

# Lesson: Math Grades 4-6

## Topic: Interpreting Graphs



### Best Record

**Overview:** Students will compare and interpret data from two bar graphs. The teacher will ask questions regarding the data from the graphs that will encourage students to respond with the correct answers after analyzing the data.

#### Standards:

- Develop and evaluate inferences and predictions based on data.
- Read and interpret tables, charts, graphs and timelines as sources of information, identify main idea, draw conclusions and make predictions.
- Interpret data by looking for patterns and relationships, draw and justify conclusions and answer related questions.

#### Getting Started:

##### *Materials:*

- Paper
- Pencil
- Graph(s) (one graph on a transparency to present on an overhead and/or enough graphs on paper for every child or small group)

##### *Technology*

Teacher could use a spreadsheet program (such as AppleWorks or Excel) to create additional graphs of various types (pictograph, pie, line, etc.) for student exploration or assessment.

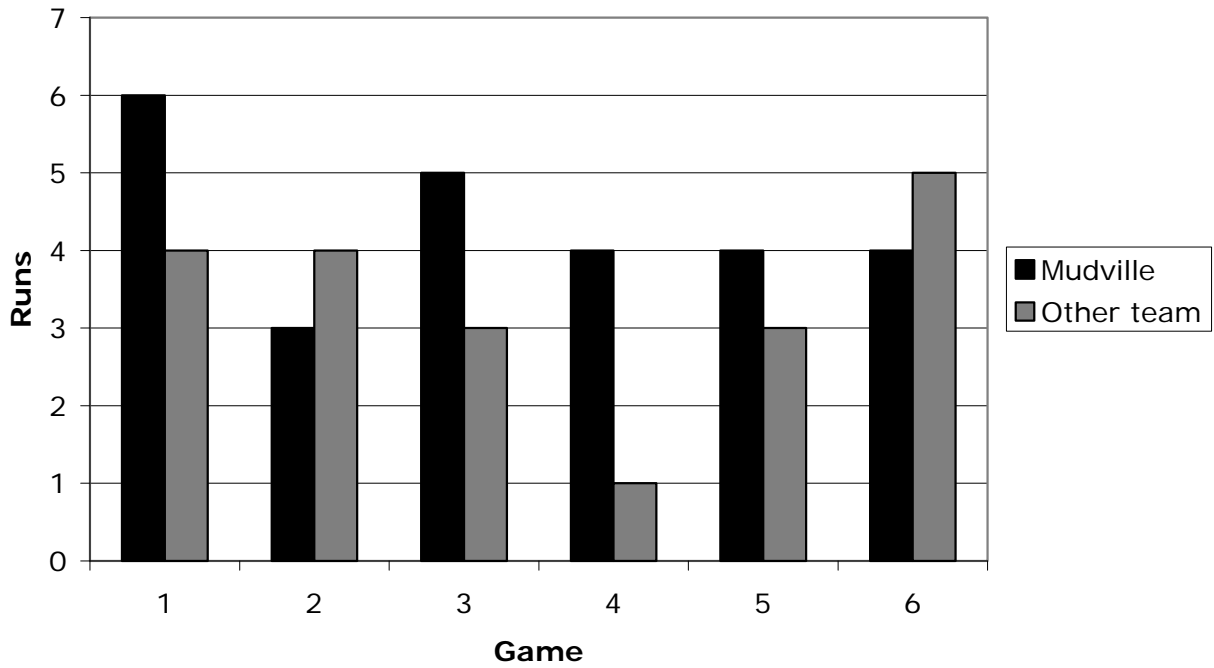
##### *Vocabulary*

- bar graph
- legend
- labels
- compare
- contrast
- data
- prediction
- inference
- pattern
- conclusion

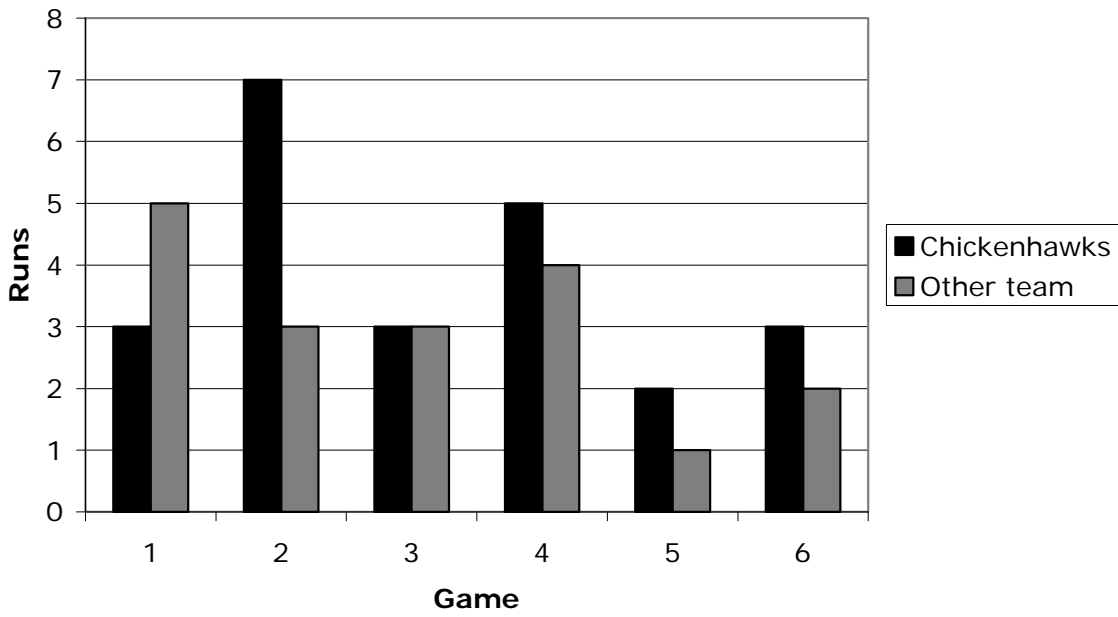
##### *Handouts*

- It may be helpful if students have a paper copy of the graph that is being displayed on the overhead.

### Mudville Games



### Chickenhawk Games



**Lesson:***Set up:*

Teacher will make an overhead transparency of the graph to be used for class discussion. It would also be helpful if teacher would make enough paper copies of the so that each student/small group may touch and visually explore the graph at close proximity. Teacher should also prepare papers to be given to students for the student batting exercise. (Depending on the age level of your students and their experience with graphing, this may be a blank piece or this could be an entire graph drawn out where the students just need to fill in the data.)

*Activity:*

The teacher will present the graph to the class. As a large group, students and teacher will explore and discuss graph. Point out items such as: title, range, labels, legend, and other specifics about the graph. During this discussion, teacher should be watching out for students who are having a difficult time understanding the graph and its information. Once it seems as though students have grasped the graphing concepts you are trying to present, move on to the following questions. Begin working on the solutions as an entire class. Try to work towards students taking ownership of the problems and working them out in small groups or individually. Make sure that each question is discussed as a class immediately after it has been worked on in small groups, or individually. This will give students immediate feedback as well as an opportunity to correct any mistakes or illogical thoughts right away.

- Some questions that could be asked regarding the graph:
- Which team won the most games?
- How many games did Mudville win?
- How many games did the Chickenhawks win?
- Calculate the average score for Mudville.
- Calculate the average score for Chickenhawks.
- Which team has the highest average score?
- Which team had the highest scoring game?
- Which team had the lowest scoring game?
- How many runs did Mudville score throughout the season?
- How many runs did Chickenhawks score throughout the season?
- Which game did the Chickenhawks beat Mudville?
- Which team will more than likely win their next game? Why?
- Assuming both teams have the same players next season, which team will win more games? Why?

**Evaluation and Follow Up:**

- Teacher should use the discussion time to assess whether students are comprehending the concepts and ideas presented.
- Conference with each student or small group using the same or a different graph.
- Teacher should ask question about a new graph where students would have to analyze and interpret data and draw conclusions.