TOOL // Math Assessment Across Categories

What is it used for?
This tool allows the teacher to assess student performance in a mathematics unit across the four categories of the achievement chart.

How do you use it?
The assessment for the unit summative is set up by achievement category (Knowledge and Understanding, Communication, Thinking and Application) so the teacher and student can readily determine progress in each of the four areas.

The rubric is specific to the assessment so that there is a match between the types of questions and the categories.

As well, this approach allows the teacher to give specific descriptive feedback category by category for student improvement.

(The example shown below is for a Grade 6 unit on Data Management.)

Data Management Assessment

Knowledge and Understanding

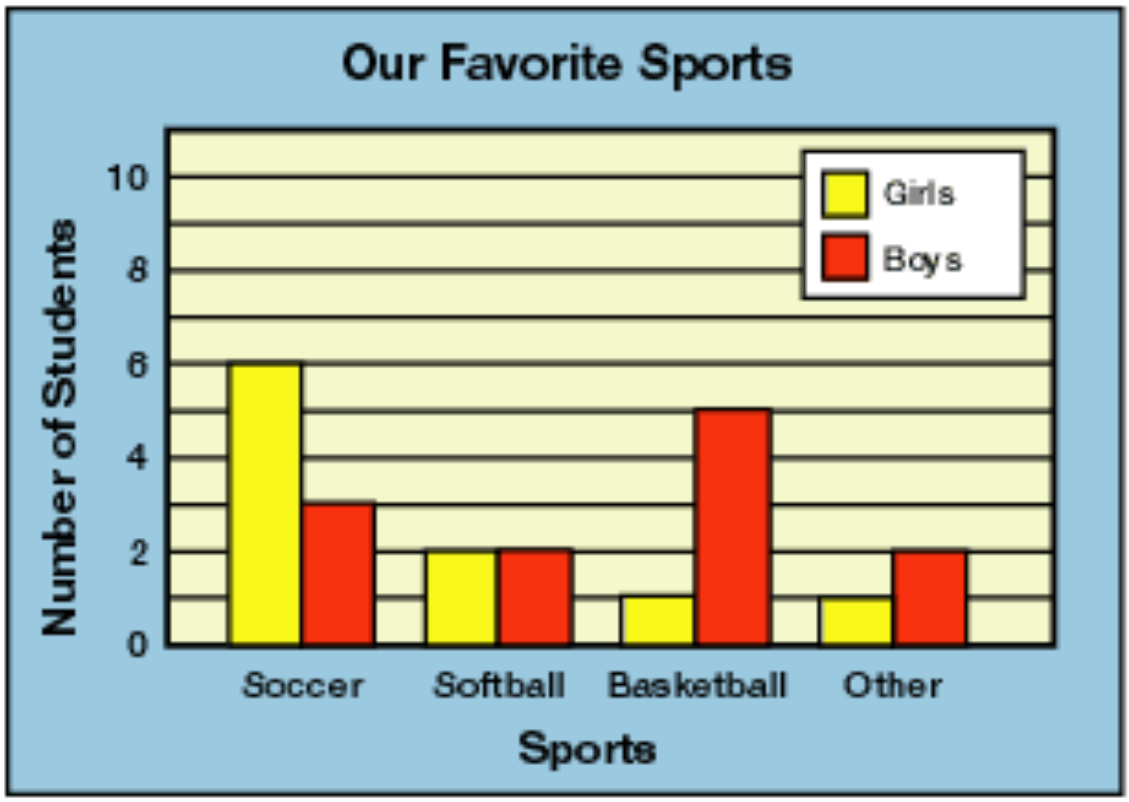
1. Braden bumps the volleyball at a steady speed for 2 min. Matt records the number of bumps after every 30 s. The table shows their results.

Time (s)	Bumps
0	0
30	20
60	40
90	60
120	80

   a. Draw a line graph using the data in the table.
   b. Use the graph to predict the number of bumps after 75 s

2. Identify the mean and mode of each set of data.
   a. 3, 5, 10, 4, 3, 9, 8
   b. 10, 13, 10, 11, 15, 12, 19, 14, 16, 10

3. Use the graph below to answer the following questions.
   a. Which sport do girls like best?
   b. Which sport do boys like least?
   c. How many girls were asked this survey question?
   d. Which sport did girls like twice (2 times) as much as boys?



Communication

4. What is the purpose of graphing data?

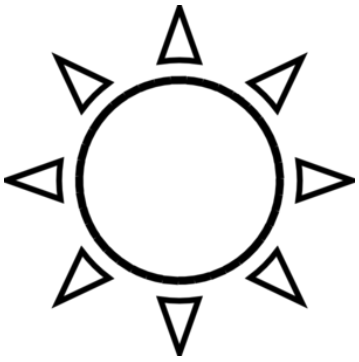
Thinking/Application

5. Ms. Myers has a set of secret numbers. She says she has 8 numbers in her set and the mean is 16. What are two possible sets of numbers they could be? Find the mode of each set of secret numbers.

6. Use the following data.
   a. Create a graph, pick the best type of graph to display this type of data.

Month	Mean Hours of Sunshine Per Day
January	9
March	12
May	14
July	15
September	11
November	9

   b. Use the data and graph made in question 6a to create another graph and include **ALL MONTHS. (hint use the graph and data to make reasonable predictions about the other months not shown).**
   c. What are 4 conclusions you can make about the amount of sunshine in a year?



DATA MANAGEMENT ASSESSMENT RUBRIC				
Categories	**Level 1**	**Level 2**	**Level 3**	**Level 4**
Knowledge and Understanding	-line graph is disorganized with few key points - makes a simple/incorrect prediction - limited use of appropriate strategies to find mean and mode -answers 1 question correctly	- line graph is somewhat organized with some key points - simply makes a prediction - simply uses some steps to attempt to find mean and mode - answers 2 questions correctly	- line graph is fairly well organized with most key point - generally correctly uses graph to make a prediction - generally accurately uses steps to find mean and mode -answers 3 questions correctly	-line graph is very well organized with all key parts - correctly uses graph to make a prediction - fully and accurately uses all steps to find mean and mode -answers all 4 questions correctly
Thinking	-incorrectly/incompletely identifies WIK/WINK -few points are plotted correctly on the graph - includes few key parts of the graphs - makes very simply/unreasonable predictions about months not given - makes 1 simple conclusions	-simply identifies WIK/WINK -some points are plotted correctly on the graph - includes some key parts of the graphs - makes simple predictions about months not given - makes 2 simple conclusions	- generally correctly identifies WIK/WINK -most points are plotted correctly on the graph - includes most key parts of the graphs -makes reasonable prediction about months not given - makes 3 reasonable conclusions	- correctly identifies WIK/WINK - all points are plotted correctly on the graph - includes all key parts of the graphs -makes reasonable and accurate predictions about months not given - makes 4 accurate and sophisticated conclusions
Communication	-very simply explains their thinking using few math words to tell the purpose of graphs	-simply explains their thinking using some math words to tell the purpose of graphs	-generally explains their thinking and uses math words to tell the purpose of graphs	-fully and clearly explains their thinking and uses math words to tell the purpose of graphs
Application	-data is displayed in inappropriate ways -graphs are unclear and difficult to read	-chooses a simple graph to display data -graphs are somewhat clear and informative	-chooses generally appropriate graph to display data -overall creates generally clear and informative graphs	-chooses the most appropriate graph to display data -overall creates clear, easy to read informative graphs

Good Job on

Remember/Review