

HPISD Grade 1 Math

UNIT NAME	ESTIMATED DURATION	9 WEEKS			
UNIT 15: DATA	2 WEEKS	1	2	3	4

UNIT OVERVIEW

This unit develops ideas about collecting, representing, describing, and interpreting data.

Enduring Understandings

The student will understand that:	<ul style="list-style-type: none"> Each type of graph is most appropriate for certain kinds of data. Real Graphs, picture graphs, and bar graphs make it easy to compare data. Tally marks and T-charts are useful in recording and organizing some kinds of data. Each type of graph is most appropriate for certain kinds of different lengths or heights to show information. Each type of graph is most appropriate for certain kinds of data. A picture graph uses pictures to show data. Some problems can be solved by making, reading, and analyzing a graph.
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Concepts

Comparison and Relationships	Numbers, expressions, measures, and objects can be compared and related to other numbers, expressions, measures, and objects in different ways.
Data Collection and Representation	Some questions can be answered by collecting and analyzing data, and the question to be answered determines the data that need to be collected and tables, charts, and graphs. The type of data determines the best choice of visual representation.
Practices, Processes, and Proficiencies	Mathematics content and processes can be applied to solve problems.

Guiding/Essential Questions

- What are some ways data can be displayed to communicate information?
- What are some ways to gather and record information?
- How do different graphs show different information?
- How can you use a graph to answer questions?
- How do you interpret the data you have collected?
- Why are graphs helpful?

Learning Targets & Prerequisites	Progressions
<p><u>Prerequisites:</u></p> <ul style="list-style-type: none"> • Collect and sort data • Understand how tally marks represent information <p><u>Learning Target:</u></p> <ul style="list-style-type: none"> • The student will use data to create picture and bar type graphs. <p><u>Second Grade Connection:</u></p> <ul style="list-style-type: none"> • 2.10 (B) Organize a collection of data with up to four categories using pictograph and bar graphs with intervals of one or more. 	<ul style="list-style-type: none"> • Create graphs: pictograph and bar graph • Organize and sort data using tally marks and T-charts • The scale in a bar graph determines how long the bar needs to be to represent each number in a set of data. • Each type of graph is most appropriate for different types of information.
<p><u>Prerequisites:</u></p> <ul style="list-style-type: none"> • Interpret a graph <p><u>Learning Target:</u></p> <ul style="list-style-type: none"> • The student will draw conclusions and answer questions about information in picture graphs and bar graphs. <p><u>Second Grade Connection:</u></p> <ul style="list-style-type: none"> • 2.10 (D) Draw conclusions and make predictions from information in a graph. 	<ul style="list-style-type: none"> • Generate questions about information in picture graphs and bar graphs. • Create questions, determine up to 3 categories of possible responses, collect data, organize data, and interpret the results.
Formative Assessments	Summative Assessments


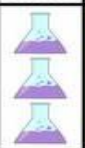

TEKS: Readiness Standards	TEKS: Supporting Standards
1.8(B) Use data to create picture and bar-type graphs	<p>1.8(A) Collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts;</p> <p>1.8(C) Draw conclusions and generate and answer questions using information from picture and bar-type graphs.</p>
TEKS Process Standards	
<p>1.1 (A) Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>1.1 (B) Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>1.1 (C) Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>1.1 (D) Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>1.1 (E) Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>1.1 (F) Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>1.1 (G) Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p>	
Processes and Skills: What students should be able to DO	Facts: What students should KNOW
<ul style="list-style-type: none"> The students should be able to show data in a T-chart, picture graph, and a bar graph. The students should be able to create questions, determine up to 3 categories of possible responses, collect data, organize data, and interpret the results. <p>Example: Survey Station During Literacy Block, a group of students work at the Survey Station. Each student writes a question, creates up to 3 possible answers, and walks around</p>	<ul style="list-style-type: none"> Real graphs, pictographs, and bar graphs make it easy to compare information. Each type of graph is most appropriate for different types of information. In order to be useful data must be organized and recorded. Tally charts are useful in recording and organizing some types of data. In a real graph, real objects are arranged in particular way to make comparisons.

<p>the room collecting data from classmates.</p> <ul style="list-style-type: none"> • The students should be able to interpret the data to determine the answer to the question posed. • The students should be able describe the data noting particular aspects such as the total number of answers, which category had the most/least responses, and interesting differences/similarities between the categories. • The students should then be able to interpret the data and writes 2-4 sentences describing the results. • Then the students will be able share with one another what they discovered. • The students should be able to share and ask clarifying questions of one another regarding the data, and make revisions as needed. • The students should be able to analyze the data by carefully looking at the data and writes 4 sentences about the data. 	<ul style="list-style-type: none"> • In a bar graph the scale determines how long the bar needs to be to represent each number in a set of data.
Topics	
Envisions Topic 15	
Language of Instruction	
bar graph data picture graph survey tally marks	
State Assessment Connections	National Assessment Connections

Pictograph

A graph that organizes and shows information using pictures

Do superheroes prefer math, science, or reading?


Math	Science	Reading
		
4	3	3

Collect Data and Graphing

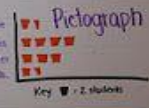
How do you collect data?

- 1st - Create a survey question. What is your favorite drink?
- 2nd - Decide on a few choices. juice, soda, water, milk
- 3rd - Survey a group of people. Record your results with tally marks.


Graph your results:



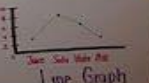
Bar Graph



Pictograph



Circle Graph



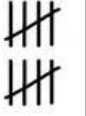

Line Graph

Tally Chart

A chart made using tallies that records data or information

1 tally mark = 1 vote

Would you rather...

Fly	Be Invisible
	
10	5