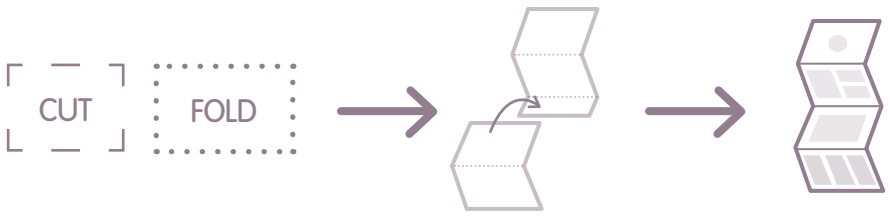
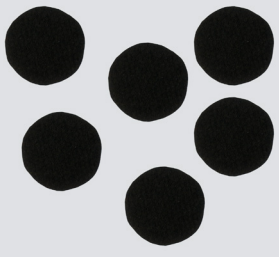


DIAMOND

TO MAKE A DIAMOND, WE NEED :

CARBON ATOMS



TIME

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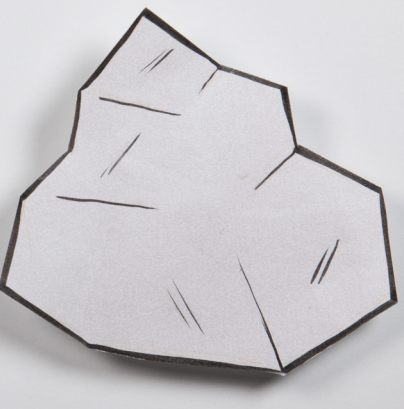
TO MAKE OUR DIAMOND, WE NEED SOME CARBON ATOMS.

SOME MORE…

A LOT OF CARBON ATOMS !

BUT HOW CAN A STACK OF ATOMS BECOME…

A DIAMOND ?



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TO MAKE THAT HAPPEN, WE NEED A COVALENT BOND.

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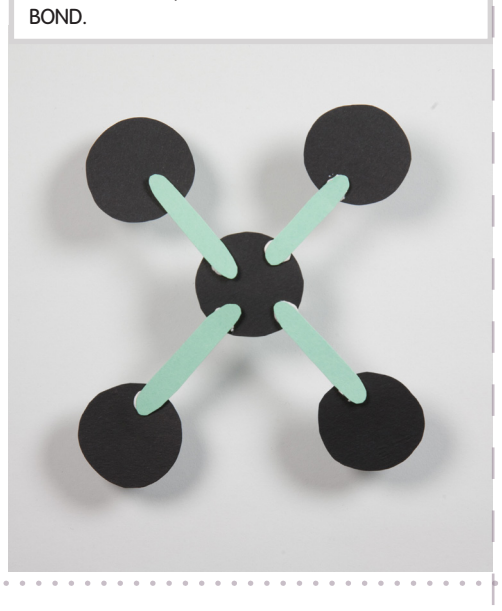
THE COVALENT BOND WILL TAKE ONE CARBON ATOM...

AND SNATCH ONE OF ITS ELECTRONS...

TO ATTACH IT TO ONE ELECTRON FROM ANOTHER ATOM. THIS IS WHAT PHYSICISTS CALL THE COVALENT BOND.

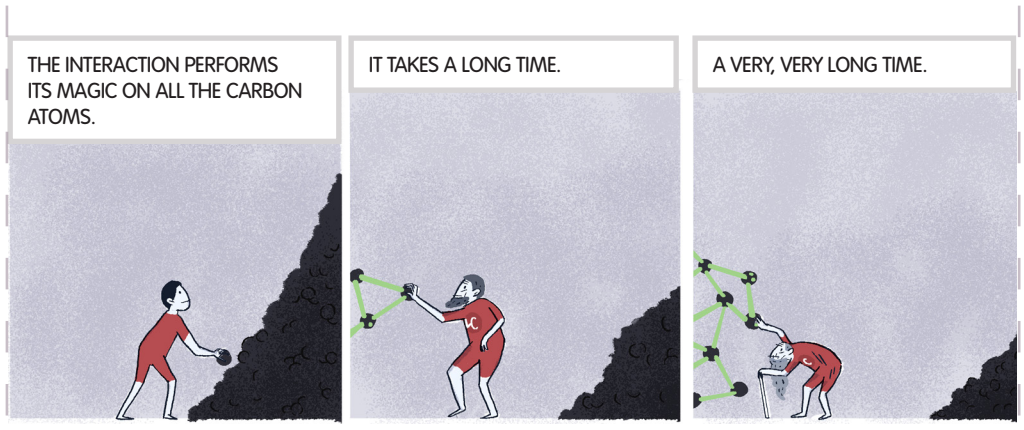
EACH ATOM SHARES ITS FOUR ELECTRONS WITH ITS NEIGHBOURS, THUS FORMING A VERY TIGHT BOND.



THE INTERACTION PERFORMS ITS MAGIC ON ALL THE CARBON ATOMS.

IT TAKES A LONG TIME.

A VERY, VERY LONG TIME.



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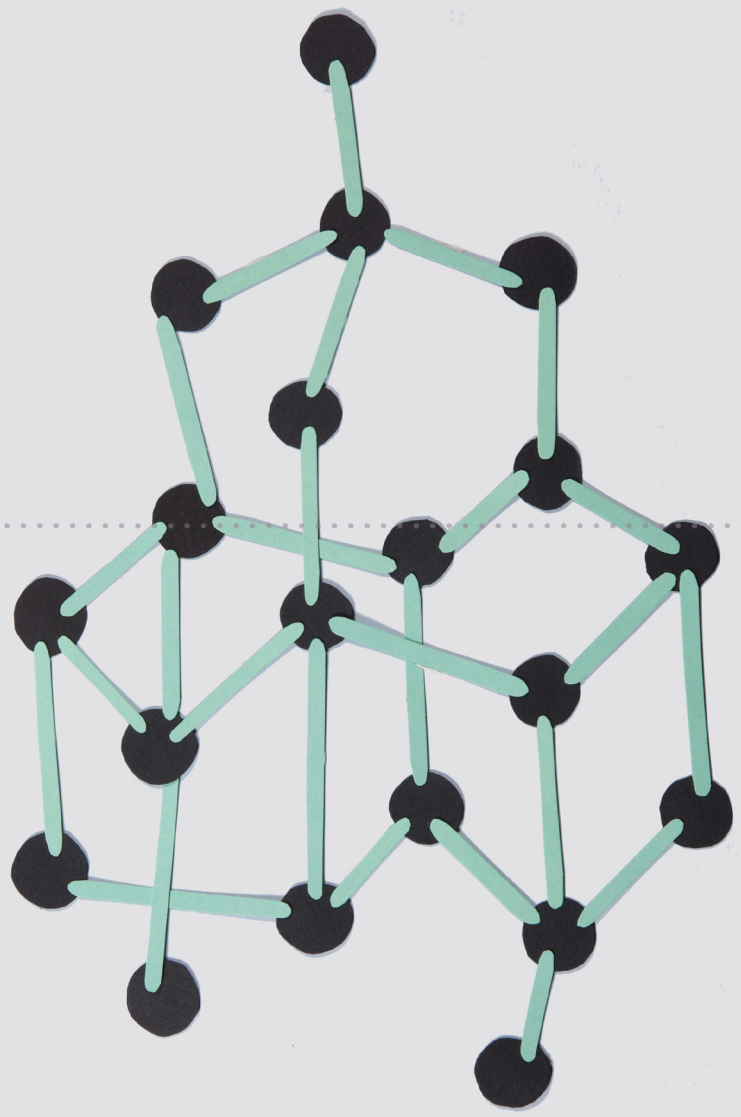
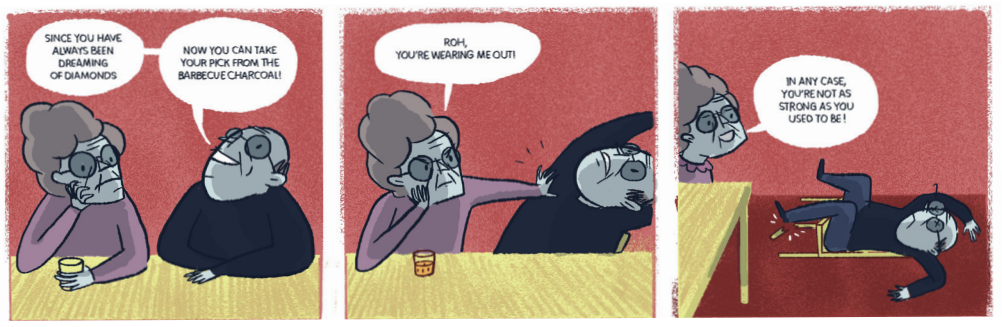
THE PROCESS HAS TO BE REPEATED ON BILLIONS OF BILLON ATOMS. IT USUALLY TAKES A FEW MILLION YEARS… WHEN IT'S DONE, THE BONDED CARBON ATOMS FORM A STRUCTURE OF INTERLOCKING TETRAHEDRONS… AND THERE'S YOUR DIAMOND.

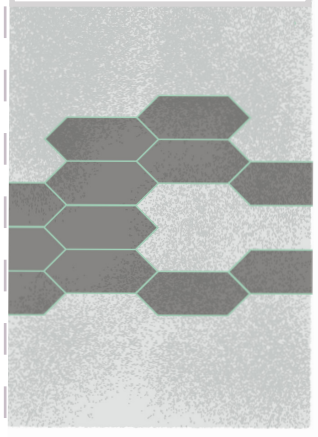




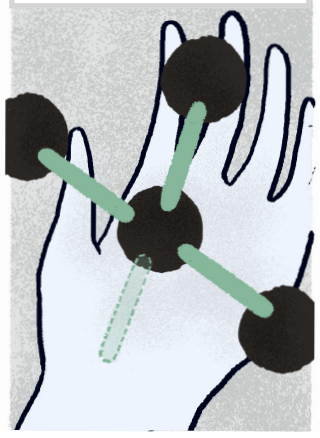
BUT WHAT IF THE LAWS OF PHYSICS WORKED DIFFERENTLY?

BUT WHAT IF OUR SWEET COVALENT BOND…

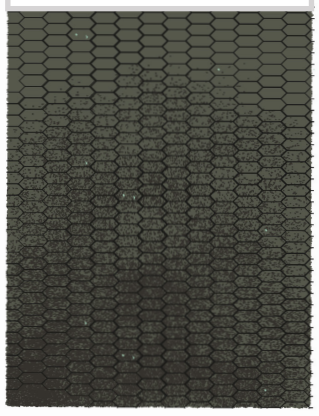
WE WOULD NOT END UP WITH TETRAHEDRONS BUT WITH HEXAGONS…



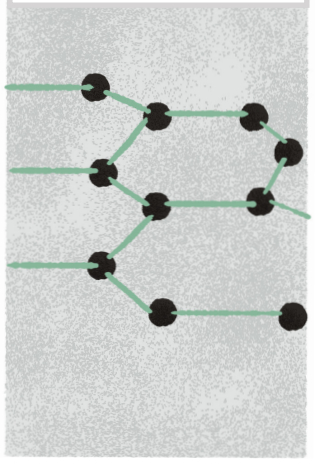
CHOSE TO BIND ONE ATOM TO ONLY THREE OF ITS NEIGHBOURS?



IT WOULD NOT BE A BEAUTIFUL, STRONG STRUCTURE OF TETRAHEDRONS…



THE STRUCTURE WOULD CHANGE.



BUT CHARCOAL !

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