

Problem

LETS PLAY BALL! (suggested for teams of two to four students)

- a) In a Tigers versus Jays baseball game, the Jays scored a total of 9 runs. Use the given clues to fill in all the blanks in the score chart below.

| Inning | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
|--------|---|---|---|---|---|---|---|---|---|-------|
| Tigers | | | | | | | | | | |
| Jays | | | | | | | | | | 9 |

Clues:

- (i) The Jays scored the same number of runs in the second, third and sixth innings.
 - (ii) The Tigers scored the same number of runs in the second, fourth, and seventh innings.
 - (iii) The Jays scored two more runs than the Tigers scored in the third inning.
 - (iv) The Jays did not score in the other innings.
 - (v) The Tigers scored one fewer run than the Jays in the second inning.
 - (vi) The Tigers scored four runs in the ninth inning.
 - (vii) The Tigers did not score in any other inning.
- b) In the second game of the series, the Jays scored 1 run in the third inning, and did not bat in the bottom (last half) of the ninth inning because they were leading. The Tigers scored a total of 7 runs. Use the given clues to fill in the number of runs scored in each inning in the score chart below, and the total for the Jays.

| Inning | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
|--------|---|---|---|---|---|---|---|---|----|-------|
| Tigers | | | | | | | | | | 7 |
| Jays | | | 1 | | | | | | No | |

Clues:

- (i) The Jays scored the same number of runs in the first, third, and fifth innings.
- (ii) The Tigers led by one run at the end of the first inning.
- (iii) The Tigers scored runs in only three innings.
- (iv) The Jays scored one run less than the Tigers in the second inning.
- (v) The Tigers scored four more runs than the Jays in the sixth inning.
- (vi) The Tigers did not score in the remaining innings.
- (vii) In the eighth inning, the Jays scored the same total of runs as they had scored in the fourth and fifth innings combined.
- (viii) The Jays won by one run.



Extension:

Use the given score chart and create your own problem by completing the blank clues below.

| Inning | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
|--------|---|---|---|---|---|---|---|---|---|-------|
| Tigers | | | | | | | | | | |
| Jays | | | | | | | | | | |

Clues:

(i) _____

(ii) _____

(iii) _____

(iv) _____

(v) _____

(vi) _____

Hints**Part a)**

Hint 1 - In which innings did the Jays score runs?

Hint 2 How many runs did the Jays score in each inning?

Hint 3 How many runs did the Tigers score in the third inning?

Part b)

Hint 1 - What was the final score?

Hint 2 In which three innings did the Tigers score runs?

Extension:

Hint 1 - Work backwards. Check your answers by making sure they fit the clues as you reread the question.

Suggestion: Have students trade their problems with other teams to check whether their clues work (i.e., determine a unique score chart).

Solution

a)

| Inning | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
|--------|---|---|---|---|---|---|---|---|---|-------|
| Tigers | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 0 | 4 | 11 |
| Jays | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 9 |

b) There are three possible solutions:

| Inning | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
|---------|---|---|---|---|---|---|---|---|---|-------|
| Tigers | 2 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 7 |
| Jays | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 1 | x | 8 |
| or Jays | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 3 | x | 8 |
| or Jays | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 2 | x | 8 |

Extension:

Note to the Teacher: Students may have difficulty creating relevant clues which do not give away the answer. You may wish to do this as a class activity so that these issues arise naturally and can be discussed. One possibility would be to present them with a completed score chart, and then work backwards to create an appropriate set of clues.