

**Here is some baseball information which might be useful  
in trying to answer some of the Stat Star Questions  
Sky Sox Math Youth Day 2011**

1. The distance between bases is 90 feet.
2. The Sky Sox play 144 games in a full season.
3. A hitter's Batting Average (AVG) is:  $H / AB$  where  $H$  = number of hits and  $AB$  = number of 'at bats'. Batting Average is expressed as a decimal to three places of accuracy. So, for instance, if a player has 200 at-bats, and has 50 hits, then his Batting Average is  $50 / 200 = .250$ . [The idea expressed by AVG is: if the hitter bats 1000 times, how many hits would we expect him to get? About 250.]
4. A pitcher's Earned Run Average (ERA) is:  $(R / IP) \times 9$  where  $R$  = number of runs allowed and  $IP$  = number of innings pitched. Earned Run Average is expressed to two places of accuracy. So, for instance, if a pitcher has allowed 50 runs, and has pitched 150 innings, then his Earned Run Average is  $(50 / 150) \times 9 = 3.00$  [The idea expressed by ERA is: if the pitcher pitches a lot of complete 9 inning games, how many runs would we expect him to allow each game? About 3. ]