

The Octet Rule

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by Glenn Wolkenfeld © 1989

When I was just a kid there was a thing I learned in school,
I learned it back in chemistry it's called the octet rule,
"Octet" stands for eight electrons in an outer shell,
and if you aren't following you soon will know this well,
We're talking about bonding, and making molecules,
And if you're gonna understand you've gotta learn the rules, so learn the

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Octet rule. Learn the octet rule.
Learn the octet rule. Learn the octet rule.
Come on all you boys and girls, it's really kind of cool,
Just learn the octet rule.

Now all the things you see, anywhere or anyplace,
These things are known as matter which has mass and takes up space.

The building block of matter, "atom" is its name,
And linking up these atoms is the octet rule's game,
So come on all you boys and girls, just you wait and see,
How the octet rule explains your chemistry.

Though atoms are the building blocks there's smaller parts still:

Electrons, protons, neutrons you can learn them if you will.
The protons and the neutrons they do form the nucleus,
The neutron's charge is neutral and the proton's charge is plus,

And a negative electron is in orbit far away,
And learnin' 'bout electrons is the lesson for today.

The electrons and the protons in numbers equal out,
If the neutrons slightly different it's nothin' to worry 'bout,
'Cause all chemical properties in electrons reside,
And remember those electrons they orbit way outside,
They just don't orbit anywhere, but in specific shells,
These shells might be called energy levels and you should learn this when you learn the

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Each energy level has a set capacity, to hold all those electrons,

Here's what the rule will be.
The first level holds two, the second it holds eight,
The third it holds eighteen, so now we're gonna say it,
That a hydrogen atom with electron only one,
Will put it in the first level (you know we've just begun)

In an atom with electrons nine, it's fluorine you should know,
The first two go in level one and orbit to and fro',
Nine minus two leaves seven electrons that need a home,
These seven go in level two where they can freely roam,
And with fourteen electrons they'd break down two eight and four,
This happens to be silicon, you're gonna learn some more about the

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Though atoms may be tiny, they feel emotions too,
They can be glad or sadly, just like me and you,
If its outer energy level's full that atom will be glad,
But if that's level's less than full that atom will be sad,
And right here is the octet rule, so simple that it's great,
Each atom wants an outer shell filled with electrons eight.

And this is how Mom nature, her compounds did create,
Atoms trade or share electrons 'til their outer shells have eight.

If an atom trades electrons it gains a charge, minus or plus,
Compare the number of electrons to protons in the nucleus,
This newly charged up atom, "ion" is its name,
So trades are called ionic bonding in this octet game.

Sometimes instead of trading, atoms electrons share,
It's called covalent bonding and filled with loving care,
Atoms which share electrons combine as molecules,
And in this combination they obey the octet rule,
Take for example water, H₂O we say,
Two hydrogens one oxygen combined the octet way.

There are but few exceptions, to these bonding rules,
There just the smallest atoms, now, and what they do is cool,

Their outer shells are filled, with electrons only two.
So they don't need a full octet, a mere duet will do,
A hydrogen alone, one electron makes it fret,
But it's as happy as can be when left with a duet.

So learn the duet rule. And Learn the octet rule.
Learn the octet rule. Learn the octet rule.
Come on all you boys and girls, it's really kind of cool,
Just learn the octet rule.

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