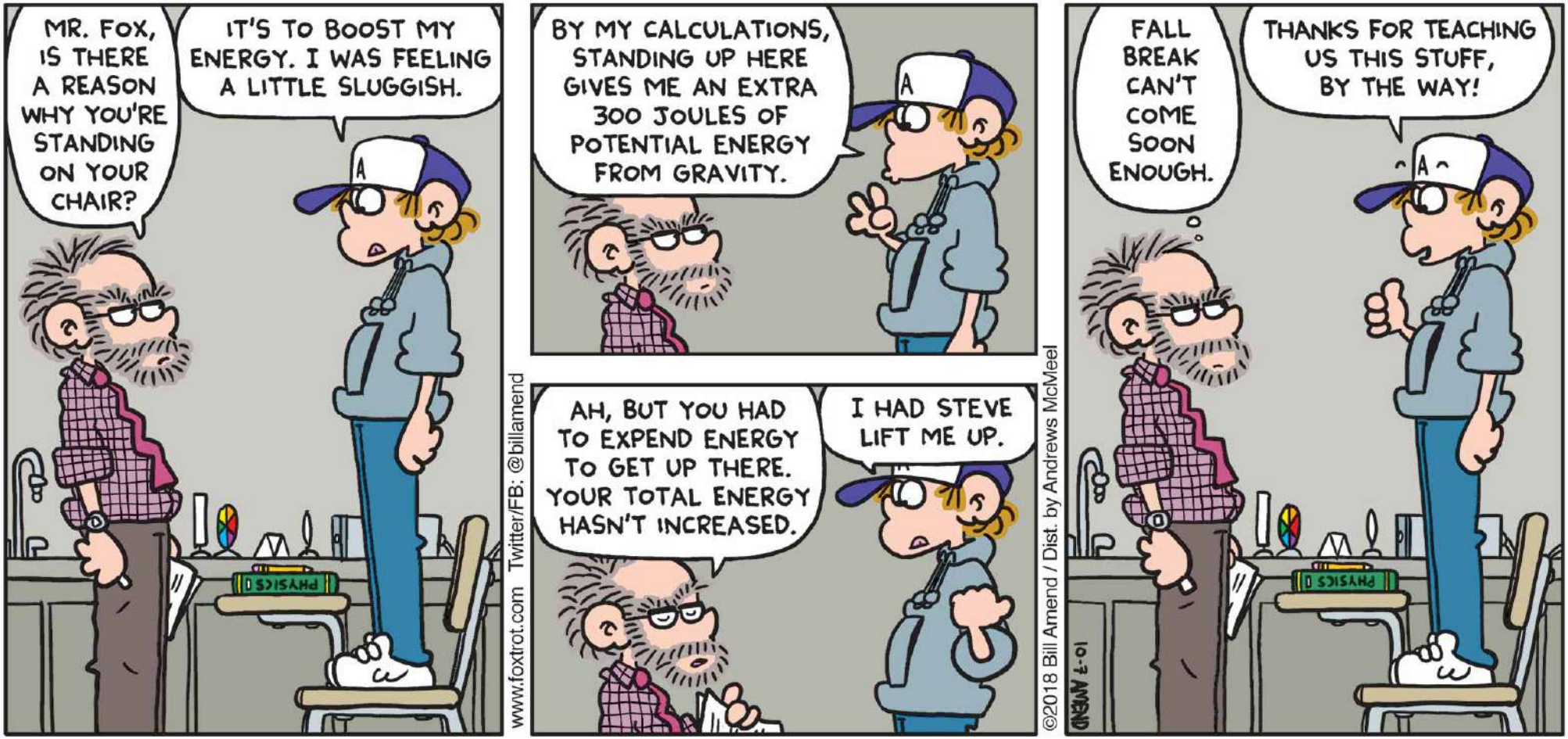
MR. FOX, IS THERE A REASON WHY YOU'RE STANDING ON YOUR CHAIR?
IT'S TO BOOST MY ENERGY. I WAS FEELING A LITTLE SLUGGISH.
BY MY CALCULATIONS, STANDING UP HERE GIVES ME AN EXTRA 300 JOULES OF POTENTIAL ENERGY FROM GRAVITY.
AH, BUT YOU HAD TO EXPEND ENERGY TO GET UP THERE. YOUR TOTAL ENERGY HASN'T INCREASED.
I HAD STEVE LIFT ME UP.
FALL BREAK CAN'T COME SOON ENOUGH.
THANKS FOR TEACHING US THIS STUFF, BY THE WAY!
PHYSICS
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FoxTrot

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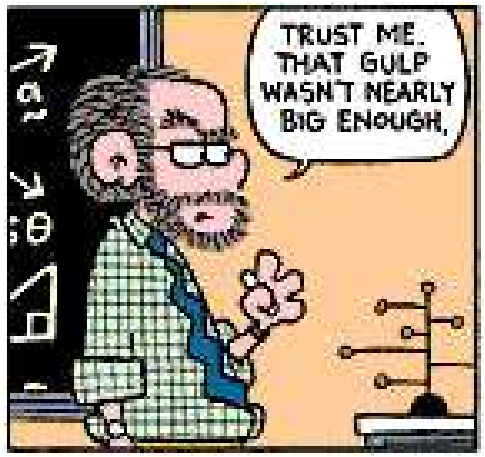
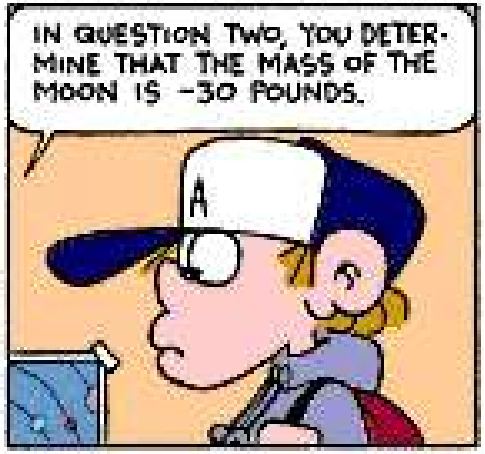
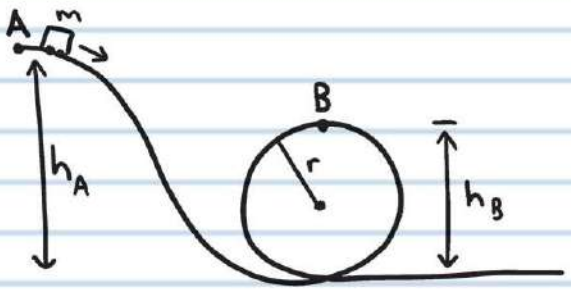






Kinetic energy = Δ Potential Energy

$$\frac{1}{2}mv_B^2 = mg(h_A - h_B)$$

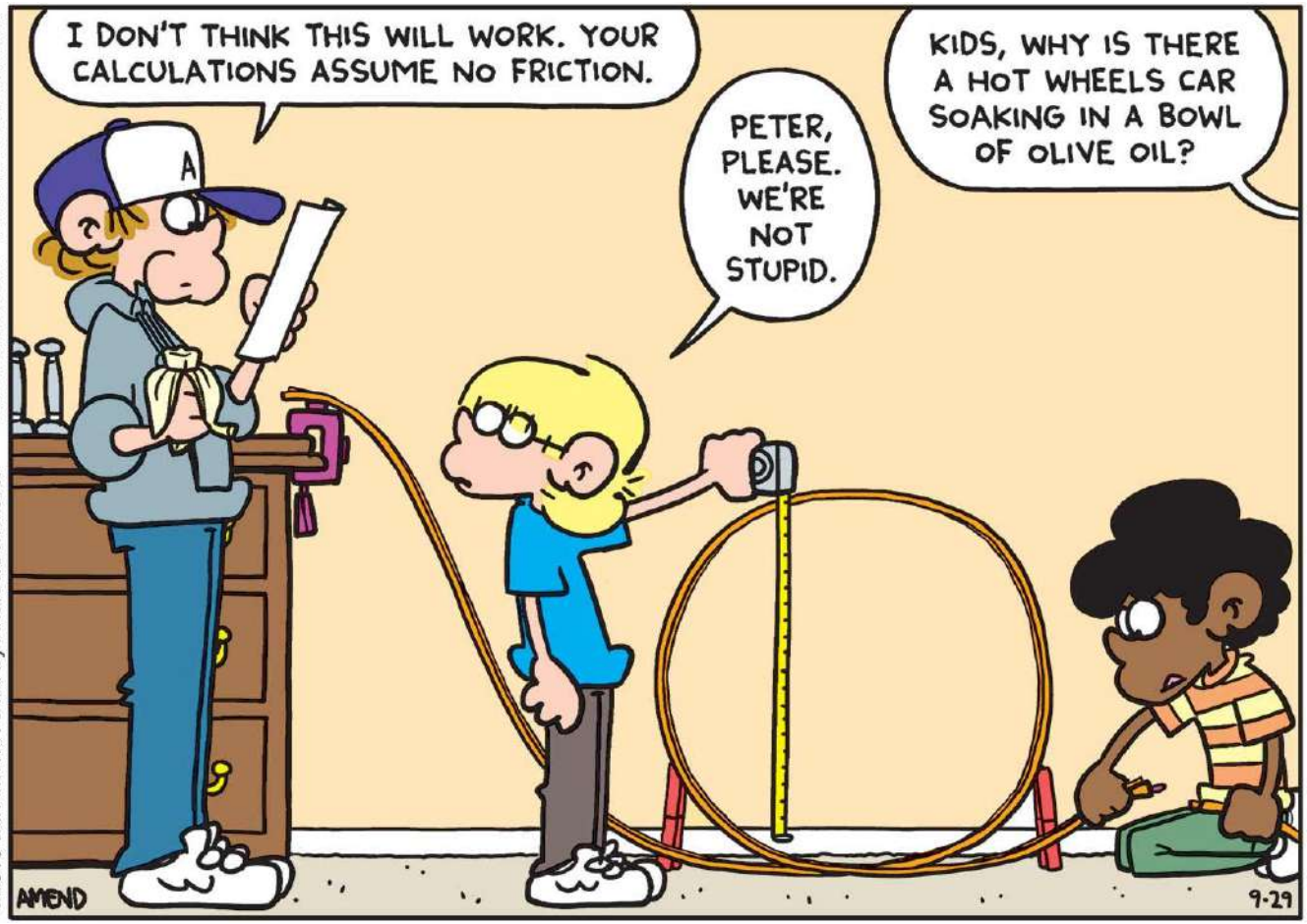
$$v_B^2 = 2g(h_A - h_B)$$

To stay on the track at B, $\frac{v_B^2}{r} \geq g$

So... $\frac{2g(h_A - h_B)}{r} \geq g \Rightarrow (h_A - h_B) \geq \frac{r}{2}$

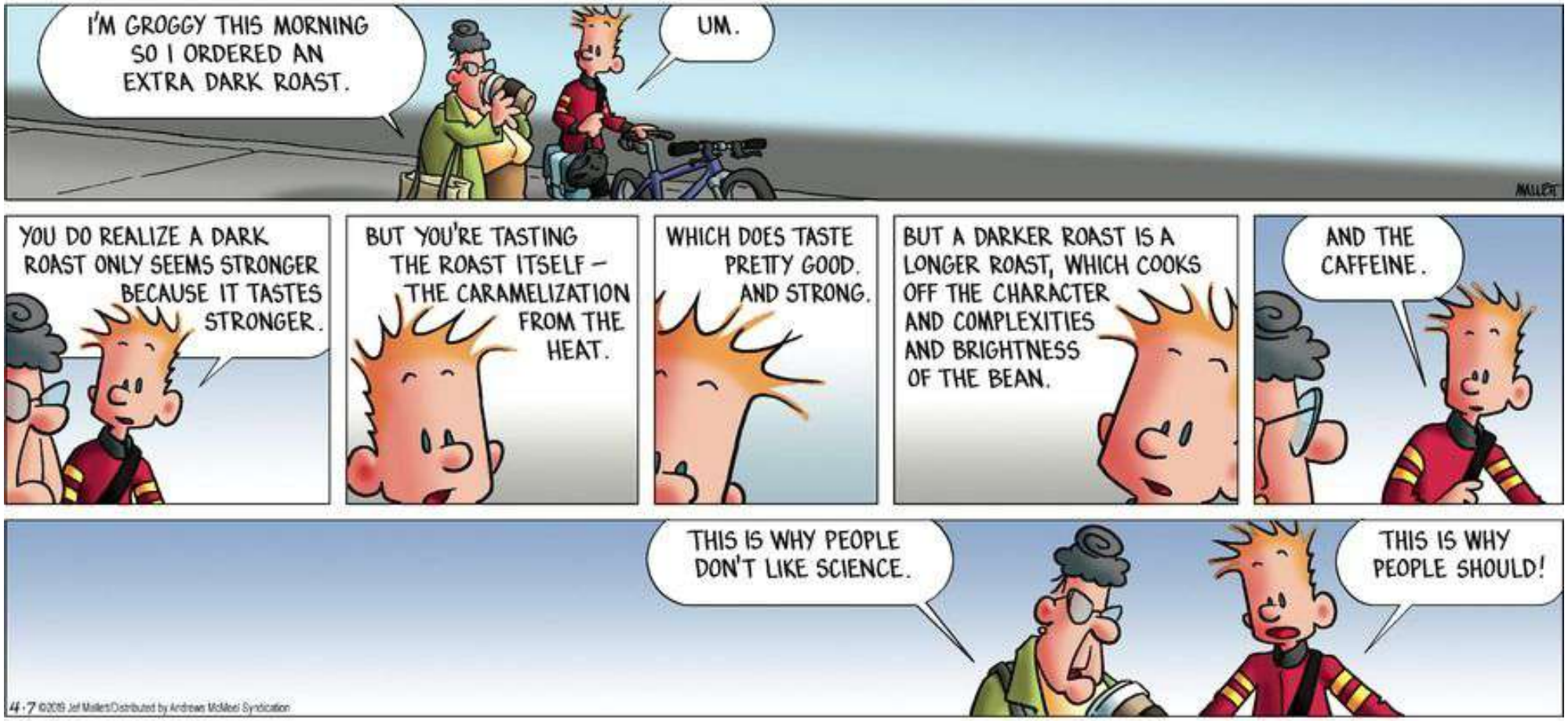
$$\Rightarrow h_A \geq h_B + \frac{h_B}{4} \Rightarrow h_A \geq \frac{5}{4}h_B$$

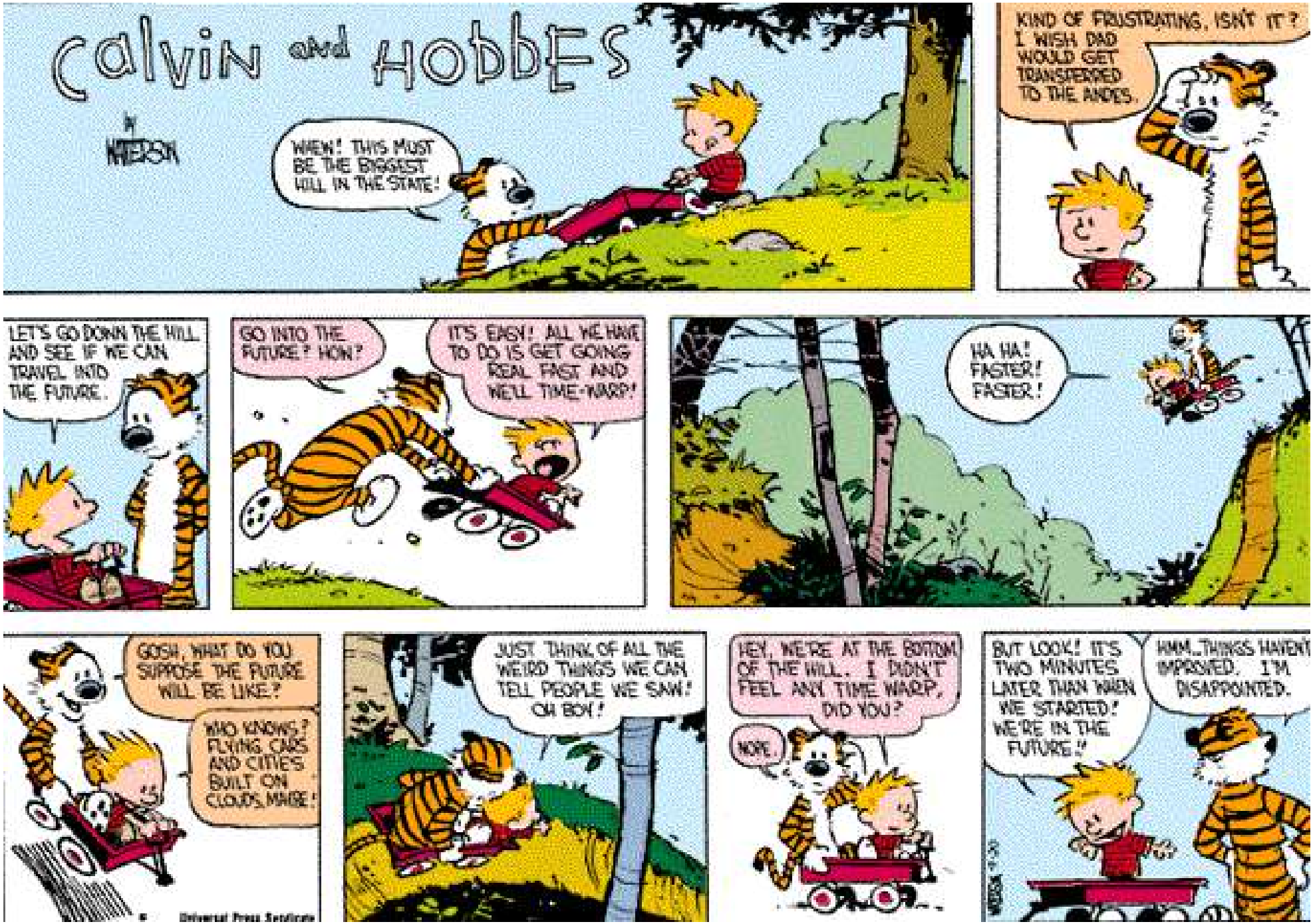
∴ The largest possible loop-the-loop will be $\frac{4}{5}$ the starting height.

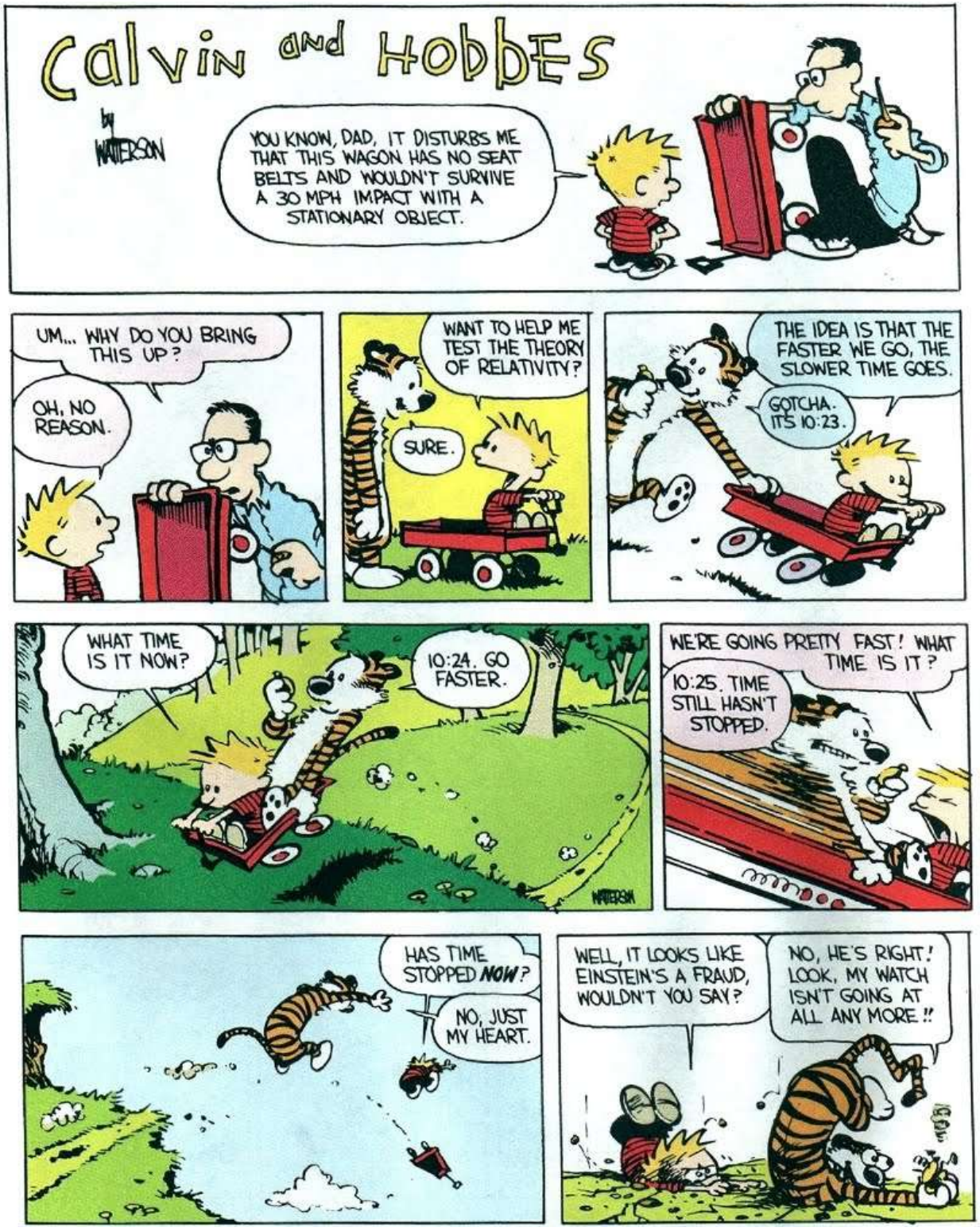


FRAZZ

BY JEF MALLETT

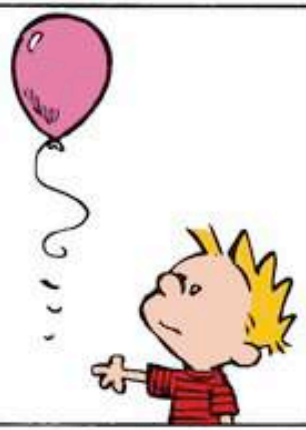


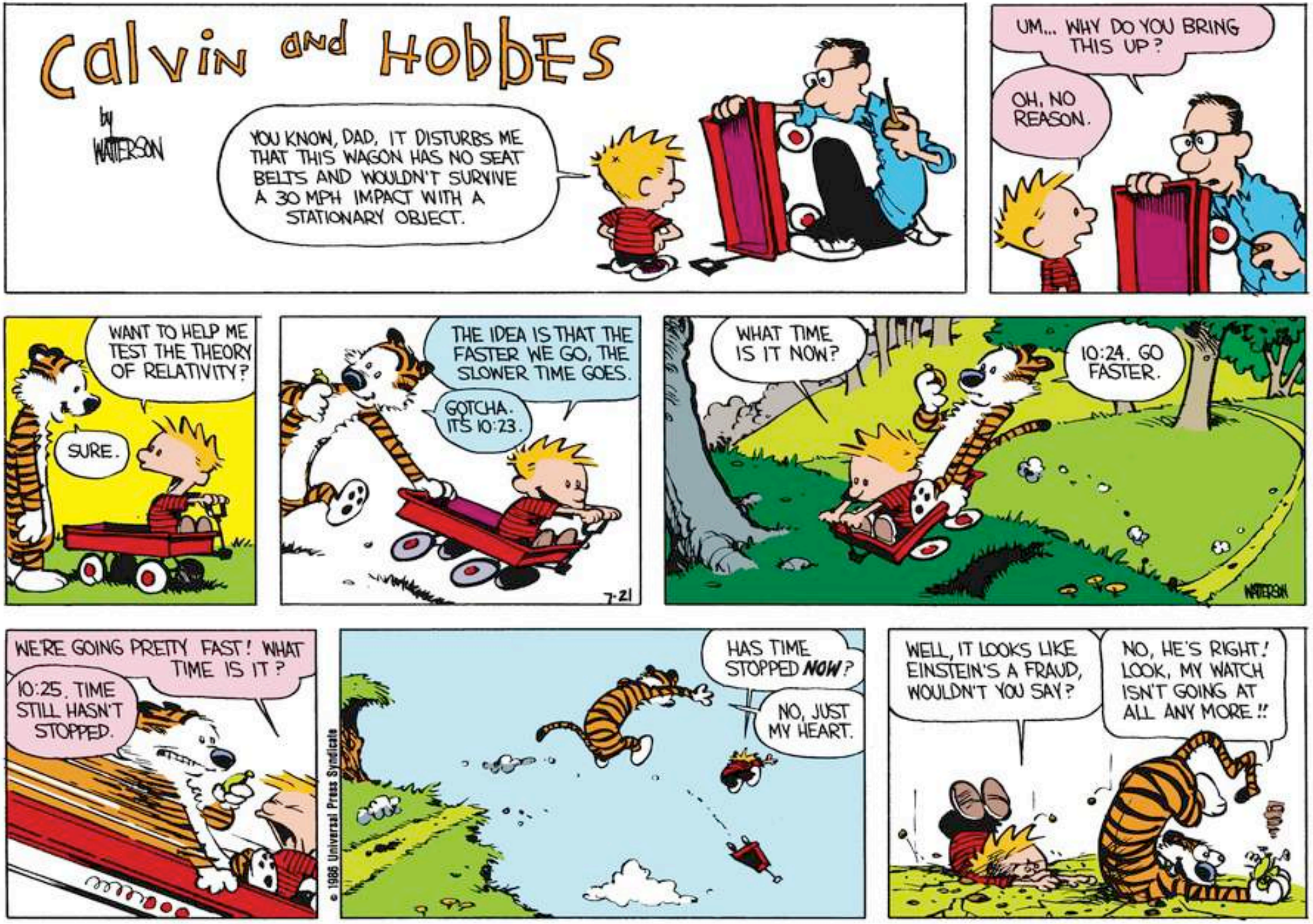

Calvin and Hobbes
by Watterson
WHEW! THIS MUST BE THE BIGGEST HILL IN THE STATE!
KIND OF FRUSTRATING, ISN'T IT? I WISH DAD WOULD GET TRANSFERRED TO THE ANDES.
LET'S GO DOWN THE HILL AND SEE IF WE CAN TRAVEL INTO THE FUTURE.
GO INTO THE FUTURE? HOW?
IT'S EASY! ALL WE HAVE TO DO IS GET GOING REAL FAST AND WE'LL TIME-WARP!
HA HA! FASTER! FASTER!
GOSH, WHAT DO YOU SUPPOSE THE FUTURE WILL BE LIKE?
WHO KNOWS? FLYING CARS AND CITIES BUILT ON CLOUDS, MAYBE!
© Universal Press Syndicate
JUST THINK OF ALL THE WEIRD THINGS WE CAN TELL PEOPLE WE SAW! OH BOY!
HEY, WE'RE AT THE BOTTOM OF THE HILL. I DIDN'T FEEL ANY TIME WARP, DID YOU?
NOPE.
BUT LOOK! IT'S TWO MINUTES LATER THAN WHEN WE STARTED! WE'RE IN THE FUTURE!
HMM...THINGS HAVEN'T IMPROVED. I'M DISAPPOINTED.


Calvin and Hobbes
by WATTERSON
YOU KNOW, DAD, IT DISTURBS ME THAT THIS WAGON HAS NO SEAT BELTS AND WOULDN'T SURVIVE A 30 MPH IMPACT WITH A STATIONARY OBJECT.
UM... WHY DO YOU BRING THIS UP?
OH, NO REASON.
WANT TO HELP ME TEST THE THEORY OF RELATIVITY?
SURE.
THE IDEA IS THAT THE FASTER WE GO, THE SLOWER TIME GOES.
GOTCHA. IT'S 10:23.
WHAT TIME IS IT NOW?
10:24. GO FASTER.
WATTERSON
WE'RE GOING PRETTY FAST! WHAT TIME IS IT?
10:25. TIME STILL HASN'T STOPPED.
HAS TIME STOPPED NOW?
NO, JUST MY HEART.
WELL, IT LOOKS LIKE EINSTEIN'S A FRAUD, WOULDN'T YOU SAY?
NO, HE'S RIGHT! LOOK, MY WATCH ISN'T GOING AT ALL ANY MORE!!

Calvin and Hobbes

by Watterson

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7-21
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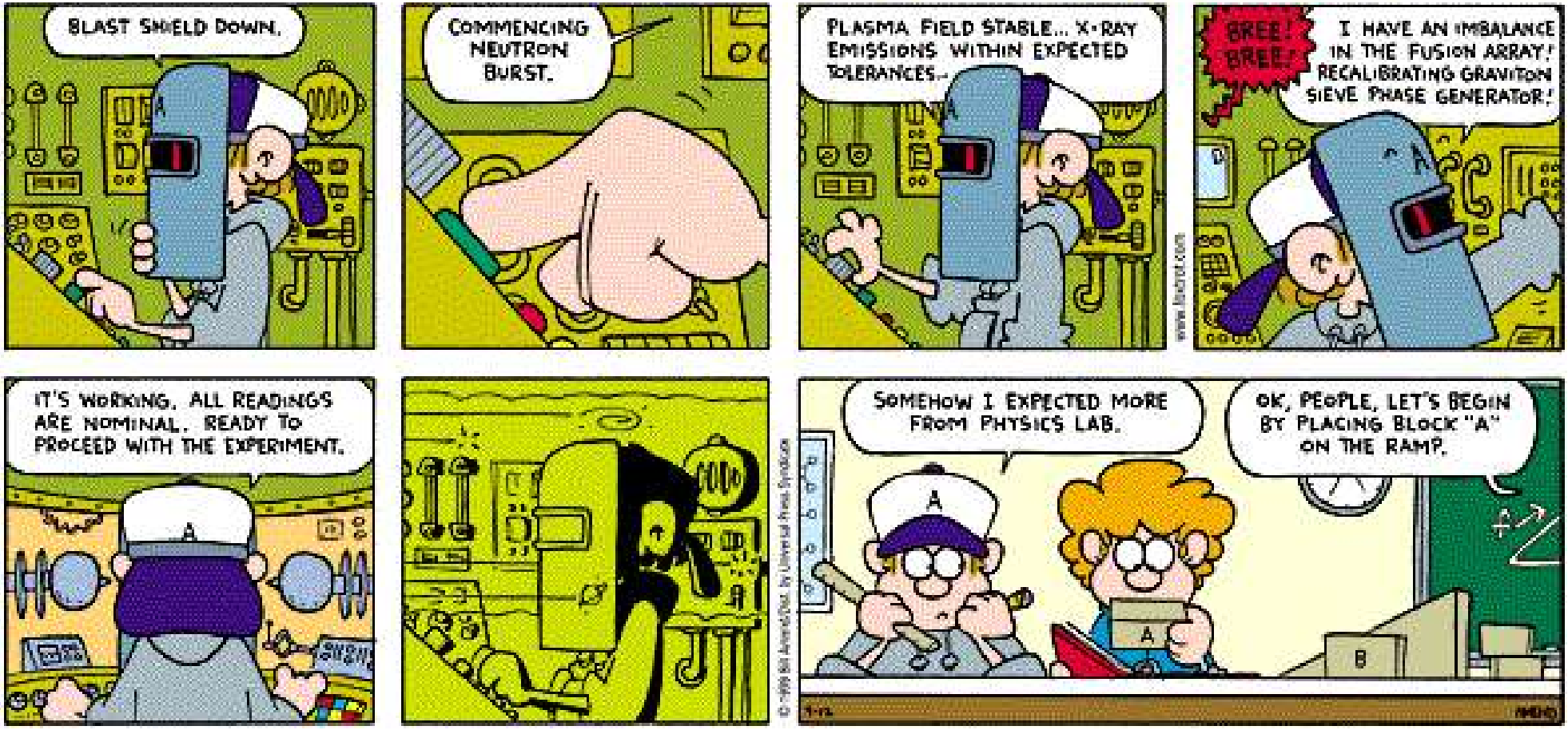
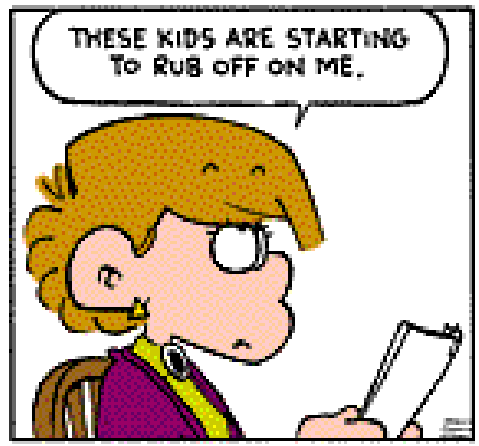
FoxTrot

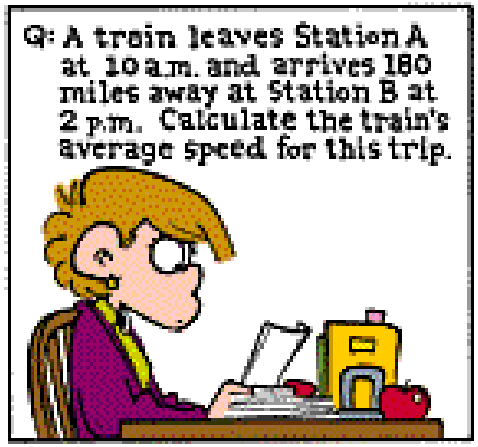
by Bill Amend

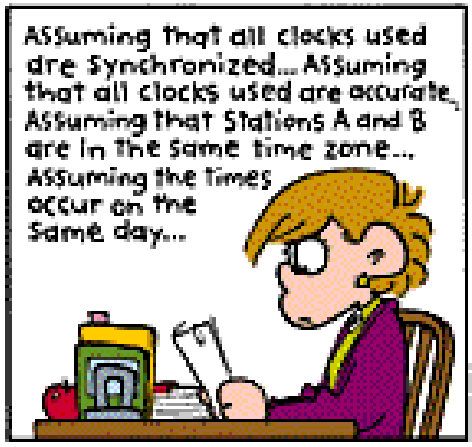


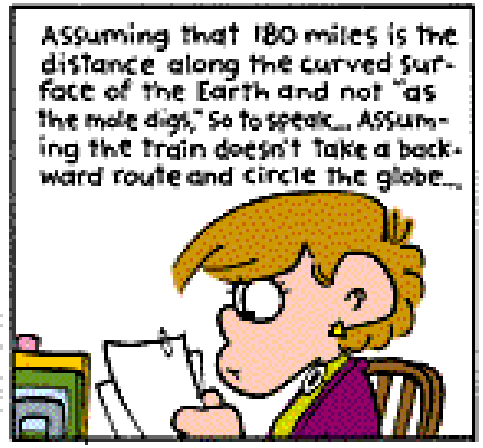
FoxTrot

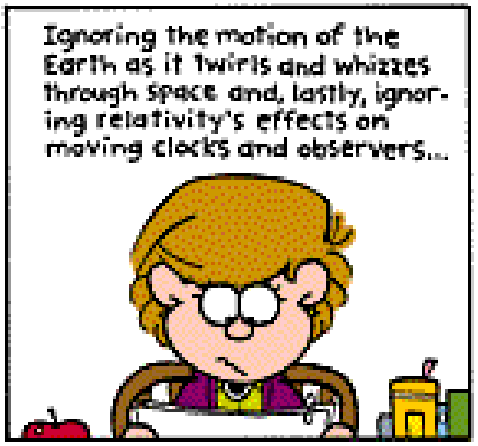
by Bill Amend

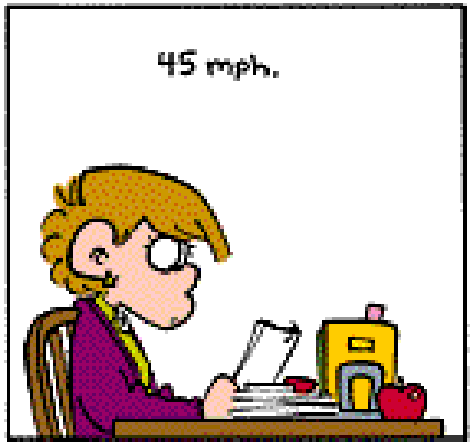


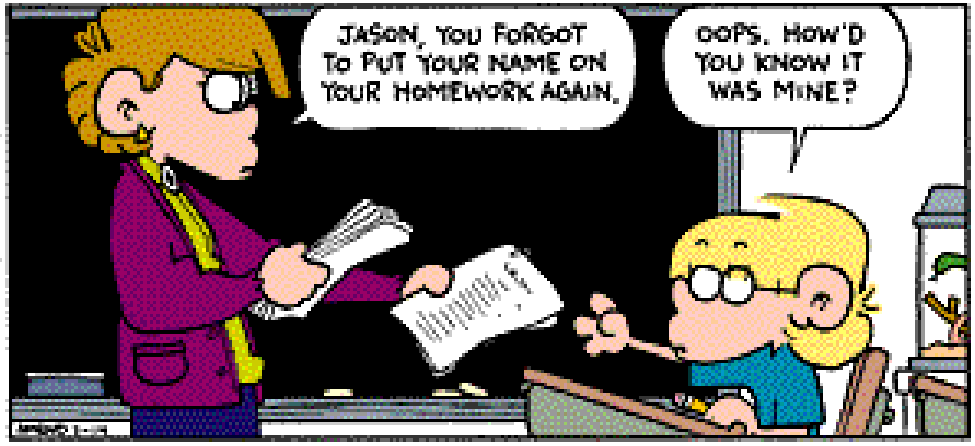


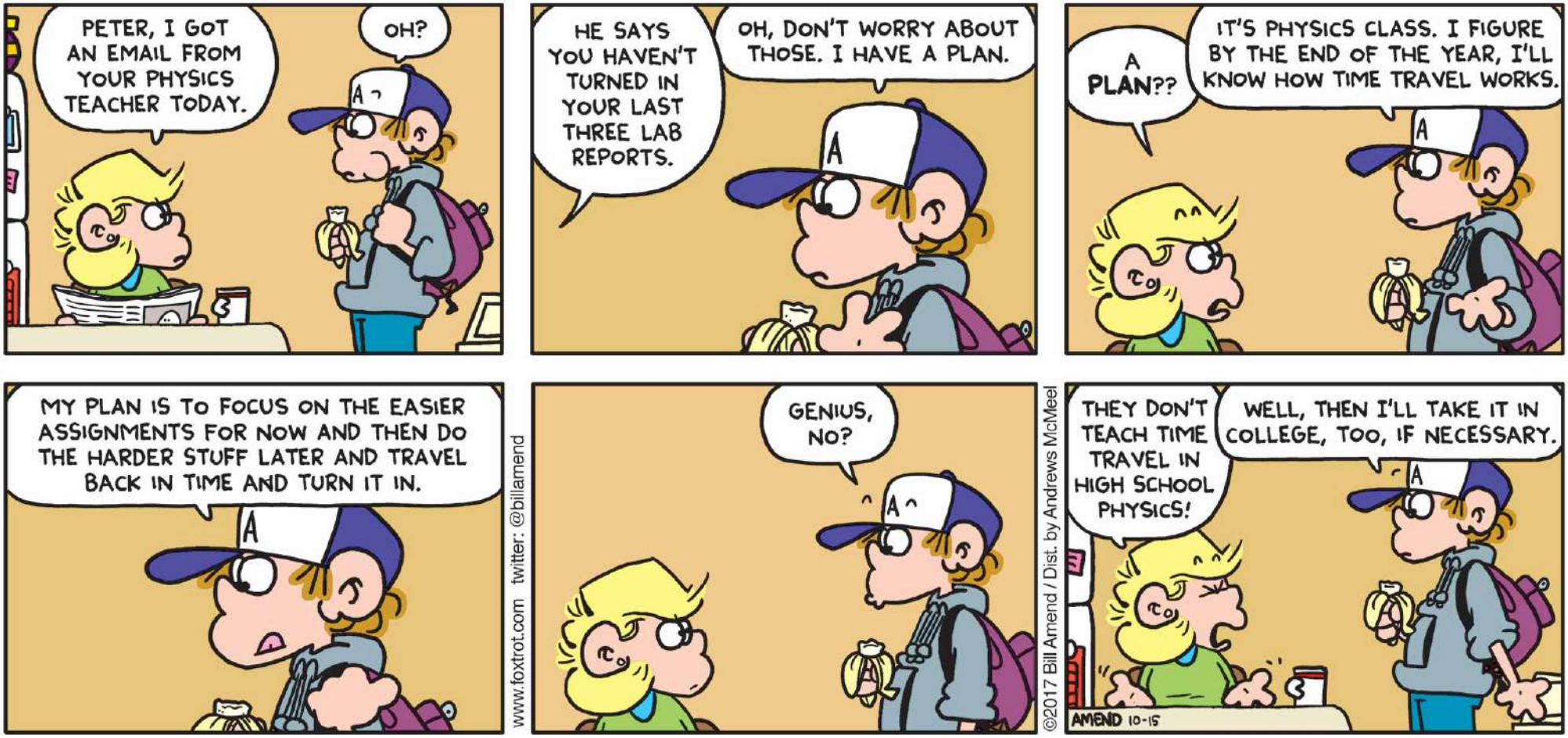












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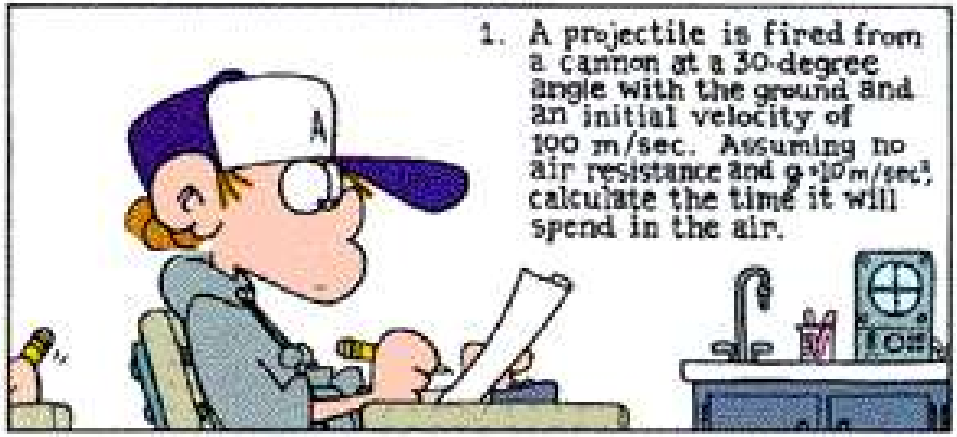

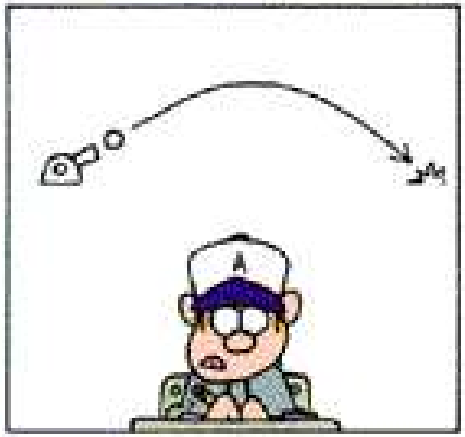

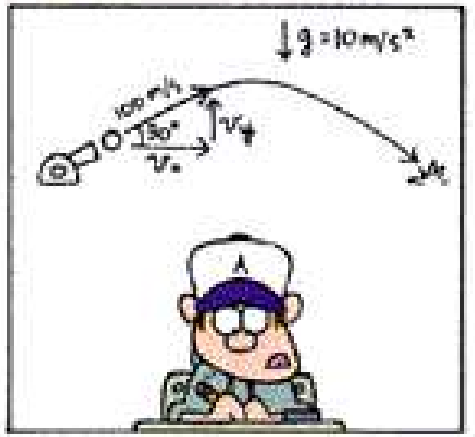

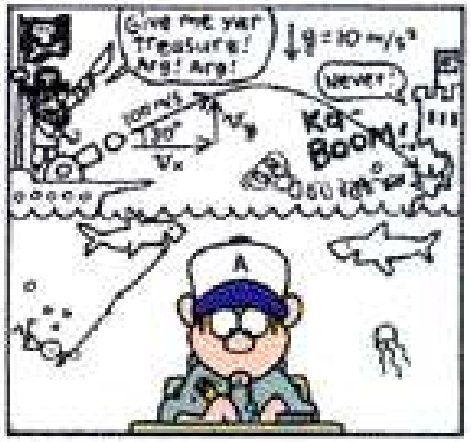

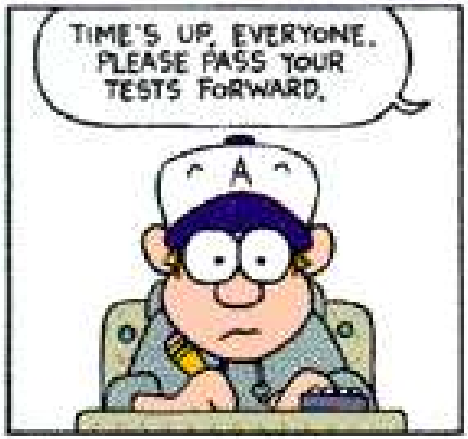

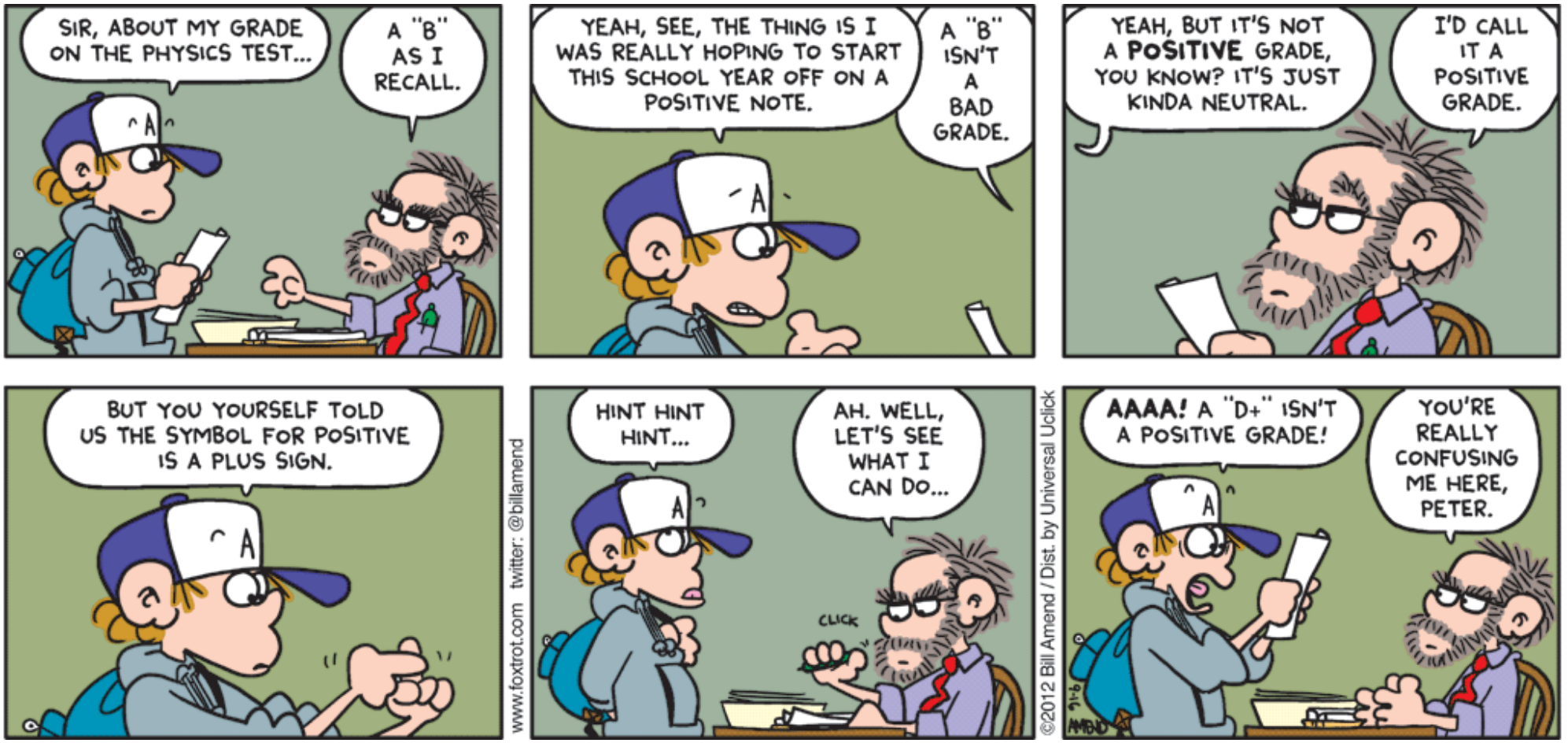
SIR, ABOUT MY GRADE ON THE PHYSICS TEST...
A "B" AS I RECALL.
YEAH, SEE, THE THING IS I WAS REALLY HOPING TO START THIS SCHOOL YEAR OFF ON A POSITIVE NOTE.
A "B" ISN'T A BAD GRADE.
YEAH, BUT IT'S NOT A POSITIVE GRADE, YOU KNOW? IT'S JUST KINDA NEUTRAL.
I'D CALL IT A POSITIVE GRADE.
BUT YOU YOURSELF TOLD US THE SYMBOL FOR POSITIVE IS A PLUS SIGN.
HINT HINT HINT...
AH. WELL, LET'S SEE WHAT I CAN DO...
CLICK
AAAA! A "D+" ISN'T A POSITIVE GRADE!
YOU'RE REALLY CONFUSING ME HERE, PETER.
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FRAZZ **BY JEF MALLETT**

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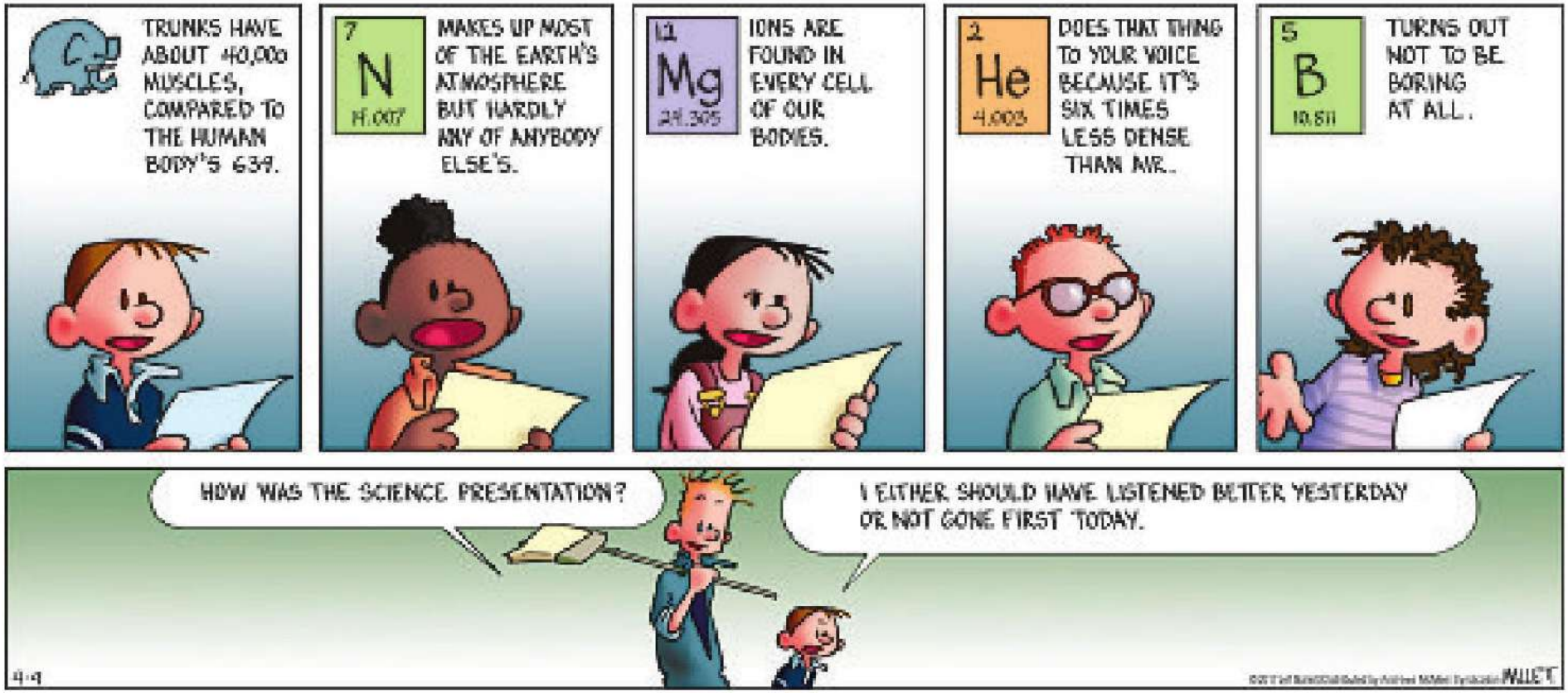

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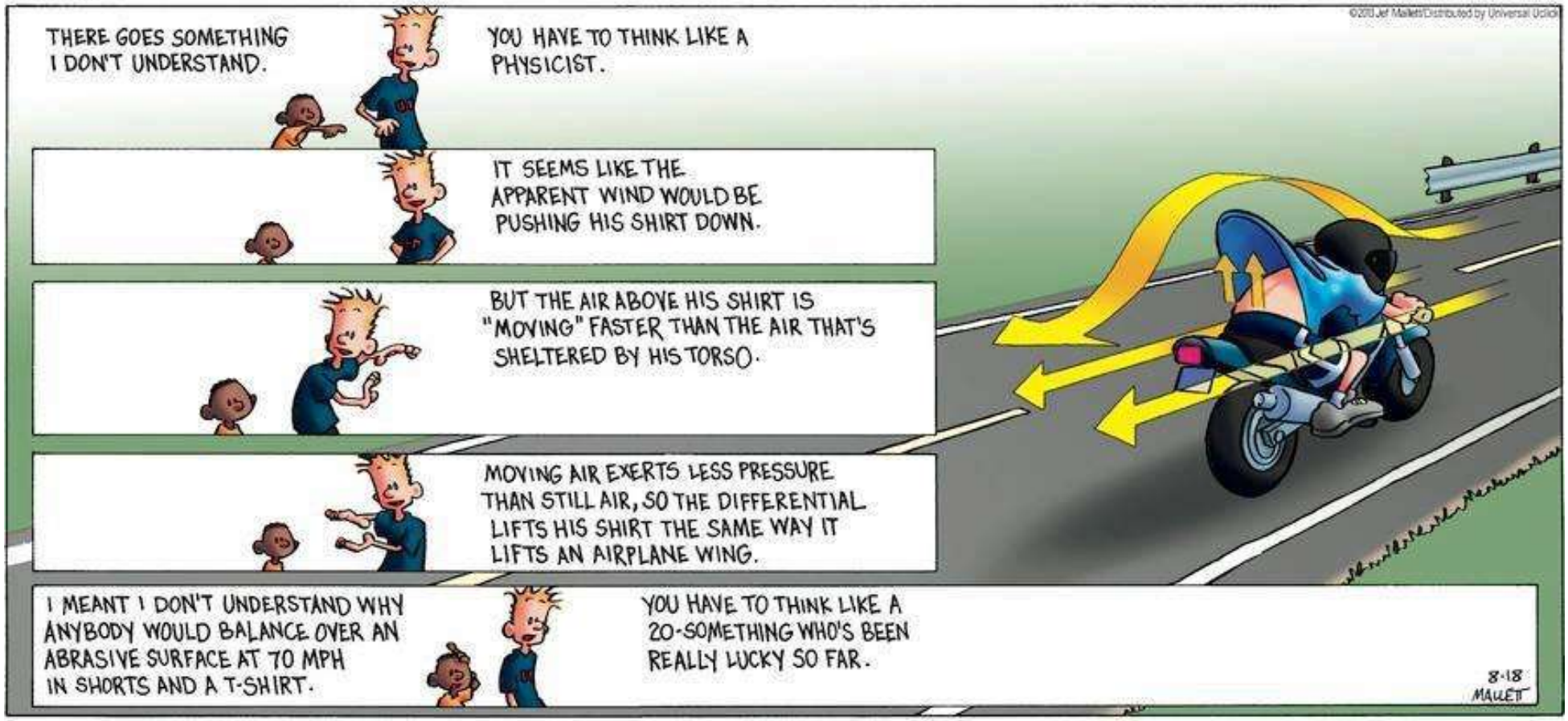
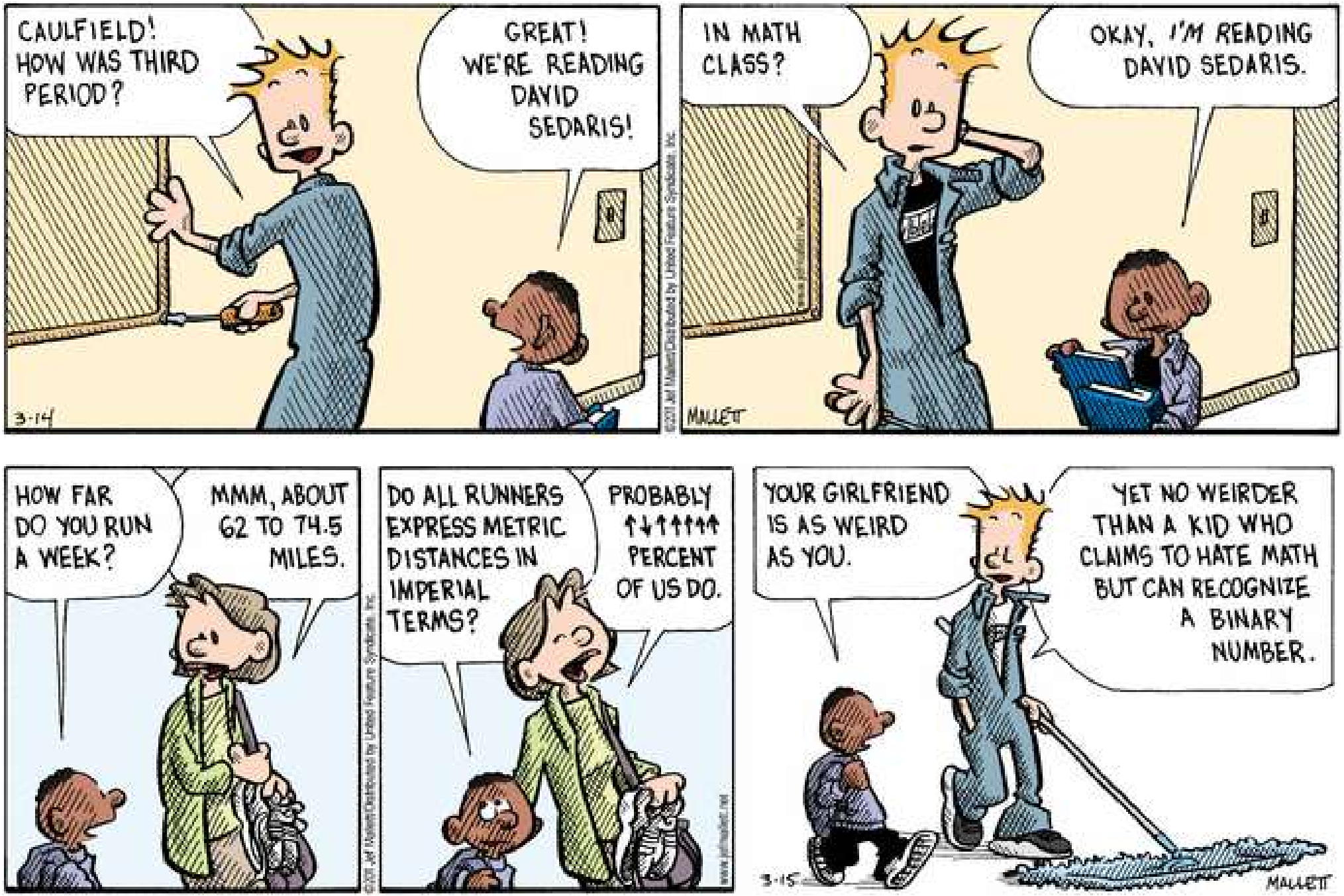



I GUESS GLOBAL WARMING IS A CROCK.
YOU KNOW THIS HOW?
2-25
ISN'T IT OBVIOUS?
IT WAS ONCE "OBVIOUS" THAT MALARIA WAS CAUSED BY SWAMP GAS.
NICELY DONE.
THE STATE CAN REQUIRE HER TO TEACH SCIENCE. I CAN INSPIRE HER TO.
MALLETT
WHY DO I HAVE TO SHOW MY WORK IN MATH WHEN I KNOW THE RIGHT ANSWER?
10-3 MALLETT
I DON'T HAVE TO SHOW MY WORK IN, SAY, WRITING.
WRITING IS SHOWING YOUR WORK.
SPELLING, THEN.
SPELLING IS TO WRITING WHAT ADDITION AND MULTIPLICATION TABLES ARE TO ALGEBRA.


CAULFIELD! HOW WAS THIRD PERIOD?
GREAT! WE'RE READING DAVID SEDARIS!
3-14
IN MATH CLASS?
OKAY, I'M READING DAVID SEDARIS.
MALLETT
HOW FAR DO YOU RUN A WEEK?
MMM, ABOUT 62 TO 74.5 MILES.
DO ALL RUNNERS EXPRESS METRIC DISTANCES IN IMPERIAL TERMS?
PROBABLY ↑↓↑↑↑↑↑ PERCENT OF US DO.
YOUR GIRLFRIEND IS AS WEIRD AS YOU.
YET NO WEIRDER THAN A KID WHO CLAIMS TO HATE MATH BUT CAN RECOGNIZE A BINARY NUMBER.
3-15
MALLETT