

Mini-Map for M.EE.4.MD.4.b

Subject: Mathematics

Measurement and Data (MD)

Grade: 4

Learning Outcome

DLM Essential Element	Grade-Level Standard
M.EE.4.MD.4.b Interpret data from a picture or bar graph.	M.4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots.

Linkage Level Descriptions

Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
<p>Arrange objects in a specific order (e.g., smallest to largest). Group objects by some attribute value (e.g., shape, size, texture, numerical pattern).</p>	<p>Recognize the structure of bar and picture graphs such as the framework, specifiers, or labels for the x- and y-axes. Understand that bars are used to display data on bar graphs, where the height of the bar represents the number of observations for each category. Understand that pictures, symbols, or geometrical figures are used to display data on picture graphs, where the number of pictures or symbols represents the number of observations for each category.</p>	<p>Answer elementary-level questions by lifting information from a bar graph or picture graph, and understand the information represented on the graph (e.g., on the graph representing students' favorite ice cream, how many students like strawberry ice cream? How many students like chocolate ice cream?).</p>	<p>Interpret or integrate information on a bar graph or picture graph to answer questions (e.g., in a graph representing students' favorite ice cream, how many more students like strawberry ice cream than chocolate ice cream?).</p>	<p>Draw inferences or make predictions by interpreting information presented on a bar graph or picture graph (e.g., on a graph representing the number of pizzas required for a certain number of people, predict the number of pizzas required for 20 people).</p>

Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

How is the Initial Precursor related to the Target?

In order to be able to understand data on a graph, students begin learning to notice what is new. Educators draw the students' attention to the new objects or stimuli, label them (e.g., these are blocks, these are shapes, these are animals), and the student observes, feels, or otherwise interacts with it. Educators encourage students to begin placing like objects together.

How is the Distal Precursor related to the Target?

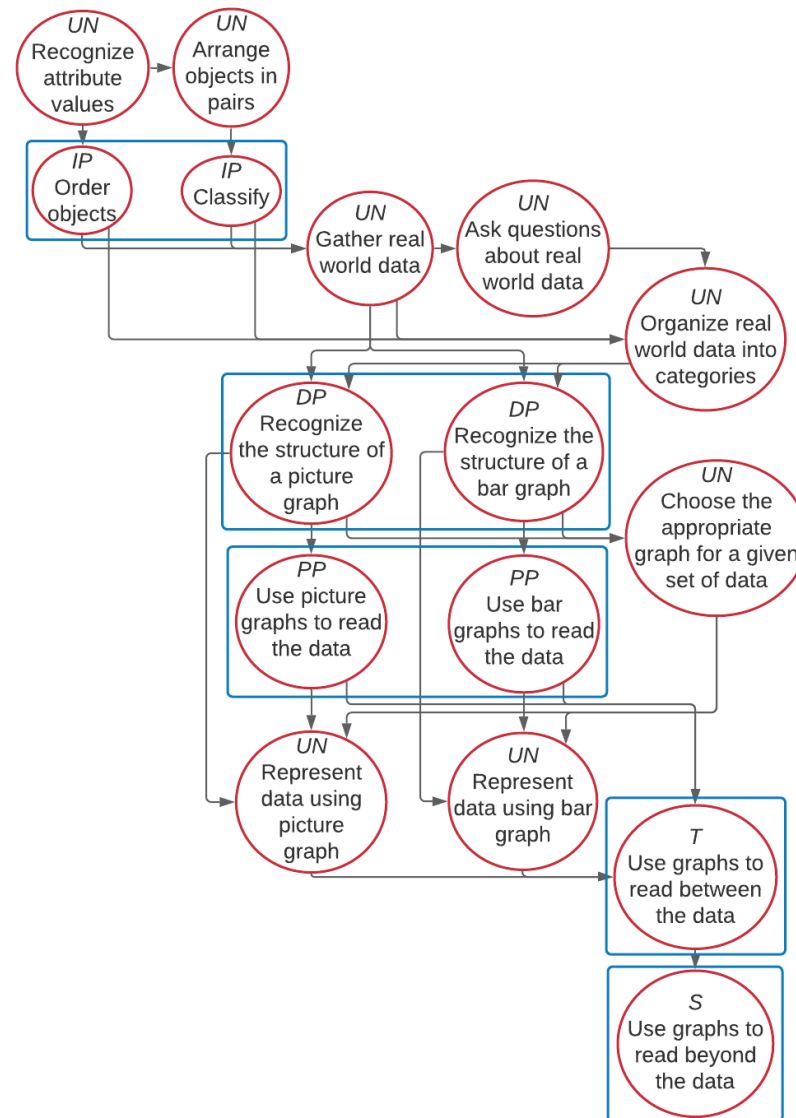
As the students' attention to objects increases, educators will begin to draw the students' attention to what is the same and different between familiar items: color, shape, quantity (1-4), size, texture, and pattern. Educators should take care to use attribute words while defining and demonstrating their meaning. While students do not need to say these words, they do need to learn the meanings. Students will also begin to group two or more items in the same set based on an attribute (e.g., two tigers, bumpy balls and bumpy gravel, red spoons). As the students group two or more items, the educator will demonstrate the representation in a bar or picture graph and encourage students to actively participate in the creation of the graph.

Instructional Resources

Released Testlets
See the Guide to Practice Activities and Released Testlets .
Using Untested (UN) Nodes
See the document Using Mini-Maps to Plan Instruction .

[Link to Text-Only Map](#)

M.EE.4.MD.4.b Interpret data from a picture or bar graph.



Map Key	
IP	Initial Precursor
DP	Distal Precursor
PP	Proximal Precursor
T	Target
S	Successor
UN	Untested
Boxes indicate tested nodes	