

HPISD Grade 4 Mathematics

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UNIT NAME	ESTIMATED DURATION	9 WEEKS		
UNIT 6: DATA ANALYSIS AND PERSONAL FINANCIAL LITERACY		1	2	3
Unit Overview				
<ul style="list-style-type: none"> • Interpretation, creation, and comparison of various data displays • Examples of personal finances and purpose of financial institutions 				
Enduring Understandings				
The student will understand that:	<ul style="list-style-type: none"> • Data can be used to describe, identify, compare, and solve and represent value • Financial institutions serve many purposes • Managing one's financial resources is effective for lifetime financial security. 			
Concepts				
<ul style="list-style-type: none"> • Data Collection and Representation • Comparisons and Relationships • Personal Financial Literacy, Processes, Practices, and Proficiencies 				
Guiding/Essential Questions				
<ol style="list-style-type: none"> 1. What are ways to display data? 2. How can graphs be used to display data and answer questions? 3. How can understanding saving options, types of expenses, and purposes of financial institutions, help you make decisions about spending and saving? 				
Learning Targets		Learning Progressions		
<u>Prerequisite:</u> <ul style="list-style-type: none"> • The student will identify decisions involving income, spending, saving, credit, and charitable giving • Students will list reasons to save and explain the benefits of a savings plan • The student will explain the connection between human capital/labor and income • The student will describe the relationship between the availability or scarcity of resources and how that impacts cost 		<ul style="list-style-type: none"> • Distinguish between and define fixed and variable expenses • Classify and organize expenses into fixed or variable • Calculate profit in a given real-world situation • Compare the advantages and disadvantages of various savings options 		

Learning Target:

- The students will manage one's financial resources effectively

5th Grade Connections:

- The student will define income tax, payroll tax, sales tax, and property tax

Prerequisite:

- The student will solve one and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph
- The student will summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph

Learning Target:

- The students will be able to read graphs and analyze the data as well as make predictions based on the data

5th Grade Connection:

- The student will solve one- and two-step problems using data from a frequency tables, dot plot, stem-and-leaf plot, or scatterplot

Prerequisite:

- The student will solve one and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph
- The student will summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph

Learning Target:

- The students will apply mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data

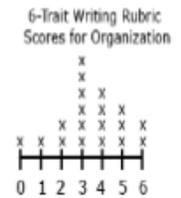
5th Grade Connection:

- The student will solve one- and two-step problems using data from a frequency tables, dot plot, stem-and-leaf plot, or scatterplot

- Explain how to allocate a weekly allowance among spending, saving, (including saving for college) and sharing (aka charity / donation)
- Summarize the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending

- Collect data or take a given set of data and be able to represent the information on a frequency tables, dot plot, or stem-and-leaf plot

Frequency Class	Frequency
10 - 19	2
20 - 29	2
30 - 39	4
40 - 49	3



- Solve one- and two-step problems using data in whole numbers, decimal, and fraction form
- Draw conclusions and make predictions based on the data collected or given

- Students need to be able to **identify** different types of graphs
- Students need to be able to **collect** data to put into charts and graphs
- Students need to be able to **create** each of the following types of graphs:
 - Frequency Table
 - Dot plots/Line graphs
 - Stem & Leaf Plot

Formative Assessments

Summative Assessments

TEKS: Readiness Standards	TEKS: Supporting Standards
<ul style="list-style-type: none"> Represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions. 4.9A 	<ul style="list-style-type: none"> Solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot. 4.9B Distinguish between fixed and variable expenses. 4.10A Calculate profit in a given situation. 4.10B Describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending. 4.10E <p>SEs Not Included in Assessed Curriculum:</p> <ul style="list-style-type: none"> Compare the advantages and disadvantages of various savings options. 4.10C Describe how to allocate a weekly allowance among spending, saving, including for college; and sharing. 4.10D
TEKS Process Standards	
**See listed in Unit 1	
Processes and Skills: What students should be able to DO	Facts: What students should KNOW
<ul style="list-style-type: none"> Determine the size of a data set, reporting specific values, making comparisons of the data, finding greatest and least values, recognizing outliers, describing chunks of the data, identifying data values that occur most or least frequently, and solving one-and-two step problems based on the data Create frequency tables, dot plots, line graphs, stem & leaf plots Calculate profit (money made minus the costs incurred) Compare criteria used to compare savings account options Practice skills involved in saving money (allowances) Distinguish between fixed and variable expenses Define the purposes of financial institutions 	<ul style="list-style-type: none"> The money children get from an allowance can be spent, saved, or shared When you keep savings in a bank, your money is safer than it is at home, and you earn interest Fixed expenses must be paid regularly (each month), other expenses are variable Banks, savings and loans, and credit unions are financial institutions, which provide money services You can calculate profit by subtracting receipts minus expenses Organizing data in tables makes it easier to see patterns A dot plot organizes data on a number line and is useful for visually showing how data are distributed Stem-and-leaf plots can be used to show how data are distributed Patterns can be observed in graphs including frequency tables
Topics	
<ul style="list-style-type: none"> Data Analysis Personal Financial Literacy 	

Language of Instruction	
balance checking account credit card data debit card deposit dot plot financial institutions fixed expenses frequency frequency table interest	leaf outlier profit receipts saving savings account sharing spending stem variable expenses withdrawal
State Assessment Connections	National Assessment Connections
Resources	
Envisions 2.0 Topic 15: Data Analysis Topic 16: Personal Financial Literacy www.economicstexas.org www.smartertexas.org Email: tcee@economicstexas.org	