



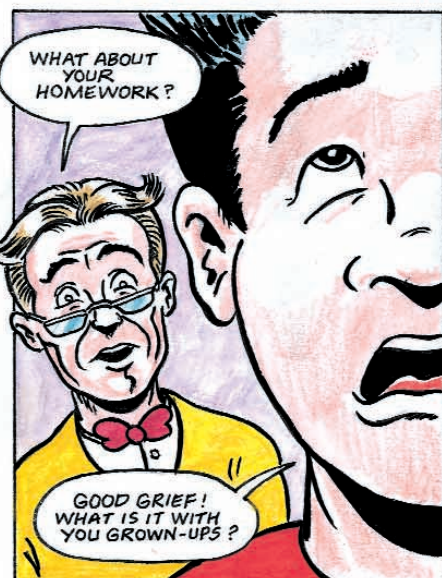
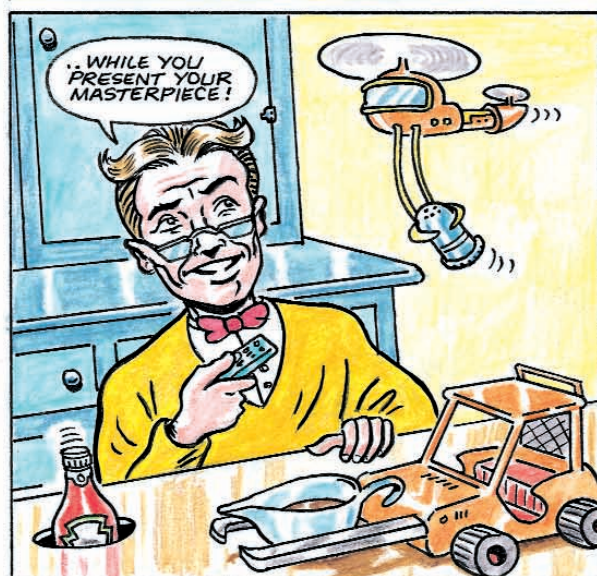
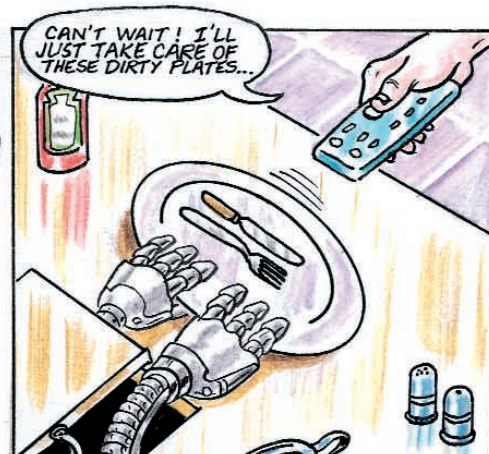
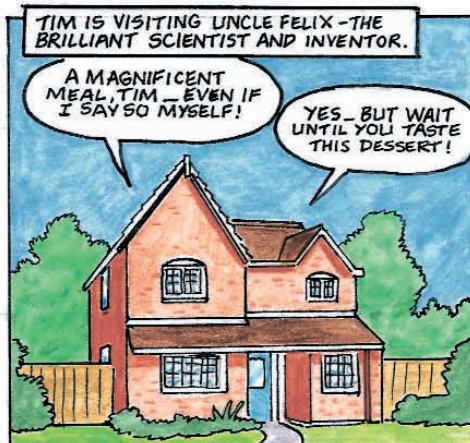
# UNIQUE TALES



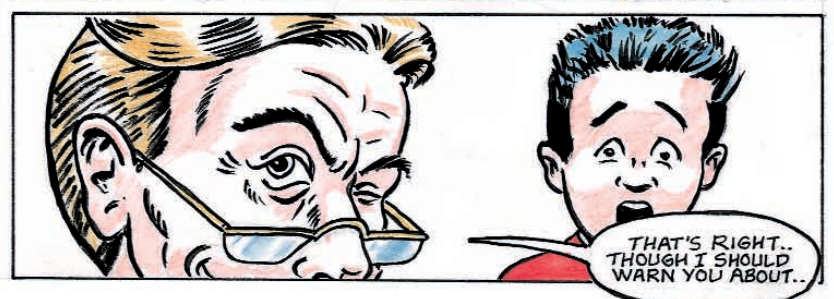
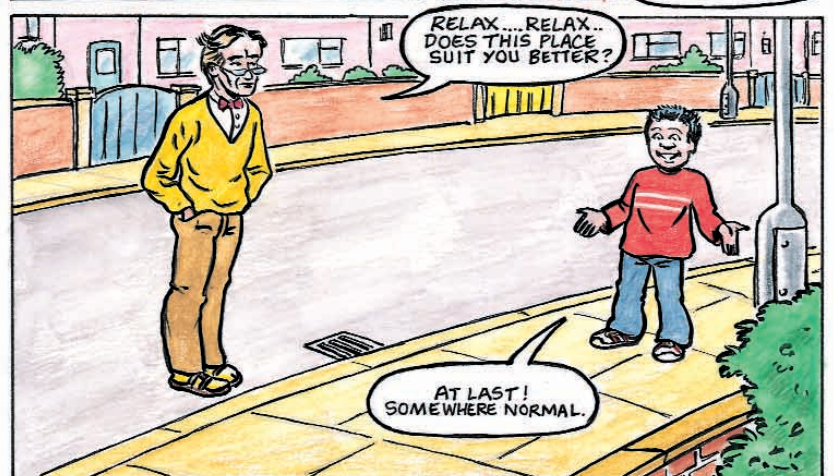
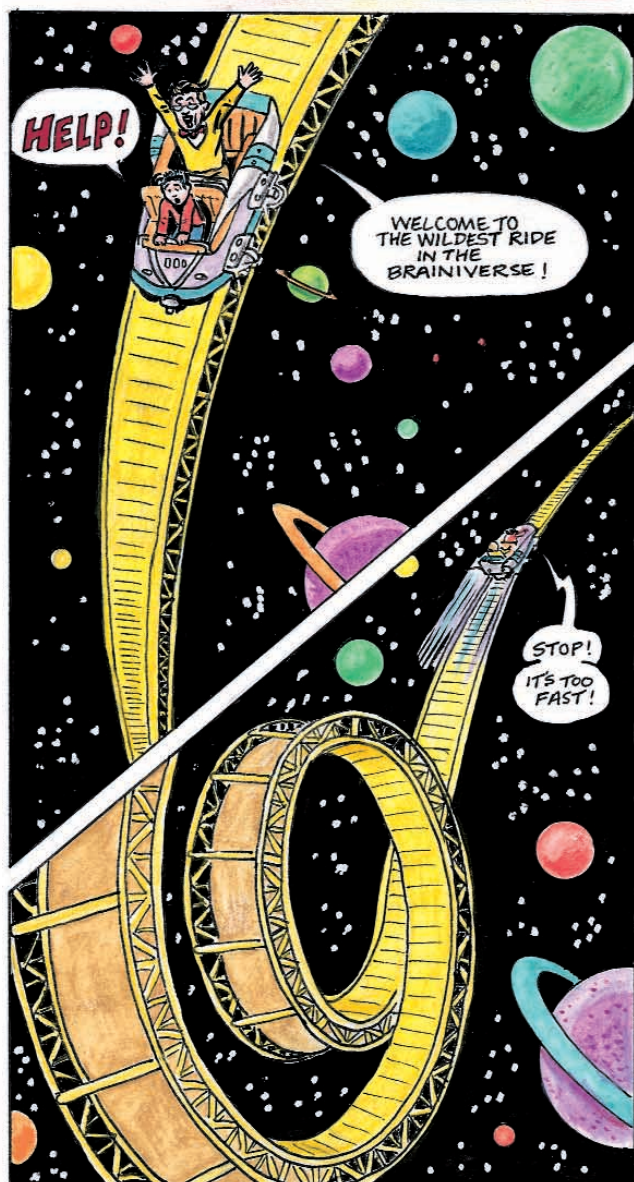
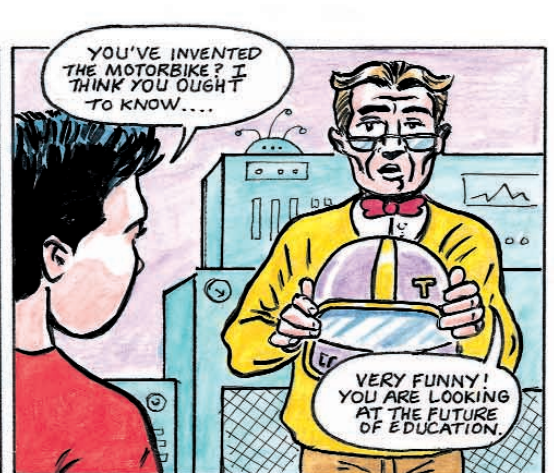
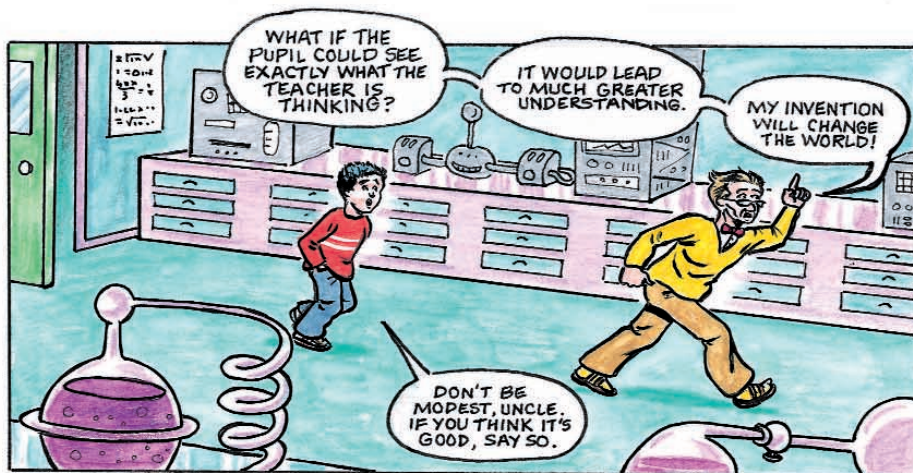
**ENTER THE WEIRD WORLD OF THE IMAGINATION!**



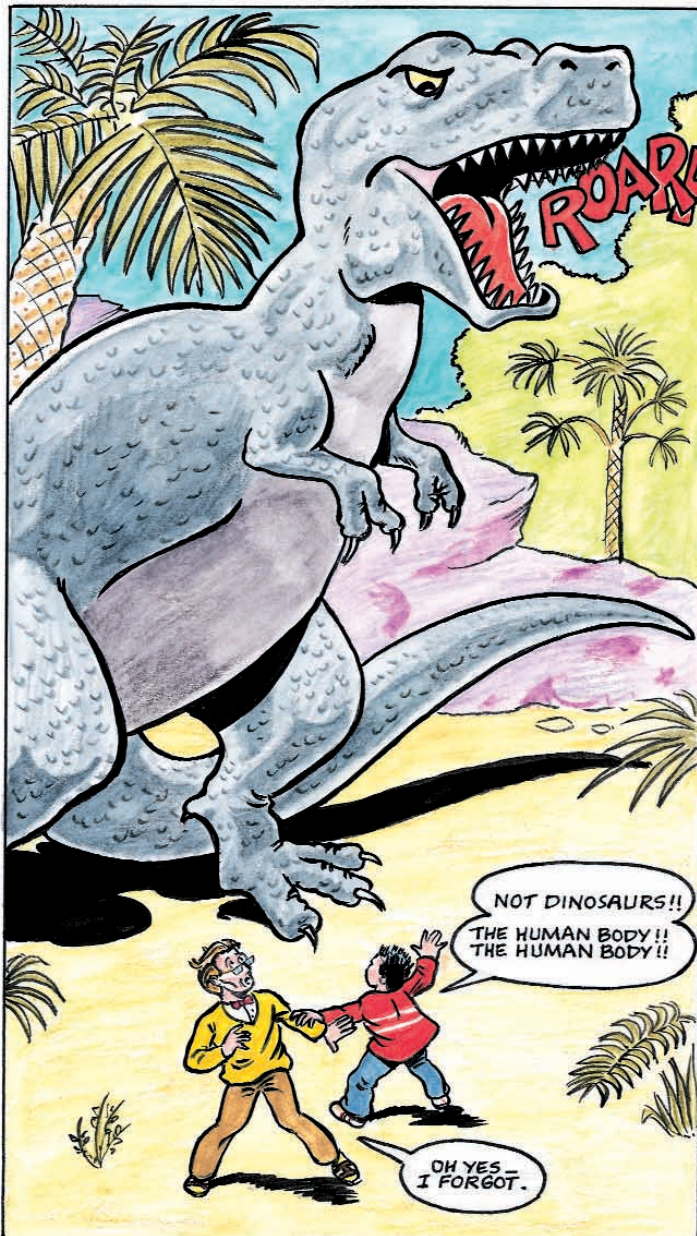
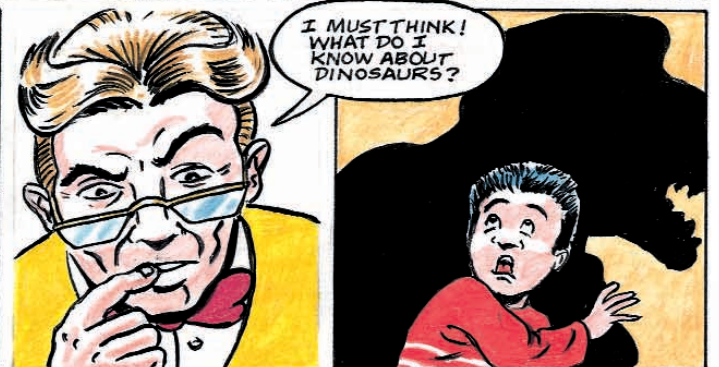
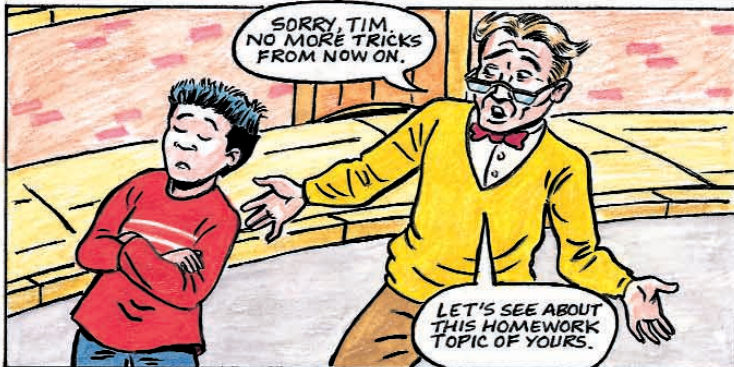
FOR TIM AND  
FELIX IT'S...  
**'ALL  
IN THE  
MIND'**



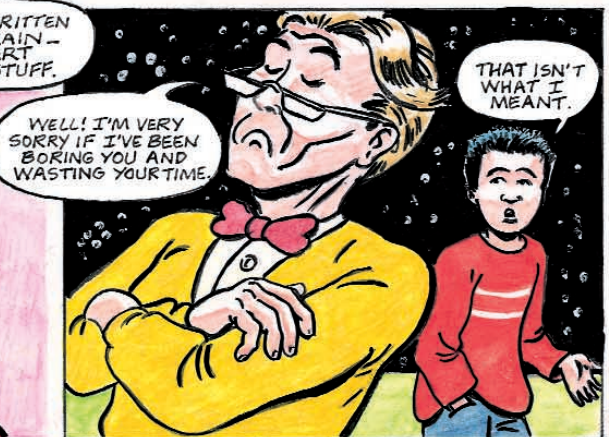
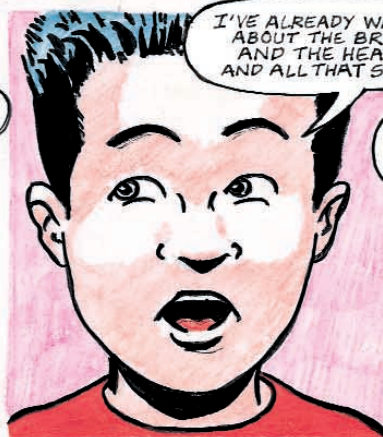
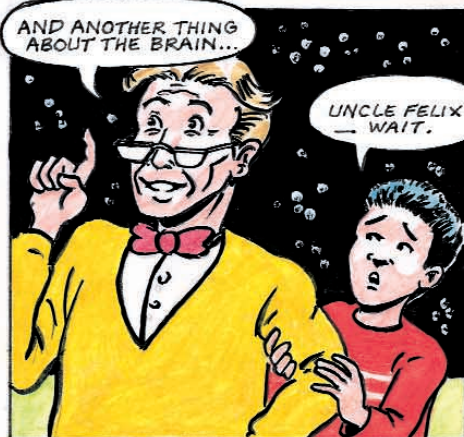
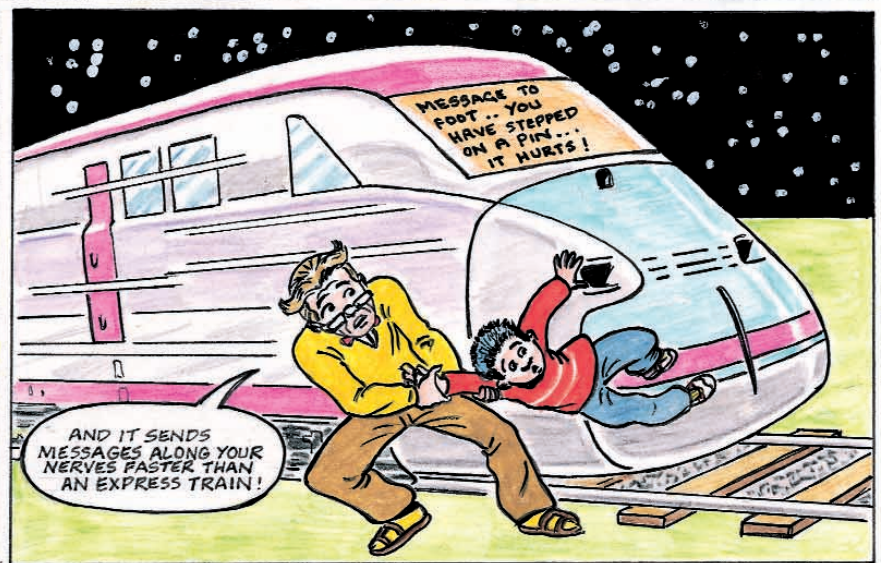
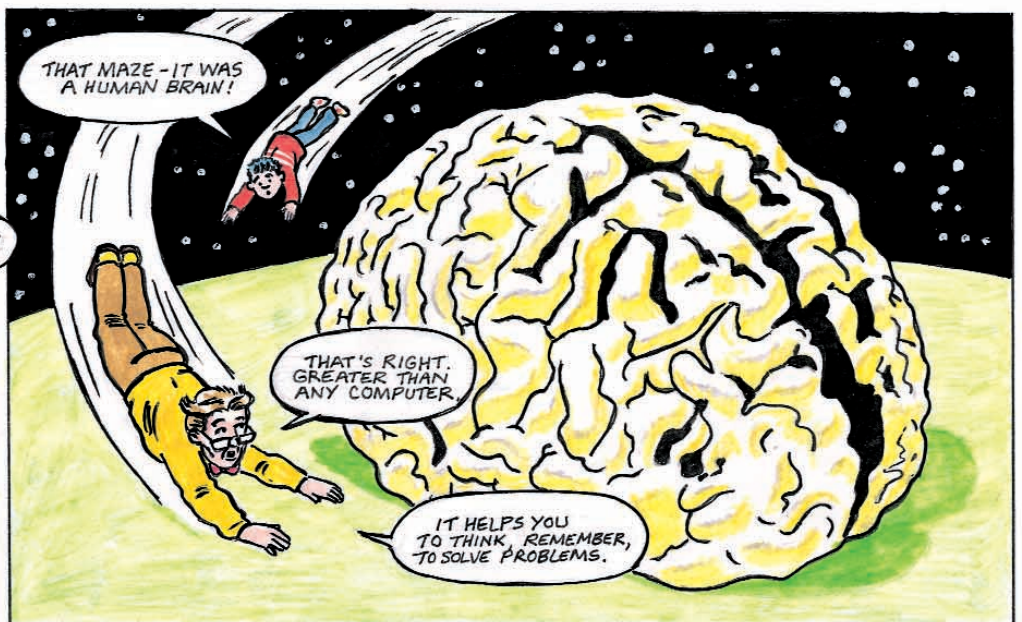












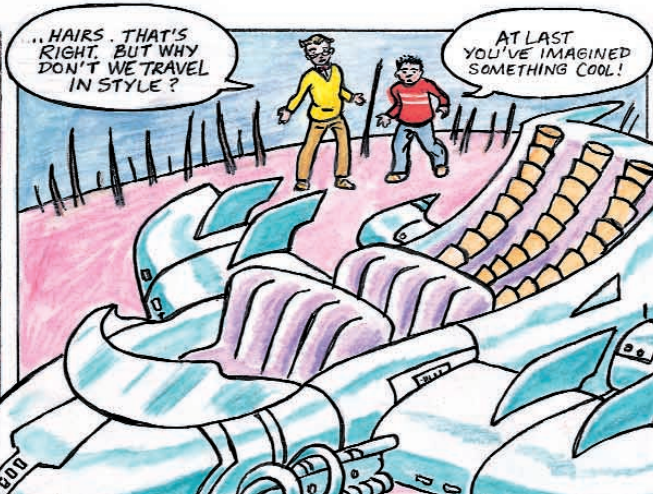




WHAT IS THIS PLACE? YOU CAN HARDLY MOVE FOR THESE WEEDS.

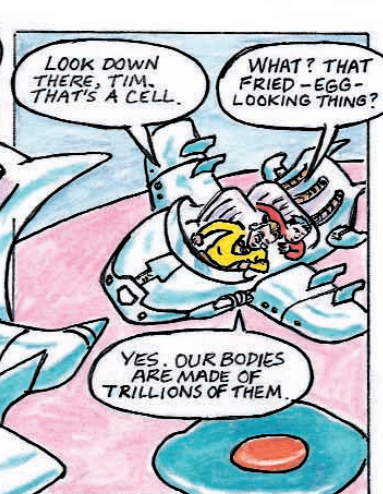
THIS IS HUMAN SKIN - AS YOU'VE ONLY SEEN IT BEFORE THROUGH A MICROSCOPE.

THEN THESE WEEDS ARE REALLY...



...HAIRS. THAT'S RIGHT. BUT WHY DON'T WE TRAVEL IN STYLE?

AT LAST YOU'VE IMAGINED SOMETHING COOL!



LOOK DOWN THERE, TIM. THAT'S A CELL.

WHAT? THAT FRIED-EGG-LOOKING THING?

YES. OUR BODIES ARE MADE OF TRILLIONS OF THEM.



HEY!

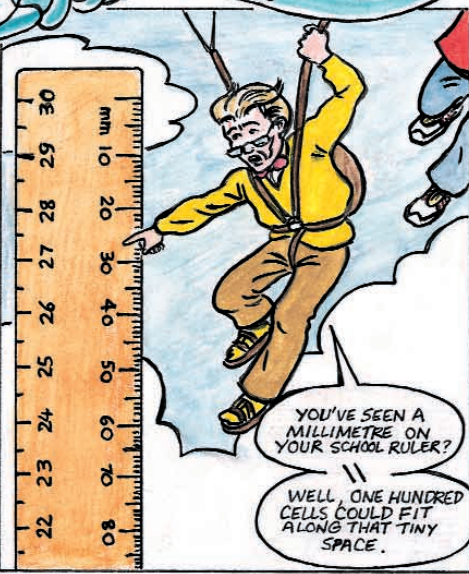
SHALL WE TAKE A CLOSER LOOK?



DON'T PANIC! YOU CAN HAVE A PARACHUTE.

THANK GOODNESS!

SO... HOW BIG ARE THESE CELLS?



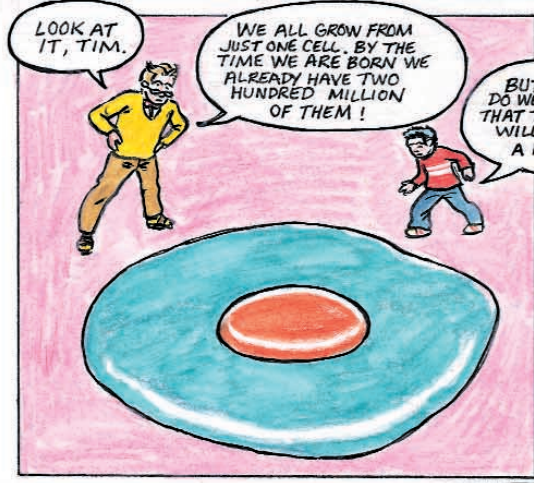
YOU'VE SEEN A MILLIMETRE ON YOUR SCHOOL RULER?

WELL, ONE HUNDRED CELLS COULD FIT ALONG THAT TINY SPACE.



OKAY. WE'RE LOW ENOUGH NOT TO NEED THE PARACHUTES.

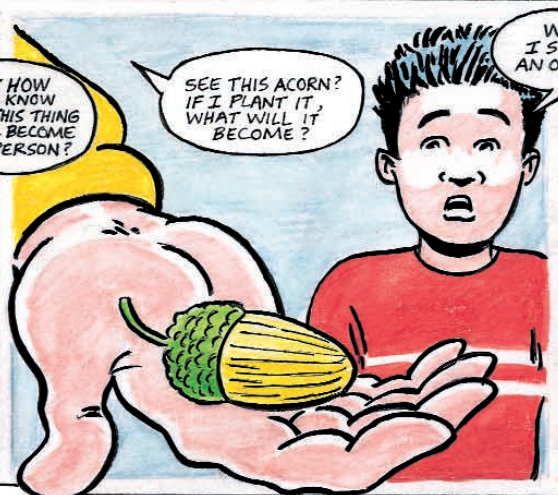
I HOPE YOU'RE RIGHT!



LOOK AT IT, TIM.

WE ALL GROW FROM JUST ONE CELL. BY THE TIME WE ARE BORN WE ALREADY HAVE TWO HUNDRED MILLION OF THEM!

BUT HOW DO WE KNOW THAT THIS THING WILL BECOME A PERSON?



SEE THIS ACORN? IF I PLANT IT, WHAT WILL IT BECOME?

WELL... I SUPPOSE... AN OAK TREE.

CORRECT. NOT A CABBAGE. NOR SEAWEED. NOR EVEN A PALM TREE.



I GET IT..

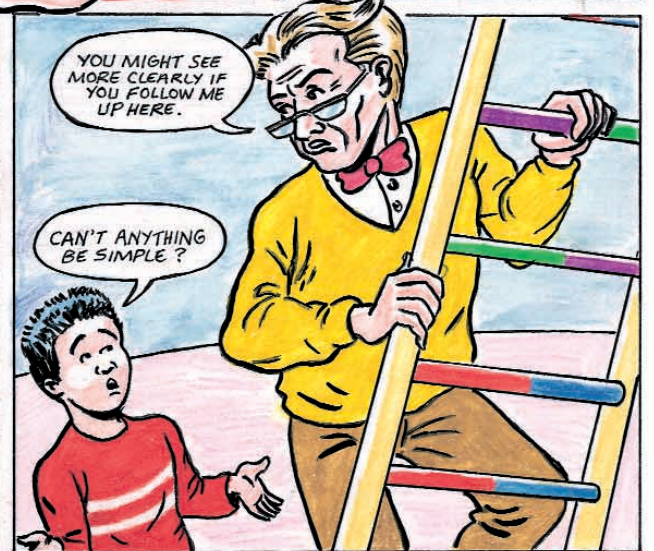
IT HAS TO GROW ACCORDING TO THE INFORMATION STORED INSIDE IT.



EXACTLY... THIS CELL CAN GROW INTO A PERSON - AND NOTHING ELSE.

THAT BIT IN THE MIDDLE IS THE NUCLEUS. THAT'S WHERE WE FIND ALL THE 'INSTRUCTIONS'.

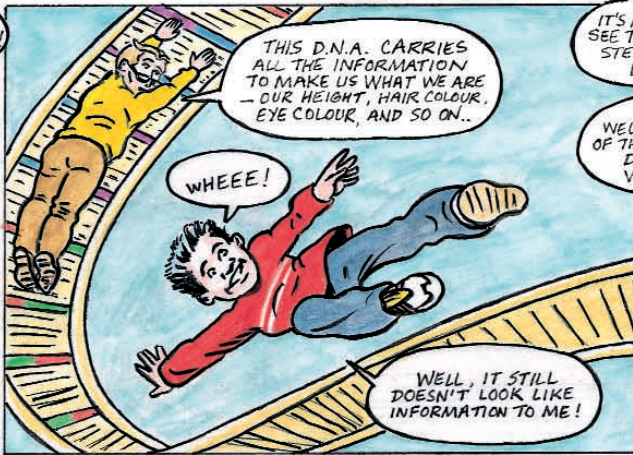
IF YOU SAY SO, I CAN'T SEE ANY INSTRUCTIONS



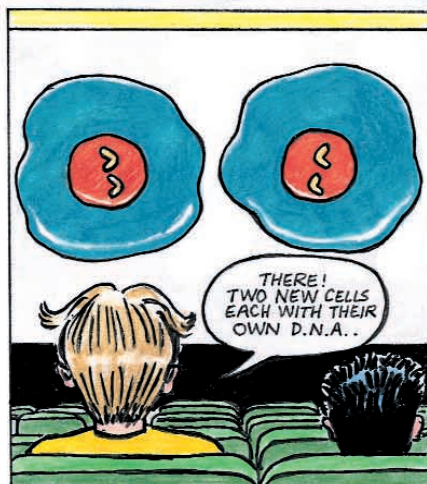
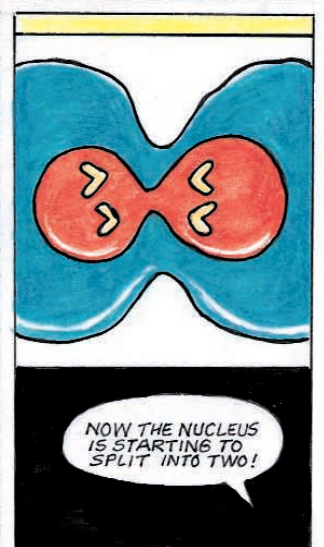
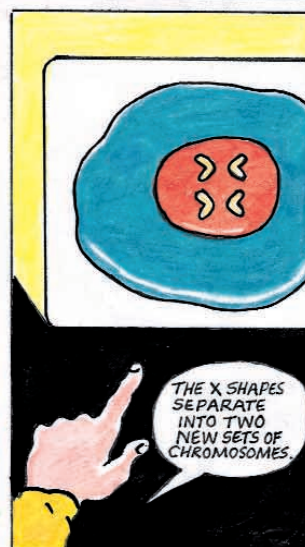
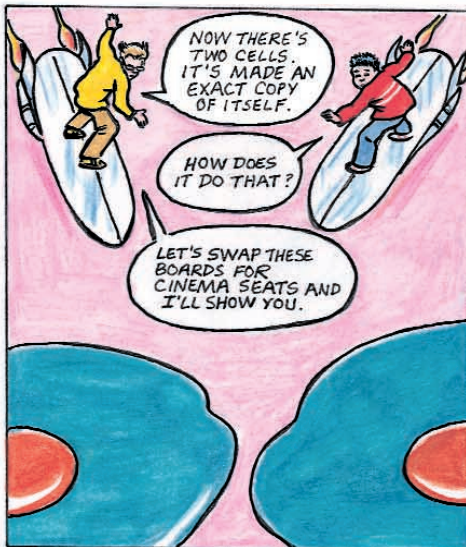
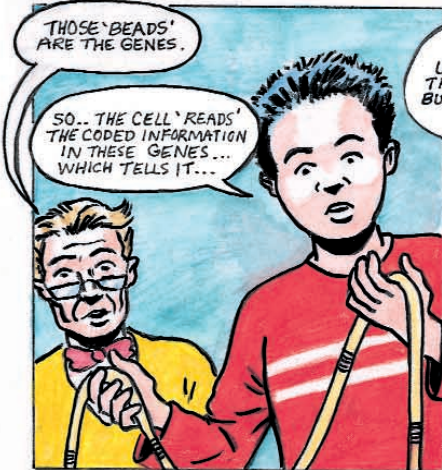
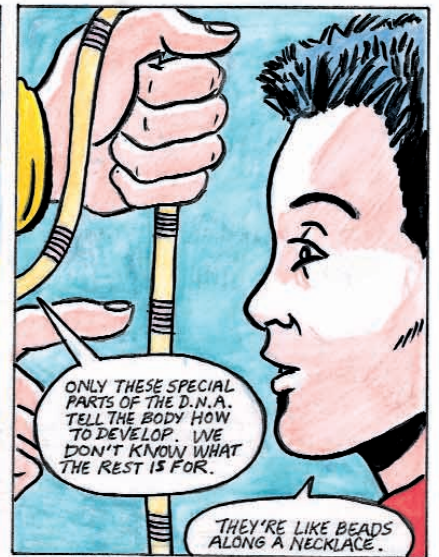
YOU MIGHT SEE MORE CLEARLY IF YOU FOLLOW ME UP HERE.

CAN'T ANYTHING BE SIMPLE?

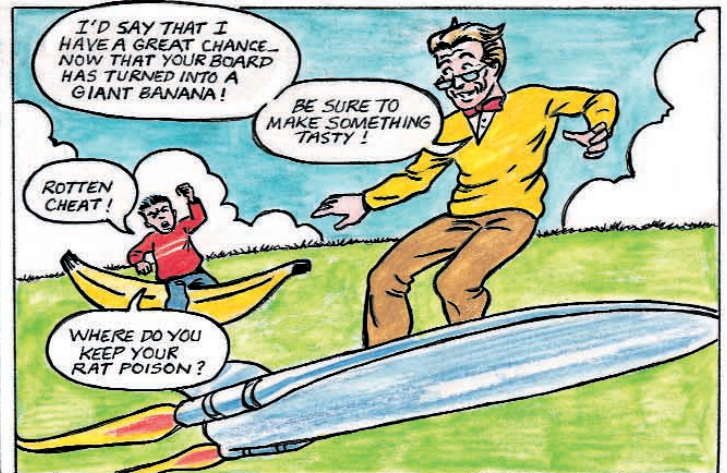
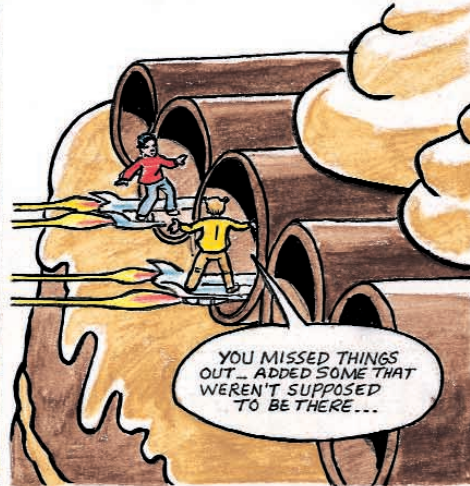
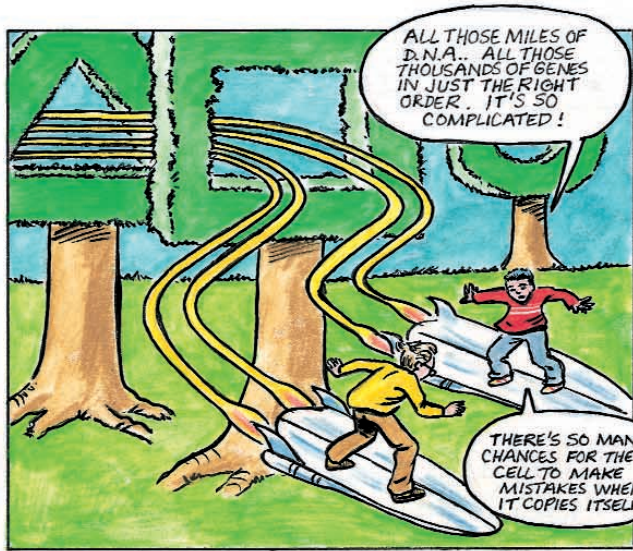




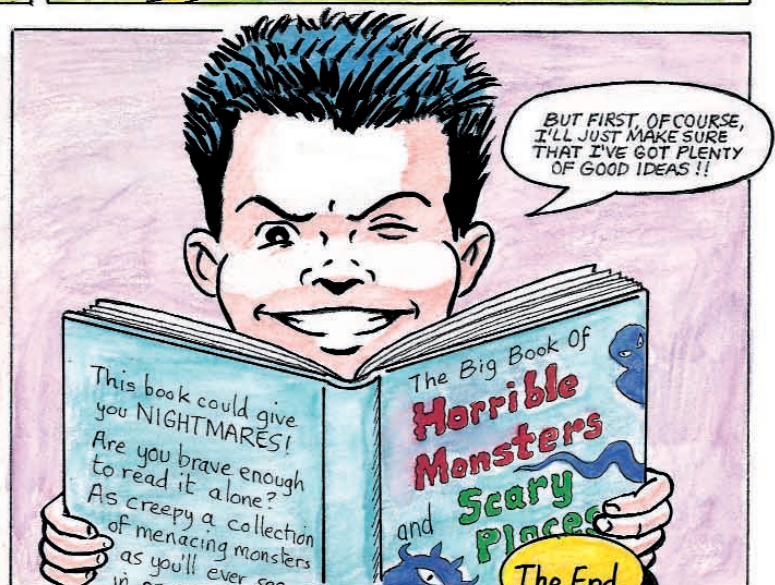








LATER THAT EVENING...





Hi!

I hoped you liked reading about my visit with Uncle Felix. I thought I had better tell you a little bit more about **chromosomes** and **genes**.

Just about every living being – including humans like you and me – is made of lots and lots of **cells**. We have **billions** of cells in our bodies. Cells are like tiny bags of liquid all stuck together. There are different types of cells in different parts of your body. You can only see human cells by looking at them down a **microscope**, which makes them look much bigger than they really are.

Inside each cell there is something called a **nucleus** – this is where the chromosomes are found. Chromosomes look like long threads of cotton and humans usually have 46 of them in nearly every cell in their body.

Chromosomes are made up mainly of stuff called **DNA**. Chromosomes are really important because they contain the instructions that help our bodies grow and work properly. These instructions are called genes. Each gene has a special job to do.

Sometimes a baby's chromosomes may be different from usual. Bits of chromosomes may be missing, there may be extra bits of chromosome or bits of chromosome may be swapped round. This means that the genes on those bits of chromosome will also be missing, extra or swapped round and so they might not work properly.

How this affects the baby or child depends on the jobs of the genes involved. If the gene's job is usually to make a baby's heart work properly, then the baby may have something wrong with its heart if that gene has gone wrong. Some genes tell the brain how to work properly, so if these genes are affected then the baby may find it more difficult to learn new things as it grows up and may need extra help at school.

Uncle Felix told me that there are about 30,000 different genes in humans. These genes have different jobs to do and any of them can be affected.

That's why people with different chromosome disorders are so special and unique!

I am sure that if you have any questions about chromosomes and genes, your Mum, your Dad or your teacher may be able to help.

If they are not sure then maybe you can visit the library or search the Internet together for more information.

I'm off now – got more cooking to do!

Tim





*In loving memory of our son,  
Joshua Marshall Kirby,  
aged 21 months –  
46,XY,t(2;6)(q21.1;q25.1).  
None of us knows what is round the corner  
– cherish every moment as if it were the last.*

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