Prize Money Mind Bender

Developed by: Jennifer Reiter, 2014 Iditarod Teacher on the Trail ™ **Created 9/15 UPDATED 11/17**

Discipline / Subject: Math

Topic: problem solving with money

Grade Level: Fourth, others with modifications (two versions of the assignment are included)

Resources / References / Materials Teacher Needs:

Photo from this article: http://www.akbizmag.com/Alaska-Business-Monthly/March-2015/Iditarod-Trail-Sled-Dog-Race/

Lesson Summary:
Students will take the role of the ITC Board of Directors and determine how the prize money should be distributed among the Iditarod finishers.

Standards Addressed: (Local, State, or National)
CCSS.MATH.CONTENT.4.NBT.B.4
Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Learning Objectives:	**Assessment:**
TLW determine how to divide a sum of money among race finishers.	Students can be assessed on the assignment sheets.

Procedural Activities

1. Display for the students the photo found at the following link: http://www.akbizmag.com/Alaska-Business-Monthly/March-2015/Iditarod-Trail-Sled-Dog-Race/ which shows Dallas Seavey with the "key" to the truck he was presented for winning the 2015 Iditarod.

2. Ask the students to describe what they see and what we can learn from the photo. {That the winner of the Iditarod receives a new truck.}

3. Inform the students that the new truck is just one of the prizes the winner receives. He or she also receives a financial prize. And in fact, the Iditarod financially rewards every single musher who finishes the race. The top 30 mushers "finish in the money" and any musher who finishes outside of the top thirty receives $1,049. Have the students make the connection between the $1,049 finishing money and the 1,049 miles that is the ceremonial length of the trail. The 1,049 number comes from the idea that the Iditarod is a 1,000 mile sled dog race and the fact that Alaska was the 49th state that joined the US.

4. Ask the students to predict the amount of money that the first place finisher receives. You may want to record their predictions to revisit later as the true numbers are revealed.

5. In 2017, the total Iditarod purse was $712,500. The rest of this lesson is based on the numbers for that race.

6. Share the Mind Bender problem with the class. There are two versions included. Choose the appropriate one based on your students' needs.

7. Once the students have come up with their division, have them share with others their solution and the explanation behind it.

8. You may want to share the actual 2017 Prize Money breakdown with the students (https://iditarod.com/race/2017/) and have them compare their solutions.

Materials Students Need:

Worksheet, scrap paper

Technology Utilized to Enhance Learning:

Other Information:

EXTENSION: The 2018 race is likely to show a huge difference in purse. Share the following article with the students and have them predict how the cut in purse will affect the payouts. They could make a prediction of how much they think each finishing musher will make for this race. There are a couple of graphs included with this article that could be used for practice in reading graphs as well: https://www.adn.com/outdoors-adventure/iditarod/2017/09/22/cash-strapped-iditarod-reduces-minimum-payout-to-mushers-for-2018-race/

Modifications for Special Learners/ Enrichment Opportunities:

Students could work in teams.

Additional Information

Prize Money Mind Bender (A)

Each year the Iditarod Trail Committee has to decide how to divide the prize money purse among the finishers of the race. Mushers who finish in the top thirty finish "in the money." Everyone who finishes the race is rewarded with a check for $1,049. In 2017, the total purse was $712,500.

Suppose you were on the Board of Directors and were asked to divide the prize money for the race. You have $448,945 to divide among the top 10 finishers. The first place finisher will receive $71,250.

How will you divide the rest of the money among the other top ten finishers? Explain in writing how you arrived at your answer.

Prize Money Mind Bender (B)

Each year the Iditarod Trail Committee has to decide how to divide the prize money purse among the finishers of the race. Mushers who finish in the top thirty finish "in the money." Everyone who finishes the race is rewarded with a check for $1,049. In 2017, the total purse was $712,500. (The purse total is an estimate since the number of actual finishers is never known until the very end!)

In 2017, there were 72 mushers who registered for the race and therefore had to be accounted for in the prize money. The winner was awarded $71,250.

If you were the Iditarod Trail Committee, how would you have divided the money among the 72 finishers (remember, you have to assume they will all finish)?

Keys to remember:

- The winner receives $71,250
- The top 30 finishers finish "in the money"
- Everyone who finishes is given at least $1,049

Be sure to show your solution and fully explain your thinking in writing!