

Counting Collections Tasks

Kindergarten

Counting and Cardinality

- Know the number names and count sequence
- Count to tell the number of objects
- Compare Numbers

Task:

Estimate: Too low, Just right, Too high

How Many?

Which bag has more? Less?

How can we organize the objects to count?

How can we represent our strategy to count?

Operations and Algebraic Thinking

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from

Task:

How many in two handfuls?

How many in three handfuls?

How many more objects in your handful than in mine?

How many less?

How can we represent our strategy and solution?

Number and Operations and Base Ten

- Working with numbers 11-19 to gain foundations for place value

Task:

Estimate how many groups of ten: Too low, Just right, Too high

How many groups of ten?

How many leftovers?

How can we represent our tens?

How can we represent our tens and leftovers on a hundred's chart?

Measurement and Data

- Describe and compare measureable attributes
- Classify objects and count the number of objects in categories

- The collections for this task will need to include at least three different objects or version of the object (e.g. plastic farm animals).

Task:

How can we sort the objects in the collection?

How many of each kind of object?

How many more or less?

How can we represent our collection?

First Grade

Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction
- Understand and apply properties of operations and the relationship between addition and subtraction
- Add and Subtract within 20
- Work with addition and subtraction equations

Task

How many in two handfuls?

How many in three handfuls?

How many more objects in your handful than in mine?

How many less?

How can we represent our strategy and solution?

What equations can we write to show how many we grabbed?

Number and Operations in Base Ten

- Extend the counting sequence,
- Understand Place Value
- Use Place Value to add and subtract

Task

Estimate how many groups of ten: Too low, Just right, Too high

How many groups of ten?

How many leftovers?

How can we represent our tens?

How can we represent our tens and leftovers on a hundred's chart?

Measurement and Data

- Measure lengths indirectly and by iterating length units
- Represent and interpret data

Task:

How far will our objects stretch if we connect them end-to-end?

Estimate first and then find out.

Task:

How can we represent our collection?

How can we organize the objects to make a graph?

How will our graph communicate information?

What questions will our graph answer?

What information can we compare in our graph?

Second Grade

Operations and Algebraic thinking

- Work with equal groups of objects to gain foundations for multiplication

Task:

Estimate how many equal groups are in the collection. Too low, Just right, Too high

How many equal groups can we make? How many in each group?

Is there another way to group the objects in equal groups?

How can we represent our equal groups?

Task:

How many ways can the collection be organized into equal groups?

How can we represent all the ways we found?

Number and Operations in Base Ten

- Understand Place Value
- Use place value understanding and properties of operations to add and subtract

Task:

Estimate how many groups of ten in the collection: Too low, Just right, Too high

How many groups of ten?

How many leftovers?

How can we represent our tens?

How can we represent our tens and leftovers on a hundred's chart?

Task:

Estimate the total value if each object represents a value of ten: Too low, Just right, Too high

How many groups of ten?

How many leftovers?

How can we represent our tens?

How can we represent our tens and leftovers on a hundred's chart?

Measurement and Data

- Measure and estimate lengths in standard units.
- Represent and interpret data

Task:

How far will our objects stretch if we connect them end-to-end?

Estimate first and then find out.

How will we record the length?

How can we represent what we measured?

Estimate the length in inches.

Measure in inches.

Task:

How can we represent our collection?

How can we organize the objects to make a graph?

How will our graph communicate information?

What questions will our graph answer?

What information can we compare in our graph?

Grade Three

Operations and Algebraic Thinking

- Represent and solve problems involving multiplication and division

Task:

Estimate the total number of objects in the collection.

How many equal groups can we make? How many in each group? How many leftover?

Is there another way to group the objects in equal groups?

How can we represent our equal groups?

Task:

Estimate the total number of objects in the collection.

You want to share this collection with three friends.

Estimate how many objects each friend will get.

Estimate the leftovers.

Find out how many each friend will get.

How can we represent how we shared?

Task:

Estimate the total number of objects in the collection.

How could the objects in the collection be represented by an array?
How many different arrays could be represented?
What does the array look like?
How can we represent our arrays?

Task:
Estimate the total number of objects in the collection.
How can we divide the objects so that we have the fewest number of leftovers?
If we share the objects with five friends, what is the greatest number of leftovers we could have?
How can we represent how our strategies and solutions?

Number and Operations in Base Ten

Use place value understandings and properties of operations to perform multi-digit arithmetic

Task:
Estimate the total value of the collection if each object represents a value of ten:
Too low, Just right, Too high
How can we represent our strategies and solution?

Task:
Estimate the total value of the collection. Too low, Just right, Too high
Round the collection to the nearest ten, hundred.
How did you decide how to round?
How can we represent our strategies and solution?

Develop understanding of fractions as number

Task:
Estimate the total value of the collection if each object represents a value of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$.
Too low, Just right, Too high
How can we represent our strategies and solution?

Measurement and Data

Task:
How far will our objects stretch if we connect them end-to-end?
Estimate first and then find out.
How will we record the length?
How can we represent what we measured?

*Estimate the length to the nearest $\frac{1}{2}$ inch.
Measure to the nearest $\frac{1}{2}$ inch.*

Task:

How much space does the collection take up if placed in a rectangle?

How many rectangles can you make?

What is the measurement for this space of each rectangle?

Does each rectangle cover the same amount of space?

How can we represent our strategies and solutions?

Task:

If the objects are organized to make a rectangle, what is the distance around?

How many rectangles can you make?

Does the distance stay the same for all rectangles?

Estimate first and then find out.

How will we record the length?

How can we represent the distance we measured for each rectangle?