

I-Did-A-Read

Background Information:

We are about to begin our school-wide I-Did-A-Read week. This is an opportunity for us to do shared reading as a school with the purpose of achieving a common goal. Our goal is to read the equivalent of the 1,049 miles of the Iditarod Trail.

There will be 1 half hour a day for 4 days set aside for us to accomplish our goal. The school has been divided up into 5 multi-age reading groups. Within each group, shared reading will occur during the specified times.

Books have been assigned the following mile value: a picture book is worth 1 mile, 4 pages of a chapter book are worth 1 mile and 3 wordless books are worth 1 mile.

Questions:

What will each group need to read each session in order to meet our goal of 1,049 miles? What needs to be read each minute of reading time by the whole school? What else do you know?

Make sure your response is clear and uses math language and representation.

Exemplars

I-Did-A-Read

Suggested Grade Span

3-5

Task

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Alternate Versions of Task

More Accessible Version:

We are having a reading contest. Books have been assigned the following value: a picture book is worth 1 point, 4 pages of a chapter book are worth 1 point, and 3 wordless books are worth 1 point.

If I read the following, how many points will I earn?

2 picture books

1 chapter book with 16 pages

3 wordless books

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More Challenging Version:

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What will each group need to read each session in order to meet our goal of 1,049 miles? What needs to be read each minute of reading time by the whole school? What else do you know?

Make sure your response is clear and uses math language and representation.

After determining the number of “miles” of books each team must read per day, determine how many picture books that would equal. Determine the number of sets of 4 pages of chapter books that would equal. Determine the number of sets of 3 wordless books that would equal.

Context

Many classes in our school have been doing interdisciplinary units on winter. Part of the winter studies involved following the Iditarod. Classes kept track of the daily Iditarod results on the Internet. The I-Did-A-Read was a fun activity that brought us together and it did not take a lot of extra preparation.

The I-Did-A-Read started with a school-wide assembly to explain about the Iditarod and the I-Did-A-Read Program. Throughout the school, there was a trail on the walls of 1,049 black dots symbolizing the miles raced in the Iditarod. Each day as the I-Did-A-Read groups' miles were compiled, a dog team pulling a sled full of books moved along the trail. At the end of our I-Did-A-Read week we celebrated with Eskimo Pies!

What This Task Accomplishes

This task assesses students' abilities to use whole-number concepts to solve problems. It allows the students to choose whole-number operations to complete multiple steps and enables them to use calculators in a problem that does not deal only with "neat" numbers. The use of many different labels in this problem, (such as minutes, days, books, miles, sessions, etc.) and large numbers, makes this a challenging problem for many third and fourth graders.

Exemplars

What the Student Will Do

I thought that most students would use division to solve the majority of this task. However, the students tried a variety of strategies. Some students did in fact use division. It was difficult for students to figure out what the quotients actually were. For example, if children divided the total number of miles by the number of days, the quotient was the number of miles needed to be read each day. But, if the children divided the number of miles by the number of groups, the quotient was the number of miles per group. This aspect of the task proved to be very confusing for many children. Some children chose to use a guess and check strategy just plugging in the number of miles per group by guessing and trying to come up with the correct number of miles for the total.

Time Required for Task

Three, 45-minute periods

Interdisciplinary Links

This task is easily adaptable to many types of situations. Obviously, it is great to do in connection with the Iditarod during a winter unit. It could be adapted to create an activity similar to the I-Did-A-Read involving miles taken on a trip for a unit on the United States or map skills. A similar adaptation would work well with a unit on the solar system - a trip to various planets or even the moon. The possibilities are endless!

Teaching Tips

I would recommend having children write down their math equations before letting them have the calculators. I find this helps ensure that students stay focused on what they need to do. This practice also requires children to write down what they are doing. If you allow children to regularly use calculators in math, this may be an issue you have already dealt with.

Some children needed a little more structure for the task. If need be, you could set up steps for solving the task or provide some additional scaffolding. As always, making the numbers a little more manageable is also an option.

Suggested Materials

- Calculators
- Paper
- Graph paper

Possible Solutions

There could be an endless number of possibilities assuming that the kids used all the different

Exemplars

types of books that could be read. I was looking for kids to acknowledge that there were many possibilities, but actually pick one way to do it. I specifically chose to be vague about this, while you may choose otherwise.

1,049 miles in total

Four, 30-minute reading sessions

5 reading groups

This means that each group reads a total of 209.8 or 210 miles over the four days. Each day, (session) comes out to be 52.5 miles per group and 1.76 miles per minute.

More Accessible Version Solution:

Nine points

More Challenging Version Solution:

If 52.5 miles per group must be read per day, then...

$52.5 \div 1 = 52.5$ picture books

$52.5 \div 4 = 13.125$ sets of 4 pages of chapter books

$52.5 \div 3 = 17.5$ sets of 3 wordless books

Task Specific Assessment Notes

Novice

This student did not solve the task. There is very little evidence of mathematical reasoning, no explanation and no representation. While there is some math work evident, it is unclear that the student knows what any of this means.

Apprentice

This student uses a strategy that is partially useful, but they did not complete the task. There is some use of math representation and notation. Mathematical reasoning is evident.

Practitioner

This student understood the task and the concepts necessary to solve it. S/he used appropriate mathematical procedures and their reasoning is effective. The response includes an explanation and representation.

Expert

This student has a clear and effective solution to the task. Their representation is actively used in communicating the solution and their strategies led them directly to the solutions.

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