Who's the Outlier?

$\approx$15-25 mins

Mathematical Standards of Practice:

MP 1 – Make sense of problems and persevere in solving them.
MP 3 – Construct viable arguments and critique the reasoning of others.
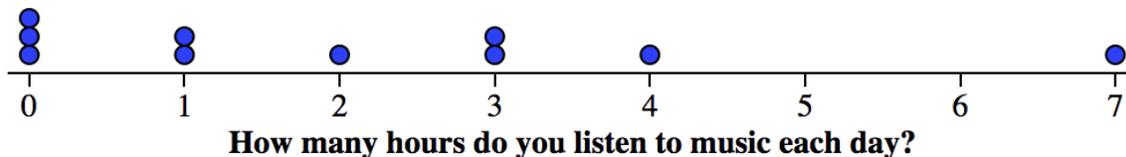
Objective:

Students learn about their classmates and have some practice identifying outliers from among a group of points.
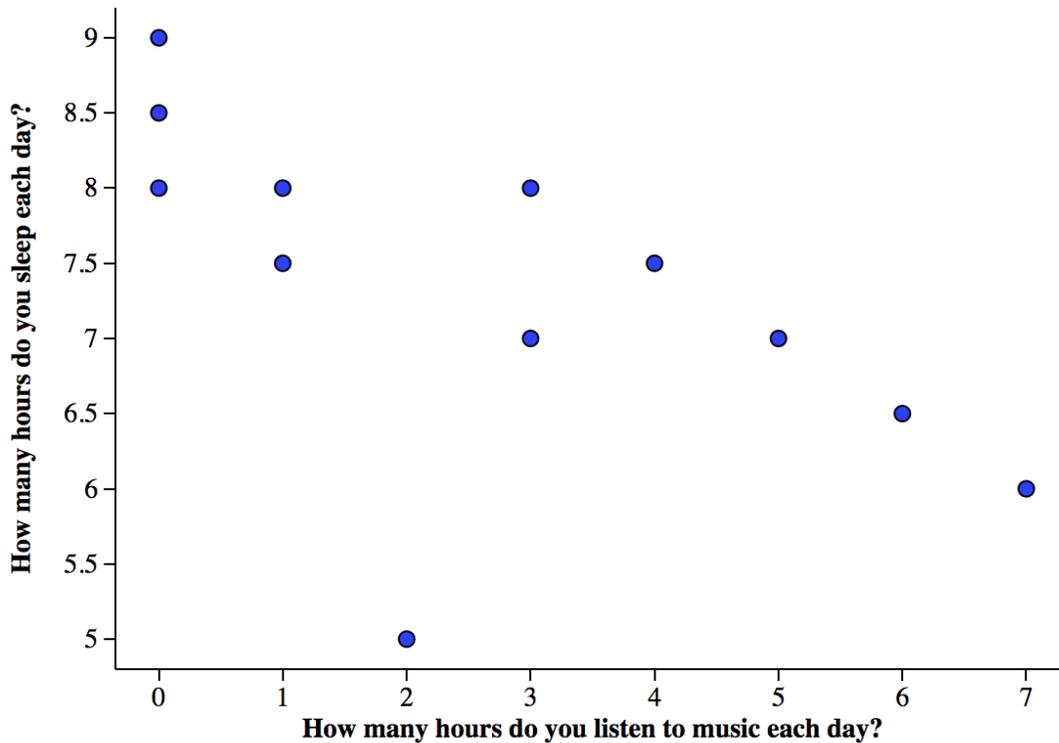
Materials Needed:

1. Worksheets for each student

Set-Up Instructions:

1. Split students into groups of 4-5.
2. Explain that outliers are points that are far away from other data on a graph. There are many calculations to find outliers, but for this lesson students will identify them based on their intuition. Show these visuals (also on the student-facing worksheets) and ask students if they identify any outliers. Explain that 7 and (2, 5) are considered outliers on the first and second graph respectively.

How many hours do you listen to music each day?

3. Pass out student-facing worksheets.
4. Have students read instructions aloud, answer questions, and circulate to help groups as they work.

Group Roles:

1. The **captain** keeps the group on track and asks the teacher questions if the group has any.
2. The **recorder** makes sure everyone adds all their points to the graphs and writes down the outlier for each graph.
3. The **manager** gathers and distributes the worksheets. They also make sure everyone has access to what they need.
4. The **balancer** checks the group's decisions about outliers to make sure they are correct and makes sure everyone speaks equally.

Suggestion for Teachers:

After finishing the first week of games, give a survey of these questions or similar ones to all students and then give them the data. Have them make dot plots, histograms, and box plots to represent the data.