



Why does Christmas Dinner smell so good?

The Maillard reaction is the reason roasted meat smells so good. Discovered by French chemist Louis Camille Maillard in 1912, the reaction occurs when sugar molecules are heated with amino acids, just like inside your Christmas feast.

Hundreds of different flavour compounds are formed during the reaction.

[Maillard Reaction](#)

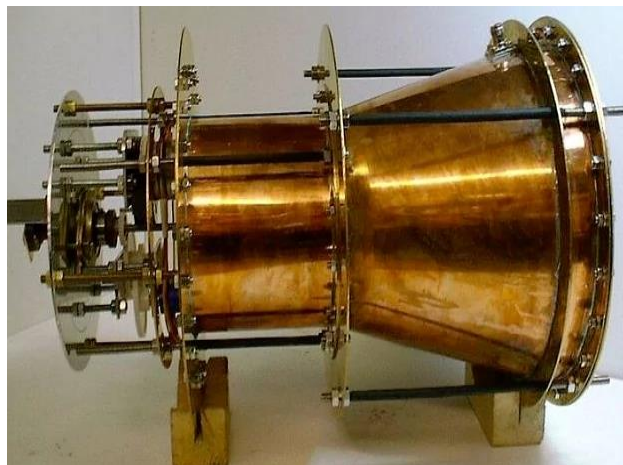
[Chemistry of Cookies](#)

[Proteins and Amino Acids](#)

How does Santa fly so fast?

On Christmas Eve Santa will deliver presents to 1.6 billion children around the world. He will need to visit 640 million homes and travel over 500 million miles.

This means that Santa's sleigh is moving at 650 miles per second...so how does he do it? Could it be that he already has an EM drive attached to his sleigh?



[EMDrive Explained](#)

[Emdrive](#)

[The Impossible Engine](#)



Why is Rudolph's Nose Red?

Everyone knows Rudolph's famous red nose guides Santa's sleigh on Christmas Eve but have you ever wondered why it glows? New research published in the BMJ suggests one possibility – but there are others. What do you think?

[Is Rudolph III?](#)

[Blood Vessels?](#)

[Bioluminescence?](#)



Brilliant Christmas Science activities and ideas from [Science Sparks](#) – check them out here: [Christmas Science](#)