

# Population Along the Trail: Fairbanks Restart

**Developed by:** Jennifer Reiter, 2014 Iditarod Teacher on the Trail™ **Created 9/15 Edited 2/17**

**Discipline / Subject:** Math

**Topic:** reading, interpreting, and creating bar and double bar graphs

**Grade Level:** third, others with modifications

## Resources / References / Materials Teacher Needs:

Graph paper – you can print your own here: <http://www.printfreegraphpaper.com/>

Iditarod Media Guide: <http://iditarod.com/resources/press-media/>

Discovery Channel Video on Checkpoints: <http://www.discovery.com/tv-shows/other-shows/videos/iditarod-checkpoints-and-trailblazers/>

IXL site for interactive bar graph practice: <https://www.ixl.com/math/grade-3/interpret-bar-graphs>

BrainPop, Jr. Video: <https://jr.brainpop.com/math/data/tallychartsandbargraphs/>

ELT Base site for double bar graph practice: [http://www.elibase.com/quiz/508\\_01.htm](http://www.elibase.com/quiz/508_01.htm)

## Lesson Summary:

Students will create a bar graph that displays information about the population of the checkpoints along the trail.

## Standards Addressed: (Local, State, or National)

CCSS.MATH.CONTENT.2.MD.D.10

Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

CCSS.MATH.CONTENT.3.MD.B.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.*

## Learning Objectives:

TLW create a bar graph to display data.

## Assessment:

Students can be assessed on their finished bar graph.

## Procedural Activities

1. Show the Discovery Channel video on checkpoints to give the kids a feel for what an Iditarod Checkpoint is and why they are crucial for the race.
2. Explain to the students that all of the communities that house the Iditarod checkpoints along the trail are unique and different. Some are set in large communities, some are set in small villages, and some locations only spring to life when the race comes through.
3. If you haven't already discussed the idea that there are two different routes and the reasons behind that decision, now would be a good time! The following explanation comes from the Iditarod Trail Committee Website (<http://iditarod.com/about/the-iditarod-trail/>):

Both sections of trail are a part of the Iditarod National Historical Trail which was used in early years for all winter travel. Dog sleds delivered the mail, the preacher, the groceries, and hauled out gold and furs all the way to Anchorage or Fairbanks.

During the early years of the Iditarod Race, the mushers only traveled the northern trail. After several years, the Iditarod Board of Directors realized that the smaller villages were being heavily impacted by the race coming through their village year after year. It was decided to use both sections of the trail.

This decision had a three fold effect. The northern villages of Ruby, Galena and Nulato only had to deal with the large group of mushers, press, and volunteers every other year. The second effect was that the race was able to pass through the actual ghost town of Iditarod. Lastly, the villages of Shageluk, Anvik, and Grayling were able to participate in the race.

4. Sometimes, three times in the race's history as of 2017, there is a third route: the Fairbanks Restart Route. This route has been utilized when snow conditions along the beginning of the trail are not satisfactory for teams to safely race.
5. Tell the students that today they will be investigating and comparing the populations of the checkpoints on this year's route. A bar graph is a great tool to show the relative sizes of many things.
6. Share with the students the BrainPop, Jr. video on Bar Graphs to introduce the concept.
7. The IXL site has a game that the students can play to practice reading and interpreting bar graphs. If it is not possible for them to practice on a computer, there is a bar graph about enrollment at Iditarod Elementary at this link, [http://www.trulia.com/schools/AK-Wasilla/Iditarod\\_Elementary\\_School/](http://www.trulia.com/schools/AK-Wasilla/Iditarod_Elementary_School/), that could be printed out and used as a review of how to read a bar graph. The "test score" link at the same site is a good example of a triple bar graph.
8. As a class, use the information found in the Iditarod Media Guide about the checkpoints to identify the population of each checkpoint on this year's trail. I've also included a chart of the data with this lesson plan if you don't have time for the students to locate the data on their own. There is also a blurb about the checkpoints that are unique to the Fairbanks Restart.
9. Calculate the range of population and determine how to best set up the graph to reflect the needed data. You may want to start with Nenana and only do the locations where actual *checkpoints* are set up.
10. Use the data collected by the students to complete the bar graph as a class. Alternatively, the students could complete this bar graph in small groups.
11. Explain to the students that sometimes we can also use bar graphs to show or compare more than one kind of data.

12. Use the activity about cats and dogs at the ELT site to practice reading and interpreting double bar graphs.
13. Challenge the students to compare the population changes in Nenana and Nome (first and last checkpoints) throughout history in a double bar graph (direction sheet included).

**Materials Students Need:**

Graph paper

**Technology Utilized to Enhance Learning:**

See Teacher Resources

Students could create the bar graphs digitally at <http://nces.ed.gov/nceskids/createagraph/>

**Other Information:**

**Modifications for Special Learners/ Enrichment Opportunities:**

The bar graph could be created as a class, team, or individual as needed.

To add a writing component, students could do a journal entry about whether they think it's better for the ITC to try to set up a checkpoint in a more or less populated community. What are the pros and cons of each?

If you are looking for some more advanced data and graphing opportunities, there are some pretty wild graphs included in this document on Alaska Population Projections:

<http://laborstats.alaska.gov/pop/projected/pub/popproj.pdf>

**Additional Information**

# Population Along the Trail Fairbanks Route

Checkpoint	Population
Anchorage	291,826
Fairbanks	32,324
Nenana	386
Manley	89
Tanana	245
Ruby	173
Galena	487
Huslia	281
Koyukuk	98
Nulato	275
Kaltag	205
Unalakleet	692
Shaktoolik	258
Koyuk	347
Elim	332
White Mountain	199
Safety	0
Nome	3,695

# Population Changes Over Time

Create a double bar graph to show how the population of the starting and ending points of the Iditarod Sled Dog Race has changed over time.

## Nenana Data

Year	Population
2000	401
2002	393
2004	381
2006	354
2008	346
2010	378
2012	390

## Nome Data

Year	Population
2000	3,497
2002	3,503
2004	3,616
2006	3,566
2008	3,623
2010	3,617
2012	3,725

# Fairbanks Start Unique Checkpoints

**Fairbanks:** Fairbanks is the second-largest city in Alaska with a population around 100,000. Fairbanks alternates as the starting and ending point of the Yukon Quest each year.

**Nenana:** Nenana, is one of only three Iditarod checkpoints on the road system, being an hour's drive away from Fairbanks along the Parks Highway. The community is known for the Ice Classic where people try to guess the time that the ice will go out of the Tanana River. Nenana was the start of the Serum Run to Nome in 1925. The checkpoint will be in the tribal hall.

**Manley:** Manley is located about 150 miles upriver from Fairbanks. Manley sits along the Tanana River. The village is known for its hot springs. The village boasts a hotel, laundromat, gas station, school, post office, landfill, grocery store, and health clinic. Maybe most interesting to Iditarod fans, is that Manley has its own mushing museum! Daniel Green, one of the mushers of the 1925 Serum Run, once owned the Manley Roadhouse, which was built in 1906.

**Tanana:** Tanana is located at the confluence of the Tanana and Yukon Rivers. About 80% of the villagers are Native American, primarily Koyukon speakers of Athabaskan. The average temperature in March is 19 degrees F! In 2015, the villagers pooled some money to be able to give a reward to the first musher to reach their village! Tanana has a rich history of mushing, including a tie to the 1925 Serum Run. Tanana musher, Sam Joseph, was one of the Serum Run mushers.

**Huslia:** Huslia will serve as the halfway point for the race. Located on the Koyukuk River, it is the northern most checkpoint on the trail. Huslia has about 338 residents. One of its most famous residents was Geogre Attla, the most decorated sprint racer in Alaska history. Although most known for sprint racing, Attla also raced in the very first Iditarod, finishing in fourth place. Attla is so well respected in the community, the school's mascot is the Hustlers, after Attla's nickname "the Huslia Hustler." Sadly, he passed away in February of 2015, just about a month before the Iditarod travelled through his hometown for the first time. The 2015 Iditarod finishers named Huslia the best checkpoint and rewarded the village with the Golden Clipboard award.

**Koyukuk:** About 100 villagers call Koyukuk home. The village was used by Koyukon Athabaskans as a camp and trading post. Gold was discovered and collected in Koyukuk between 1884-1885.