

SANTA CLAUS: A Physicist's Perspective

- I. There are approximately 2.5 billion children (persons under 18) in the world. This is based on the *World Population Census of 1998* and using the US's basis of 42% population under 18. However, since Santa obviously only trespasses into the homes of those who celebrate Christmas, Santa does not visit children of Muslim, Hindu, Jewish or Buddhist religions. This reduces the workload for Christmas night by approximately 15% of the total, or 375 million (according to the World Population Reference Bureau). At an average (census) rate of 3.5 children per household worldwide, that comes to 107 million homes, presuming that there is at least one good child in each. (Which based on the sinful nature of man, and the statement of Jesus pointing out his deity "There is only One who is good. No one is good—except God alone," there are not any "good" children.)
- II. Santa has about 31 hours of December 25th to work with, thanks to the different time zones and the rotation of the earth, assuming he travels east to west (which seems logical). This works out to roughly 958.8 visits per second. This is to say that for each Christmass celebrating household with a good child, Santa has around 1/1000th of a second to park the sleigh, hop out, jump down the chimney, fill the stockings, distribute the remaining presents under the tree, eat whatever snacks have been left for him, get back up the chimney, jump into his sleigh and get on to the next house. Assuming that each of these 107 million stops is evenly distributed around the earth (which, of course, we know to be false, but will accept to make the calculations simpler), we are now talking about 0.78 miles per household; a total trip of 75.5 million miles, not counting bathroom stops or breaks.
This means Santa's sleigh is moving at 650 miles per second (1.045×10^6 m/s) --- 3,000 times the speed of sound (mach 3,000). For purposes of comparison, the fastest man-made vehicle, the space probe Helios II, moves at a poky 43.6 miles per second, and a conventional reindeer can run (at best) 15 mph.
- III. The payload of the sleigh adds another interesting element. Assuming that each child gets nothing more than a medium sized Lego set (two pounds), the sleigh is carrying over 500 thousand tons, not counting Santa himself. On land, a conventional reindeer can pull no more than 300 pounds. Even granting that the "flying" reindeer could pull ten times the normal amount, the job can't be done with eight or even nine of them -- Santa would need 360,000 of them. This increases the payload, not counting the weight of the sleigh, another 54,000 tons, or roughly seven times the weight of the Queen Elizabeth (the former largest cruise ship on earth, not the monarch).
- IV. 600,000 tons traveling at 650 miles per second creates enormous air resistance --- this would heat up the reindeer in the same fashion as a spacecraft re-entering the earth's atmosphere. The lead pair of reindeer would absorb 14.3 quintillion joules of energy per second each! This is 2.86×10^{19} watts of power - enough to light up the United States for 18 MILLENIUM!

In short, they would burst into flames and vaporize into plasma (the 4th state of matter) instantaneously, exposing the reindeer behind them and creating deafening sonic booms which would pulverize anything in their wake. The entire reindeer team would disintegrate within 0.00426 seconds, or right about the time Santa reached the 5th house on his trip. Not that it matters, however, since Santa, as a result of accelerating from a dead stop to 650 miles per second in 1/1000th of a second, would be subjected to 17,500 g's. A 250 pound Santa (which seems ludicrously slim) would be pinned to the back of the sleigh by 4,315,015 pounds of force (or about 20 million newtons), instantly crushing his bones and organs and reducing him to a quivering blob of pink goo.

- V. Therefore, if Santa did exist, he's dead now.
May your vacation be filled with truth taught to you through the Holy Spirit as you are motivated by love with joy through the risen and glorified Lord Jesus Christ, the King who reigns over all.

COMPARISON BETWEEN JESUS CHRIST AND SANTA CLAUS

JESUS CHRIST: OUR LORD AND SAVIOR ACCORDING TO THE WORD OF GOD	SANTA CLAUS: THE <i>COUNTERFEIT</i> ACCORDING TO MYTH AND IMAGINATION OF MEN
1. Has white hair like wool (Revelation 1:14)	1. Has white hair like wool
2. Has a beard (Isaiah 50:6)	2. Has a beard
3. Comes in red apparel (Isaiah 63:2) Jesus will appear in red clothes. (Revelation 19:13)	3. Comes in red apparel
4. Hour of His coming is a mystery (Luke 12:40; Mark 13:33)	4. Hour of his coming is a mystery
5. Comes from the North where He lives (Ezekiel 1:4; Psalm 48:2), and where Satan wants to reside (read Isaiah 14:13)	5. Comes from the North where he lives: North Pole
6. Is a carpenter (Mark 6:3)	6. Is a toy carpenter
7. Comes as a thief in the night (Matthew 24:43-44)	7. Comes as a thief in the night. Even gains entrance to homes as a thief.
8. Omnipotent (all powerful) (Matthew 28:18; Revelation 19:6)	8. Omnipotent - can carry and deliver all the toys of the world in one night
9. Omniscient (knows all) (Psalm 139:1-4; Hebrews 4:13; 1 John 3:20) The eyes of the LORD are in every place, beholding the evil and the good. (Proverbs 15:3)	9. Omniscient - knows if you have been good or bad, for the entire year
10. Omnipresent (Everywhere at one time) (Psalm 139:7-10; Ephesians 4:6; Matthew 18:20; John 3:13)	10. Omnipresent - sees when you wake or sleep. Has to be everywhere at once to be able to deliver all the toys in one short night. Is at all the superstores.
11. Jesus can come in though the doors are shut. (John 20:19, 26)	11. Santa can come in though the doors are shut.
12. Ageless, eternal (Revelation 1:8; 21:6)	12. Lives forever
13. Lives in men (1 Corinthians 3:16; 2 Corinthians 6:16-17)	13. Lives in the hearts of children, and the hearts of men. (Jeremiah 17:9)
14. Giver of Gifts (Ephesians 4:8)	14. Giver of Gifts
15. Jesus ascends on high and gives gifts, especially the Gift of Eternal life. (Ephesians 4:7-8; Romans 6:23)	15. Santa goes into the air and gives gifts.
16. Jesus gives his gifts according to whether you are good or bad. (Revelation 2:23)	16. Santa gives his gifts according to whether you are good or bad.
17. Absolute Truth (John 14:6)	17. Absolute Fable - a lie (1 Timothy 1:4; 4:7; 2 Timothy 4:4)
18. Sits on a throne (Revelation 5:1; Hebrews 1:8)	18. Sits on a throne
19. We are told to boldly go to the throne of Grace for our needs (Hebrews 4:16)	19. Children are bidden to approach his throne to ask for anything they want
20. Commands children to obey parents (Ephesians 6:1)	20. Tells children to obey parents
21. Wants little children to come to Him "Suffer the little children to come unto me" (Mark.10:14)	21. Bids children to come unto him
22. Judges (Romans 14:10; Revelation 20:2)	22. Judges whether or not you were good or bad
23. Everlasting Father (Isaiah 9:6; Hebrews 12:2)	23. Father Christmas (Christ's mass = Christ's sacrifice, Roman Catholic service where they re-sacrifice Christ, see paragraph 1367 of their statement of faith http://www.scborromeo.org/ccf/para/1367.htm)
24. Christ Child (Matthew 1:23; Luke 2:11-12)	24. Kris Kringle (means christ child) Santa Claus is also known as "Kriss Kringle", (In Scandinavian countries etc), which is a corruption of the German "Christ Kindl", meaning Christ Child.
25. Worthy of Prayers and Worship (Revelation 5:14 Hebrews 1:6)	25. Letters, prayers and worship to "Old St. Nick" by children ("Old Nick" means devil, see http://dictionary.reference.com/search?q=old%20nick)
26. Lord of Hosts (Malachi 3:5; Isaiah 8:13; Psalms 24:10)	26. Lord over a host of elves - In Druidic religion, elves are demons or tree spirits
27. God says, "Ho, ho ..." (Zechariah 2:6 KJV)	27. Santa says, "Ho, ho, ho ..."
28. Birthday of Jesus is unknown, but it wasn't winter (Lk 2:1-8)	28. The date of birth of St. Nicholas is also unknown.
29. Prince of Peace, the Image of God (Isa 9:6; Hebrews 1:3)	29. Symbol of World Peace, the image of the Christmas Season