

**Purpose:** To make disadvantaged students in special education programs & special education with special needs knowledgeable about prime factors and know how calculate them quickly.

**The Game:** You can ask yourself the questions and verify your answers by using a textbook.

A teacher or an knowledgeable adult may make students form a circle and ask them questions in turns, and whoever gets the answer wrong leaves the circle. The winner is the last student in the circle.

A teacher or an knowledgeable adult may make students form two or more teams of equal members and ask questions in turns. When a team gets it right, they get 2 points, but if they get it wrong, they lose 1 point. If Team A gets it wrong, they lose a point and Team B gets a chance to get 1 point. If Team B misses the opportunity, they do not lose 1 point because it was not their question originally, then Team C gets the chance to gain the extra point. The teacher or adult can then answer the question with explanations if all the teams missed it. Team A loses 1 point, no other team loses a point, and Team B gets the next question.

**Game Items:** Pencils, pens, and papers are allowed, but each question must be answered within 5 seconds after the teacher or adult finishes the question. A time keeper and a score keeper may be required to assist the teacher or adult. The game is good for classrooms, parks, picnic, field trips, on the bus, parties, or family time.

**Reward for winners:** Extra cookie or scope of ice cream at picnics, first to get in and out of the bus on field trips (seat anywhere), special treatment to any game at the park, early lunch, exemption from time-out or non-academic work for the day in class, and exemption from cleaning dishes or extended video game or movie time at home.

The game is best for teachers and parents who have explained to their children that prime factor of a number are the smallest possible prime numbers you can multiply to get that number as well as taught them their prime numbers. For instance, what are the prime factors of 60? I will have to divide 60 by the smallest possible prime number completely before I can move up to the next possible prime number during the process.

$$60/2 = 30 \text{ (2 is the smallest prime number that can divide 60)}$$

$$30/2 = 15 \text{ (2 is the smallest prime number that can divide 30)}$$

$$15/3 = 5 \text{ (3 is the smallest prime number that can divide 15)}$$

$$5/5 = 1 \text{ (5 is the smallest prime number that can divide 5)}$$

so the prime factors of 60 = 2 x 2 x 3 x 5.

### **Some Questions:**

Find the prime factors of 8, 12, 15, 17, 20, 50, 66, 100 etc. Prime factors of a prime numbers will always be itself because nothing can divide it.