

Many-to-One correspondence - Parfleche

Subject: Mathematics

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Strand: Statistics and Probability

Grade: 4

Content (topic)	
Creating graphs	
Outcomes	Indicators
<p>SP4.1: Demonstrate an understanding of many-to-one correspondence by:</p> <ul style="list-style-type: none">• Comparing correspondences on graphs• Justifying the use of many-to-one correspondences• Interpreting data shown using a many-to-one correspondence <p>Creating bar graphs and pictographs using many-to-one correspondence</p>	<p>SP 4.1f: Create and label (with categories, title, and legend) a pictograph to display a set of data using a many-to-one correspondence, and justify the choice of correspondence used.</p> <p>SP 4.1g: Create and label (with axes and title) a bar graph to display a set of data using a many-to-one correspondence, and justify the choice of correspondence used.</p> <p>SP 4.1h: Answer a question using a graph in which data are displayed using a many-to-one correspondence.</p>
Mathematical Processes:	
<ul style="list-style-type: none">• Communication• Reasoning• Visualization• Technology	
Lesson Preparation	
Equipment/materials:	
<ul style="list-style-type: none">• Examples of parfleches (if the students have already made a parfleche bag in the previous lessons this could be used) photocopied for the students	

Presentation

Set

- Explain to the students that historically the Plains Cree, Sioux, and Blackfoot parfleche bags were used to carry dried food, medicine, and personal items. A single piece of rawhide was folded into a case and tied shut with rawhide laces. The outside of a parfleche bag was decorated.
- Provide the students with a variety of visual sources for designs.
- Provide the students with many examples of traditional Plains-style designs as a source of inspiration for their own.

Development

- Ask the students to look at the geometric shapes in the parfleche and create a pictograph. Let them know a pictograph includes: categories, title, legend, and labels that display the data using many-to-one correspondence. When the students have completed their pictograph, they must justify the choice of correspondence in which they have used their pictograph. For example, the students might use color or shape or some other attribute for the categories.
- Next, have the students create a bar graph that displays the same data using a many-to-one correspondence. The bar graph should include axes and a title. Again, the students should justify the choice of correspondence in which they have used their bar graph.
- Have the students break off into groups of two. Have each student take turns asking the other students questions (to which the answers can be found on the bar graph). If the students are having difficulties in asking questions, an alternative is to replicate a bar graph on the white board for all students to see and ask the students questions that are answered through referencing the bar graph.