* Cardstock- “*S’More* *Problem Cards”, “Ingredients Cards” , “Recipe Cards”*
* One dice
* One game “marker” for each student (unifix cube, counter, etc.)

Assessment

* Anecdotal notes- including strategies used to solve problems (1.OA.6 for types of strategies)
* Blackline Master-*“We Want S’More Recording Sheet”*

**Homework**

* Blackline Master: *“S’More Homework Please!”*
* Vocabulary
* Compare Strategy
* More Equation
* Fewer

###### Alignment Lesson

###### We Want S’More! (Compare, Bigger Unknown)

*Materials Note: Prior to lesson, prepare materials as listed. In the next few lessons there will be several games. For each game, problem cards have a logo to match the game title.*

**We Want S’More!:**

***Part One: Build Background for the Problem Type***

1. Gather students in the meeting place- review the anchor chart from yesterday’s lesson and vocabulary words- **more, fewer**.
2. Discuss with students what it means when something is unknown. Tell students that today they are going to solve problems where the “bigger” part is unknown. Have students turn and talk to answer.
3. Choose a problem from today’s game and show the problem to students. Read and talk about the problem as a class.
4. Ask the students to think about what they already know and what the problem is asking them to find out.

* *What is unknown?*
* *Which part is “bigger?”*
* *How do you know?*

1. Use students to act out/model the problem. ***(ex: Brian had 2 fish. Annie had 3 more. How many fish did Annie have?—Begin with 2 people, add on 3 more. Count how many there are all together).***
2. Ask students, *How does this represent the problem OR is this a correct representation of the problem? Why or why not?* Have students turn and talk with a partner before responding to the group.
3. Write an equation to represent the problem. Ask students to identify which strategies(see 1.OA.6) and materials (drawings,, ten sticks and ones, etc.) they could use to solve this problem*.* Solve 1-2 additional problems as needed.

***Note:*** *As you work together, it may be helpful to build connections between yesterday’s work and today’s. Explain to students that while the bigger group is “unknown” we are also comparing the two amounts in the problem. One person has more and one has less. In yesterday’s problems we wanted to know “how many more.” Today we want to know how many are in the bigger group.*

***Part Two: Using Comparing to Solve a Story Problem***

1. Select another problem from the game and have students solve the problem using one of the strategies just identified using their whiteboards.
2. After completing each problem have a few students, who have used different strategies, explain how they solved/represented the problem.
3. Continue with 1-2 additional problems as needed, and encourage students to try different materials and strategies.

***Part Three: Playing the Game***

1. Tell students that now they are going to use their knowledge of “bigger unknown” problems to play a game.
2. Students are working to build a s’more. Every time they solve a problem correctly, students take a Cardstock, *“Ingredients Card”*which tells them how many Cardstock *“Ingredients”* to take.
3. Every s’more must have 2 graham crackers, 1 piece of chocolate, and 1 marshmallow (it may be helpful to show each piece). To win the game, students must make 2 s’mores.
4. Model for students how to play. See directions below:

**Teacher models how to play with a partner**

* Place Cardstock, *“S’More Problem Cards”* and Cardstock *“Ingredient Cards”* on Blackline Master, *“S’Mores Game Board”*. \*\*There will be five piles of cards- Cardstock, *“S’more Problem Cards”, “Recipe Cards”* and *“Ingredients Cards”* (one for marshmallows, one for graham crackers, and one for chocolate bars.)\*\*
* Both players roll a number cube to see who goes first (Person A) (can be the person who rolls more).
* Student B takes the top card and reads it to Student A (encourage them to look at it together).
* Student A then solves the problem AND writes an equation to represent the problem on their recording sheet. Show students how the numbers on the problem cards matches the recording sheet.
* Student A then explains how they solved the problem.
* Student B checks student A, and asks clarifying questions if needed.
* If solved correctly, Student A draws a card from the recipe pile to see how many “ingredients” to take to build their s’more.
* If students solve the problem incorrectly they do not draw a recipe card.
* Students then switch turns and repeat until someone builds 2 s’mores (2 graham crackers, 1 marshmallow, 1 piece of chocolate).

1. After students have played the game for 10-15 minutes, have them clean up and rejoin you in the meeting area. Have students explain how they solved their problems and how they knew who had the “bigger unknown”.
2. As closure, continue to add on to the anchor chart of problem types that was begun on Day 126.

Students will complete Blackline Master, “S’More Homework Please!” for Homework.

**Teacher Notes**

* Students can record their equations on Blackline Master, *“We Want S’More Recording Sheet”*.
* Students write their equation beside the corresponding card number (these are in the top left hand corner of each card).
* While students are playing, teacher observes strategies used by students to solve the problems.
* Teacher also observes for students who are/are not able to write an equation that matches their work.
* Pick 2-3 students to share their methods/strategies for solving problems with the class and compare solution methods.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 128

**Materials Needed:**

* Manipulatives (or First Grade Math Kits)
* White Boards and Markers
* One dice per pair of students
* Blackline Masters: *“Canoe Races Game Board”(15 copies); “Canoe Race Recording Sheet”*
* Cardstock, *“Canoe Problem Cards” (15 Copies)- Pre-Cut Placed in Baggies, “Canoe Cards” (Teacher Only)*
* Anchor Chart (From Day 126)

Assessment

* Anecdotal notes- including strategies used to solve problems (1.OA.6 for types of strategies)
* Blackline Master-*“Canoe Races Recording Sheet”*
* **Homework**
* Blackline Master- *“Canoeing Along”*
* Vocabulary
* Compare Equation
* More Difference
* Fewer

###### Alignment Lesson

###### Canoe Races (Compare, Smaller Unknown)

***Materials Note:*** *Prior to lesson cut out and prepare materials as noted. In the next few lessons there will be several games. For each game, problem cards have a logo to match the game title.*

***Teacher Note****: Before beginning it may be helpful to briefly review the anchor chart made in the previous lessons. Review math talk vocabulary including unknown, more, fewer, compare, how many more?, how many fewer, etc.*

***Canoe Races*:** 

**Part One: Build Background for the Problem Type**

1. Ask and discuss with students what it means when something is unknown.
2. Tell students that today they are going to solve problems where the “smaller” part is unknown. Have students turn and talk about what that means. Remind students that they are still comparing the two amounts within the problem and that they should be thinking about the relationship between the two numbers *(ex: 5 is 2 more than 3, 1 is 2 less than 3, etc.).*
3. Choose a problem from today’s game and show the problem to the students. As a class, read and talk about the problem. Ask the students to think about what they already know and what the problem is asking them to find out.

* *What is unknown?*
* *Which part is “smaller?”*
* *How do you know?*
* *Why did we start with 5 and take away 3?*
* *Why did we start at 3 and count on?*

1. Select several students to act out/model the problem*. (ex: Brian has 3 more cookies than Tom. Brian has 5 cookies. How many cookies does Tom have?—Begin with 5 people, take away 3 “extras”. Count how many there are left. OR Begin with 3 people and “add on” until you get to 5. How many did you add on?).*
2. Write an equation(s) to represent the problem and ask students to identify which materials/strategies would be useful in solving these problems. Solve 1-2 additional problems as needed.

**Part Two: Using Comparing to Solve a Story Problem**

1. Select another problem from the game or make up your own.
2. Have students solve the problem using one of the strategies just identified.
3. After completing each problem have a few students, who have used different strategies/materials, explain how they solved/represented the problem.
4. Continue with 1-2 additional problems as needed. As students practice, encourage them to try different strategies.

**Part Three: Playing the Game**

1. Tell students that now they are going to use their knowledge of “smaller unknown” problems to play a game.
2. The goal of the game is to decrease the amount of space between their canoes and the shore.
3. Each time they solve a problem, they will be able to move their canoes closer to shore.
4. Show students how answers decrease from right to left (build connections to the number line).
5. **Model for students how to play the game:**

* Place the problem cards face down
* Both players place two canoes at the “start” space.
* Both players roll a number cube to see who goes first (Person A or the person who rolls **fewer**)
* Student B takes the top card and reads it to Student A (encourage them to look at it together)
* Student A then solves the problem AND writes an equation to represent the problem (on their recording sheet. Show students how the numbers on the problem cards matches the recording sheet).
* Student A then explains how they solved the problem.
* Student B checks student A and asks clarifying questions as needed.
* Student A moves their canoe to the appropriate numeral representing their answer.
* Students then switch turns and repeat until someone has their canoe(s) across the lake.

1. Distribute Blackline Masters, *“Canoe Races Game Board” (1 per group), “Canoe Race Recording Sheet”(1 per group)* and Cardstock, *“Canoe Problem Cards” (1 set per group, pre-cut and placed in baggies)*
2. After students have played the game for 10-15 minutes, have them clean up and rejoin you in the meeting area. Ask students to explain how they solved their problems.
3. As closure, work together to add on to the anchor chart begun on Day 126.

Students will complete Blackline Master, *“Canoeing Along”* for homework.

**Teacher Notes:**

* **Number of Players:** For 3-4 players use only 1 canoe per person. For 2 players use 2 canoes each.
* **For canoes**: you can use the included canoes, cubes, or red and yellow counters. Remind students that it is easier to play if their canoes are the same color. (Example: one person uses two red counters and the other uses two yellow).
* **Game board:** If students solve an equation for an amount that is greater than where they are on the game board they can either move backwards or skip a turn (teacher choice). (example: Student is on “5” and solves an equation that equals “8”). If only two people are playing, remind students that they have 2 canoes to move.
* **Build Connections**: Explain to students that while the smaller group is “unknown” we are also comparing the two amounts in the problem. One person has more and one has less. In yesterday’s problems we wanted to know how many were in the bigger group. Today we want to know how many are in the smaller group.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 129

**Materials Needed:**

Manipulatives (or First Grade Math Kits)

White Boards and Markers

*Games from Days 126-128*

*For each Back Pack Race Game*

Blackline Master, *“Backpack Races”*

Cardstock- *“Compare More Cards”* (On Yellow Cardstock) , *“Compare More Problems”* (On Yellow Cardstock) , *“Compare Fewer Cards”* (On Green Cardstock) , *“Compare Fewer Problems”* (On Green Cardstock) ,

One game “marker” for each player (a cube, etc.).

One number cube (for determining who goes first)

Assessment

* Anecdotal notes- including strategies used to solve problems (1.OA.6 for types of strategies)
* **Homework**
* Blackline Master: *“Backpack Fun”*
* Vocabulary
* Compare More
* Fewer Equation
* Strategy

###### Alignment Lesson

###### The Race is On (Review of compare problems)

*Materials Note: Prior to lesson cut out and prepare 1 game board and 1 set of problems for every 2-3 students. In the next few lessons there will be several games. For each game, problem cards have a logo to match the game title.*

***Backpack Race*:**

**Part One: Reviewing the Compare Problem Types**

1. Gather students in the meeting area and review the anchor chart from the previous three days. As students discuss each problem, encourage them to use math talk and explain each problem strategies they could use
2. As a warm up, pose one of each problem type to the students. Encourage them to solve each problem using a different strategy. Remind students to focus on what they know what they are working to find out (not on the “words” of the problem). Tell students that they are going to practice their problems by using the previous games and one new game.

***Examples***

***Compare Difference Unknown***

Meg has 10 leaves. Tom has 5 leaves. How many fewer leaves does Tom have than Meg?

***Compare Bigger Unknown***

Jake has 5 more apples than Annie. Annie has 2 apples. How many apples does Jake have?

***Compare Smaller Unknown***

Jan has 3 fewer fish than Mike. Mike has 5 fish. How many fish does Jan have?

**Part Two: Introduce Back Pack Races**

1. Tell students that today they are going to have a chance to play all of the games we have been practicing and one more. Introduce today’s new game, the back pack race. The Student’s job is to fill up their back pack with camping supplies.
2. Tell them that this game has **both** the bigger unknown and the smaller unknown problems in the game (they are color coded).
3. Tell students that after they solve each problem they can go to the camping store to “buy an item” based on their card (colors of the problems match the colors of the supplies they can “buy”).
4. To win they must fill their pack with 5 items. Students must have at least 2 of each color in their pack.

**Teacher models how to play with a partner**

* Students place Cardstock, *“Compare More Problems”* and *“Compare Fewer Problems”* face down on the board.
* Both players roll a number cube to see who goes first (Person A) (can be the person who rolls more)
* Student B takes the top card and reads it to Student A (encourage them to look at it together)
* Student A then solves the problem AND writes an equation to represent the problem (on their White Board or a piece of paper).
* Student A then explains how they solved the problem.
* Student B checks student A and asks any clarifying questions.
* Student A “goes” to the camp store, takes the ***same color*** camping supply card and adds that item to their pack. Cardstock, *“Compare More Cards”* and *“Compare Fewer Cards”*
* Students then switch turns and repeat until someone has filled their pack with 5 items (at least 2 of each color).

*Note: If needed give students a chance to play this game before moving into rotations OR move directly into rotations.*

*If needed review how to play each of the 3 games previously introduced.*

**Part Three: The Race is On!**

1. Assign students to stations. Have students play at least two different games so they have practice working different problem types.
2. After students have played two different games, have them clean up and rejoin you in the meeting area. Have students explain how they solved their problems.
3. As closure, review the anchor chart from days 126-128.

**Games for Rotations**

* Trail Races (Compare, Difference Unknown, *from Day 126*)
* We Want S’More! (Compare, Bigger Unknown, *from Day 127*)
* Canoe Races (Compare, Smaller Unknown, *from Day 128*)
* Back Pack Races (Compare, Smaller and Bigger Unknown, *from today, Day 129*)

Students will complete Blackline Master, *“Backpack Fun”* for homework.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 130

**Materials Needed:**

* Manipulatives (or first grade math kits)
* White boards and markers
* Games from days 126-129
* Two-color counters (20 pieces per student)
* Blackline Masters: “*Campfire Stories Recording Sheet”*
* Cardstock- *“Campfire Stories Problem Cards”(15 copies), “Campfire Stories Roasting Cards”(5 copies), “Mess Hall Menu Game Board” (15 copies), “Mess Hall Problem Cards”, (15 copies) “Firefly Fun Problem Cards”, (15 Copies), “Firefly Fun Catching Cards”(10 Copies), “Firefly Fun Jars”(15 copies), “Fireflies” (6 copies)*
* One number cube per pair of students

Assessment

* Anecdotal notes- including strategies used to solve problems (1.OA.6 for types of strategies)
* Blackline Master-*“Campfire Stories Recording Sheet”*

**Homework**

* Blackline Master: “*Campfire Stories Homework”*
* Vocabulary
* Compare Change
* More Put together
* Fewer Take Apart
* Equation Unknown
* Difference

###### Alignment Lesson

###### Game Day at Camp More or Less

***Materials Note:*** *Prior to lesson cut out and prepare materials as noted. Make games from days 126-129 available for use during rotations. For each game, problem cards have a logo to match the game title.*

***Firefly Fun*:**

***Mess Hall Menu:*** MC900217108[1]

***Campfire Stories:*** marshmallow

***Part One: Build Background for the Problem Type***

1. Review the compare anchor chart from the previous four days.
2. As students discuss each problem encourage them to use math talk and explain what each problem means and strategies they could use to solve each type.
3. Ask them if there are any other problems they have learned about this year (Add to, Change Unknown; Take from, change unknown; Put Together/Take Apart, Change unknown).
4. Show one of each type of problem to the students and have them quickly draw/model how to solve each type. Review should be brief.

***Examples***

* ***Add To, Change Unknown***

2 bugs were on a leaf. Some more bugs crawled there. The there were 5 bugs. How many bugs crawled over to the first 2?

* ***Take From, Change Unknown***

5 cookies were on the table. I ate some cookies. Then there were 3 cookies. How many cookies did I eat?

* ***Put Together/Take Apart, Addend Unknown***

5 leaves are on the table. 3 are red and the rest are green. How many leaves are green?

***Part Two: Introduce the New Games***

***New Games***

* Campfire Stories (all first grade types)
* Mess Hall Menu (mixed compare types)
* Firefly Fun (all first grade types)

***Previous Games***

* Trail Races (compare, difference unknown, *from day 126)*
* We Want S’More! (compare, bigger unknown, *from day 127)*
* Canoe Races (compare, smaller unknown, *from day 128)*

***Campfire Stories***

Problem Type: Mixed Practice

**Teacher models how to play with a partner**

* Students place Cardstock, *“Campfire Stories Problem Cards”* face down.
* Both players roll a number cube to see who goes first (Person A) (can be the person who rolls more).
* Student B takes the top card and tells the story to Student A (encourage them to look at it together).
* Student A then acts out the story with manipulatives
* Student B checks student A, and asks any clarifying questions.
* Using Cardstock, *“Campfire Stories Roasting Cards****”* (These will need to be pre-cut and placed in baggies prior to playing, each player will need 1 roasting stick and 4 marshmallows)**, Student A takes a marshmallow to add to their stick. The goal is have 4 marshmallows each.
* Students then switch turns and repeat until someone has 4 marshmallows on their stick.

***Mess Hall Menu***

Problem Type: All Compare Problems

**Teacher models how to play with a partner**

* Students place Cardstock, *“Mess Hall Problem Cards”* face down.
* Both players roll a number cube to see who goes first (Person A) (can be the person who rolls more or fewer).
* Student B takes the top card and reads the problem to Student A (encourage them to look at it together).
* Student A then solves the problem using manipulatives, drawings or tens sticks & ones.
* Student B checks student A, and asks any clarifying questions.
* Student A covers a space on their Blackline Master, *“Mess Hall Menu Game Board”* to match what they solved for (more/fewer).
* Repeat steps until one student lines up 3 “markers” in a row.

***Firefly Fun***

Problem Type: Mixed Practice

**Teacher models how to play with a partner.**

* Students place the *“Firefly Fun Problem Cards”* on one pile and *“Firefly Fun Catching Cards”* on another pile. (Students should have 2 piles of cards.)
* Both players roll a number cube to see who goes first (Person A) (can be the person who rolls more).
* Student B takes the top card and reads the problem to Student A (encourage them to look at it together).
* Student A then solves the problem using manipulatives, drawings or ten sticks and ones.
* Student B checks student A, and asks any clarifying questions.
* Student A flips over the card and “catches” that many Cardstock, *“Fireflies”* and places them in their Cardstock, *“Firefly Fun Jar”*. The goal is to have 20 fireflies in the jar.
* Students then switch turns and repeat until someone has 20 fireflies.

***Part Three: Let the Games Begin!***

1. Assign students to stations.
2. Have students play at least three different games so they have practice working different problem types.
3. As students play, observe who is able to solve the problems.
4. As closure, work together to add on to the anchor chart of problem types.

* *Are there any new strategies you tried?*
* *What did you notice about the problems you worked with today?*

Students will complete Blackline Master, *“Campfire Stories Homework”* for homework

* Back Pack Races (compare, smaller and bigger unknown, *from day 129)*

**Days 131-134**

|  |  |
| --- | --- |
| .NBT.5 | Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. |
| 1.NBT.6 | Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. |
| 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 = \_.* |

**Learner Objectives**

* Students will be able to find 10 more and 10 less than a number without having to count.
* Students will be able to add and subtract multiples of 10.
* Students will be able to solve problems to add or subtract multiples of 10.

**Essential Questions**

* Explain how you used the hundreds board to find a number 10 more than, 10 less than.
* Describe patterns you notice when adding or subtracting multiples of 10.
* Explain the strategies you use to solve problems where you have to add multiples of 10 or subtract multiples of 10.

**Differentiation:**

Enrichment:

* *· Please refer to the Enrichment Investigations posted to the Resources tab on C-MAPP.*
* Students create story problems where adding and subtracting multiples of 10 is required. Partners solve and explain strategies used. Partners are able to explain how to use a visual representation to show their work (secret code cards, hundreds board, models, drawings, etc.)
* Students create puzzles with parts of hundreds boards. Puzzles include only 1 or 2 numbers. A partner must use knowledge of hundreds board and 10 more than/ 10 less than to find missing numbers.

Remediation:

* Students may need additional practice with finding 10 more than and 10 less than using a hundreds board. Work with students on this task until they are proficient.
* Use secret code cards with students and note relationship between adding 3 + 4 and adding 30 + 40. Work to solve story problems where adding multiples of 10 is necessary. Move towards subtraction as students are comfortable with addition.
* **DPI Unpacking Document**
* First Graders build on their county by tens work in Kindergarten by mentally adding ten more and ten less than any number less than 100. First graders are not expected to compute differences of two-digit numbers other than multiples of ten. Ample experiences with ten frames and the number line provide students with opportunities to think about groups of ten, moving them beyond simply rote counting by tens on and off the decade. Such representations lead to solving such problems mentally.
* First Grade students use concrete models, drawings and place value strategies to subtract multiples of 10 from decade numbers (e.g., 30, 40, 50). They often use similar strategies as discussed in 1.OA.4.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 131

**Materials Needed:**

* Base Ten Block manipulatives (sticks)
* 1 set of *Secret Code Cards* (10-90) per pair
* Transparency/Blackline Master *“Hundreds*

*Board”*

* Counters
* Blackline Master *“Working with Tens Journal*

*Prompt”*

Assessment

Informal:

Take anecdotal notes as students are working with a partner on how they find 10 more or 10 less given a number on the hundreds board

**Homework**

* Blackline Master *“Working with Tens Journal Prompt”*
* Vocabulary
* Decade Numbers: Numbers that are multiples of 10 (10, 20, 30, 40, 50, 60, 70, 80, 90).

###### Alignment Lesson

***Working with Tens***

1. Students will work in pairs to race to 100. Give each pair of students a set of *Secret Code Cards* (10-90) and Base Ten Blocks *(tens sticks)*. Students should shuffle and stack the *Secret Code Cards* and place them face down. One student will turn a card over and call out the number. The second player will then use their tens (Base Ten pieces) to add to the card turned over to get to 100. For example, if the number 40 is face up, the player should put out 6 tens to make 100. The student should recite the equation (40 + 60=100) before turning over the next card. Students will repeat until all cards have been turned over. Then partners should repeat switching roles.

2. Next, students will use a hundreds board to practice recognizing numbers that are ten more or ten less. Each student will need Transparency/Blackline Master *“Hundreds Board”* and counters.

3. Call out a number and instruct students to put their counter on that number. Next, instruct students to pick up another counter and put it on the number that is **10 more**. (Pay close attention to how students find the number that is **10 more**). Repeat using different numbers.

4. Next, call out a number and instruct students to put their counter on that number. Next, instruct students to pick up another counter and put it on the number that is **10 less**. (Pay close attention to how students find the number that is **10 less**). Repeat using different numbers.

5. Have students explain how they found numbers that were **10 more** and **10 less** in their own words. Make sure to include Math Talk and promote Student Leaders.

* *Explain in your own words how you solved the equation.*
* *Why is important to be able to solve equations using multiples of ten?*
* *Can you use the same strategy to solve a subtraction equation? (100-60)?*

6. Allow time for students to partner up with a pair and practice 10 more or 10 less just like you modeled. Have one student select a number and the other student should find the number that 10 less and the number the 10 more. Make sure as students are sharing their answers that they are also explaining to their partner how they know.

7. Have students complete Blackline Master “*Working with Tens Journal Prompt”* for homework.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 132

**Materials Needed:**

* Blackline Masters- *“Race to One-Hundred Recording Sheet”, “Race to One-Hundred Directions”*
* Cardstock- *“Hundreds Puzzle” (4 copies), “Race to One-Hundred Game Board”*
* Hundreds Boards
* Spinners

Assessment

* Monitor each student as they work on their puzzles, as well as, their partner game. Take anecdotal notes as observing students work.

**Homework**

* Students may take their partner game home and continue practicing adding and subtracting ten. Parent note included.
* Vocabulary
* Tens, ones, bundle, left-overs, singles, groups, greater/lesser than, equal to, etc.

###### Alignment Lesson

###### 10 More & 10 Less Puzzles & Races

**Teacher Note: have Cardstock, *“Hundreds Puzzle”* cut apart and placed into bags or envelopes prior to teaching the lesson. Cut apart using the colored blocks as a guide.**

**Activity 1: Hundreds Puzzle**

1. Begin the lesson by having all students come together on the carpet. Instruct students that today they will be practicing strategies to solve problems of 10 more and 10 less.
2. Distribute Cardstock, *“Hundreds Puzzle”*. **(Should be pre-cut prior to teaching the lesson)**. Explain that students will work in small groups to help put back together hundreds boards that have been cut apart.
3. Allow students about 5 minutes to work together to assemble the puzzle. As students are working circulate around the room listening for student’s conversation and levels of understanding.
4. After completing the hundreds puzzle, have students come back to group to discuss their strategies for solving this problem.
5. Use Math Talk to support this activity.

* *What strategy did you use to figure out the puzzle?*
* *Did some group members solve it differently than you?*
* *What structures did you have to know and look for?*

1. Record their thinking on chart paper and retain as an anchor chart for solving problems with 10 more or 10 less.

**Activity 2: Race to One-Hundred Game**

1. Instruct students that they will continue practicing 10 more and 10 less with a partner.
2. Distribute and review the directions listed on the Blackline master *“Race to One-Hundred Directions”.*
3. Distribute Blackline master *“Race to One-Hundred Game Board”* and a game piece to each student, as well as, the “Race to One-Hundred Directions” and spinner to one of the partners.
4. Students will practice adding and subtracting 10 with their game pieces and recording their path on the Blackline master *“Race to One-Hundred Recording Sheet”*.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 133

**Materials Needed:**

* Transparency *“Hundreds Board”*
* Transparency/Blackline Master- *“Hundreds Board Puzzles”*
* Blackline Master *“More Hundreds Puzzles”*
* Teacher Guide *“Ten More, Ten Less”*

Assessment

Select a number from the hundreds board and have students tell you what number is 10 more or 10 less. Have them explain how their strategies and how they know their answer is reasonable.

**Homework**

Blackline Master *“More Hundreds Puzzles*

Vocabulary

Decade Numbers: Numbers that are multiples of 10 (10, 20, 30, 40, 50, 60, 70, 80, 90).

Horizontal

Vertical

###### Alignment Lesson

***Ten More & Ten Less***

1. Begin the lesson by explaining the importance of the hundreds boards and some of the ways you can use it (add, subtract, patterns). Use Transparency *“Hundreds Board”* as you lead students through the discussion. Use Teacher Guide *“Ten More, Ten Less”* to help guide you as you facilitate conversation around the tens pattern on the hundreds board.
2. Display and distribute Transparency/Blackline “*Hundred Board Puzzles”*. Explain to students this activity will give them an opportunity to use what they know about patterns on the hundreds board to complete the puzzles. Students should not use the hundreds board to help them at this point. They should use their prior knowledge and problem solving skills to complete and explain their thinking. Model for students how to fill in the puzzles by working through a few. **For example:**

* *Look at the first hundreds puzzle. Find the number 21 on your hundreds board puzzle. What number comes before the number 21? (20)*
* *What number should go above the number 21? Why? (11, because it is 10 less than 21)*
* *Once they locate the number, restate the following: 11 is 10 less than 21. 21 is 10 more than 11.*
* *Look at the next puzzle. Find the number 27 on your hundreds board puzzle. The number 27 is between what two numbers? (26 & 28) What number comes before 27? (26) What number comes after 27? (28) What number comes above the number 26 and why?(16 because it is 10 less than 26)*

*What number comes above the number 28 and why?(18 because it is 10 less than 28)*

1. After completing 2 puzzles together, have students complete the rest with a partner. Encourage students to discuss how they are making decisions and ask questions to one another as they work. Monitor student understanding and ask questions that encourage students to talk and explain their thinking. Ask questions like *“How do you know that number fits in the puzzle? What strategies did you use to make your decision?* Again students should be using their prior knowledge of hundreds boards while they are completing the puzzles. Students should not have a completed hundreds board in front of them as they complete this activity.

4. Have students’ present solutions to the rest of the puzzles. Facilitate whole class discussion by using math talk probes such as:

* *Can you repeat what \_\_\_\_\_\_\_just said in your own words?*
* *Would someone like to add on?*
* *Do you have another way to explain your thinking?*
* *Does anyone have the same answer but a different way to explain it?*
* *Do you agree or disagree with \_\_\_\_\_\_\_ and why?*

5. Assign Blackline Master, *“More Hundreds Puzzles”* for homework.

# Mathematics Alignment Lesson

Grade 1 Quarter 3 Day 134

**Materials Needed:**

* Secret Code Cards
* Student white boards & markers
* Transparency *“Story Problems with Decade Numbers”*
* Blackline Master, *“Create and Solve”*

Assessment

When students are writing and solving equations, ask them to explain how they solved for each. Take anecdotal notes on student understanding.

**Homework**

* Blackline Master, *“Create and Solve”*

Vocabulary

Decade Numbers: Numbers that are multiples of 10 (10, 20, 30, 40, 50, 60, 70, 80, 90).

###### Alignment Lesson

###### Fun with Multiples of Ten

1. Students will work as a class to create equations that equal 100 and solve equations that have multiples of tens and ones.
2. Each student will use their set of secret code cards. One student leader will go up to the front of the room with a a number from 1-89. The remaining students will mentally add 10 and make that number with their secret code cards. Forexample: *Student Leader 1 goes up to the front of the room with the number 33. The rest of the students will find the number that is 10 more. (The students should hold up 43.) The student leader will call on another classmate to explain how they figured out what is ten more.*
3. The student leader will call on a new leader to go up to the front of the room with a new number and repeat the same process. Continue this activity for 5-6 rounds.
4. Next, ask 2 students to come up to go up to the front of the room. Have one student bring a decade number and one student bring a single digit number from 1-9. *Example (20+4)*. Have the rest of the class find the total of the number presented. Ask students to write and solve the equation on their white board. Then discuss the solution as a class. You may also incorporate partner talk as you facilitate discussion.
5. Repeat this for several more rounds until students have had enough time to practice.
6. Display Transparency *“Story Problems with Decade Numbers”.* Have students solve each problem with a partner. Students can record their solutions on their whiteboards or a piece of paper. After students have had time to work and discuss each problem, go over each as a whole class. Facilitate whole class discussion by using math talk probes such as:

* *Can you repeat what \_\_\_\_\_\_\_just said in your own words?*
* *Would someone like to add on?*
* *Do you have another way to explain your thinking?*
* *Does anyone have the same answer but a different way to explain it?*
* *Do you agree or disagree with \_\_\_\_\_\_\_ and why?*

1. Assign Blackline Master, *“Create and Solve”* for homework.

**Day 135** **Assessment (1.OA.1, 1.OA.8, 1.NBT.5, 1.NBT.6)**