



An Uncle Sandy Publication

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FREE!

The Scoop about **POOP**

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This is Lolo and she is
holding in her hands a simple
solution to one of the
world's biggest problems. She
and Andy, miles apart, are
both about to discover...

The Scoop about **POOP**



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Sandy's portrait and composting toilet photo by Al Levenson.
Layout by Dan Feather. Composting toilet plans by James
Bailey. Spanish translation by Mayra Valtierrez. Many thanks to
Christine Eber, Leith Patton, and Joseph Jenkins.

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Lolo lives with her mama in a tiny village in Nicaragua

Some days, they go to the field to work.

Lolo loves flowers and birds and especially bugs.



At the end of the day, Lolo returns to her home and goes to the latrine.



Lolo visits the beetles just at dusk.



YOU EAT COW POOP! IT MUST BE GOOD FOR YOU! I HOPE YOU LIKE MY POOP, TOO.



The next day, Lolo and her mama pass the beetles on the way to the field.



THE ONES I MET YESTERDAY THAT MAKE THE BALLS



BECAUSE THEY MAKE THEIR OWN TOYS!



YOU NEED TO BE MAKING FRIENDS WITH OTHER CHILDREN, NOT WITH BUGS. COME!



After work, Lolo goes back to visit her friends.



THE BEETLES DIDN'T LIKE MY POOP AT ALL, BUT THEY SURE LOVE THE COW POOP!



MEANWHILE, OVER IN THE U.S.A., IN THE STATE OF TENNESSEE...



ANDY IS GETTING READY FOR SCHOOL



HEY MOM, WHERE DO TURDS GO?



I THINK THEY GO IN A BIG HOLE SOMEWHERE IN THE GROUND, BUT I'M NOT SURE.



YOU NEED TO HURRY UP OR YOU'LL BE LATE.

THAT'S GOT TO BE A REALLY BIG HOLE IF EVERYONE'S TURD ENDS UP THERE.



IT'S NOT A BIG HOLE, IT'S A BIG LAKE!

WITH TURDS FLOATING IN IT?!



THEY MUST BE IN THE WATER FOR A REASON... I BET THE FISH EAT THEM.

I THINK THEY GO IN A BIG BLENDER, LIKE A SMOOTHIE!



THERE IS NO SUCH THING AS A TURD SMOOTHIE. I BET OUR SCIENCE TEACHER WILL KNOW...



THE FECAL MATTER MOVES THROUGH THE SEWAGE SYSTEM TO THE MUNICIPAL SANITATION DEPARTMENT



Do you know what happens when Andy flushes the toilet?

Follow the numbers and find out!

1

First, the clean drinking water takes Andy's turd to the pollution control center. When the sewage first arrives, it is run through a strainer and a cutter to get rid of all the big stuff!

2

Then it moves to the settling tank where it sits and all the heavy material (called sludge) sinks to the bottom. This sludge is then removed and dumped in a landfill.

3

Next, the sewage moves to the filtration tank, where rocks help filter the water more. Helpful bacteria live on the rocks and digest waste to make the water safer. In this process, the bacteria also produce methane, which can be recycled here.

4

The sewage now goes back for another round in the settling pool. It is treated with chlorine to kill germs before being returned to our rivers and streams.

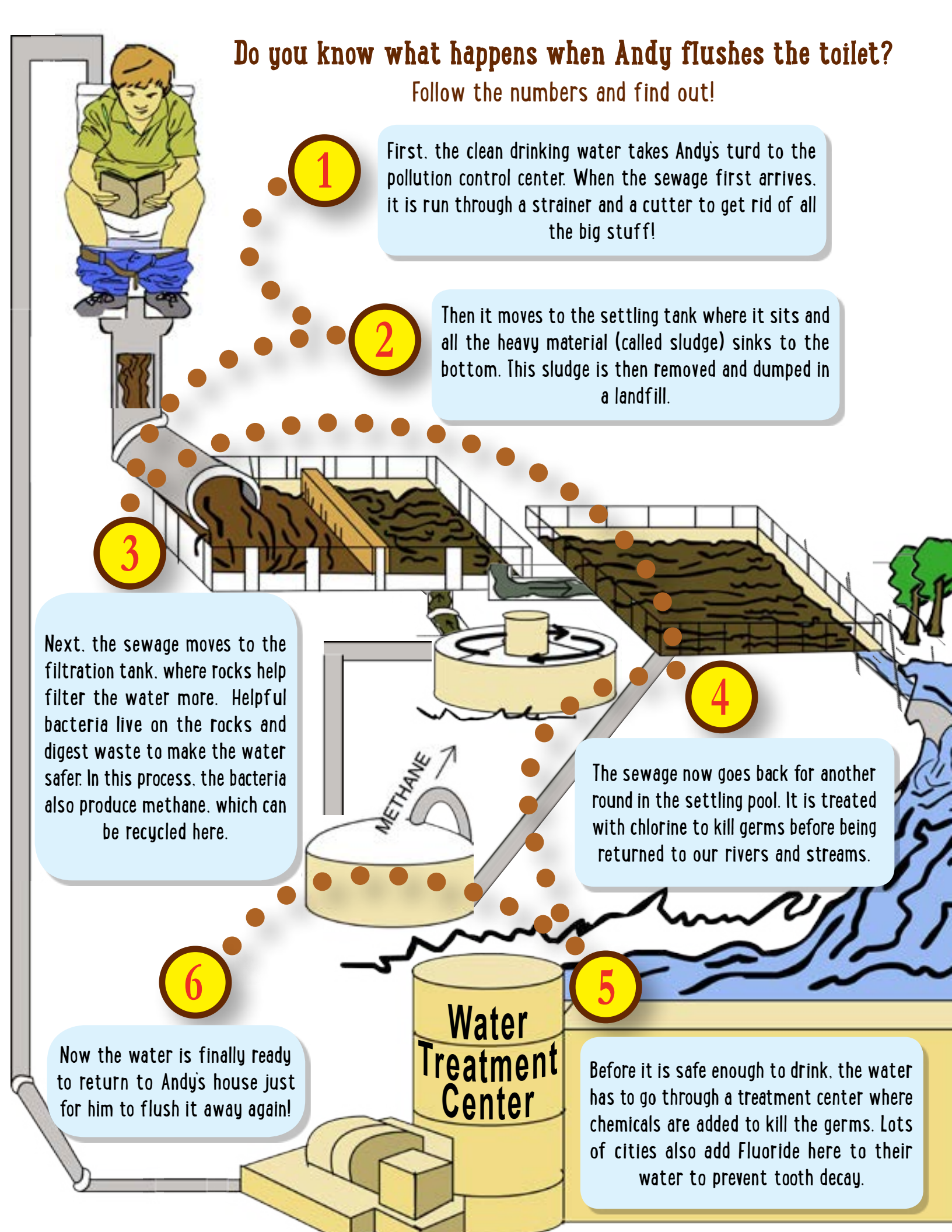
6

Now the water is finally ready to return to Andy's house just for him to flush it away again!

5

Before it is safe enough to drink, the water has to go through a treatment center where chemicals are added to kill the germs. Lots of cities also add Fluoride here to their water to prevent tooth decay.

Water
Treatment
Center



Back at the schoolhouse in Nicaragua.

DO YOU THINK ANYTHING WILL WANT MY POOP?

WHY DON'T YOU CONTINUE TO WATCH AND SEE WHAT HAPPENS?

Each day, Lolo went to visit her poop.

WELL, THE FLIES SURE LIKE YOU!

AFTER ABOUT A WEEK, IT JUST DRIED UP IN THE SUN. EVEN THE FLIES GAVE UP.

POOP IS REALLY NASTY!

IT STINKS!!

BUT THE BEETLES I SAW USE COW POOP FOR EVERYTHING! SO, I THINK OUR POOP MUST BE GOOD FOR SOMETHING.

LOLO, COME NOW, WE'RE GOING TO VISIT POPPY AND GET SOME GOAT MILK. SAY GOODBYE.

GOODBYE!

THERE GOES THE POOP LOVER!

Poppy, Lolo's grandpa, is happy to see her - and so are the goats!

POPPY?... WHAT DO YOU DO WITH THE GOAT POOP?

COME, I'LL SHOW YOU.

I RAKE UP THE GOAT POOP WITH THE BEDDING, AND I LEAVE IT IN A PILE. AFTER A WHILE, IT MAKES GOOD FOOD FOR THE GARDEN.



Six out of ten people in the world do not poop in their water, but they still poop somewhere!

How many flies can you find in this picture?



Did you know pee is almost sterile? You can mix one part pee and ten parts water to make an excellent fertilizer, but most of us humans just piss it away!





BACK IN CLASS IN THE U.S.

SO, IT REALLY IS LIKE A TURD SMOOTHIE!!

...EXCUSE ME?

OH, NOTHING.



ANY OTHER QUESTIONS?

MY GRANDDAD HAD TO USE AN OUTHOUSE AS A KID. WHY DID WE QUIT USING THEM?



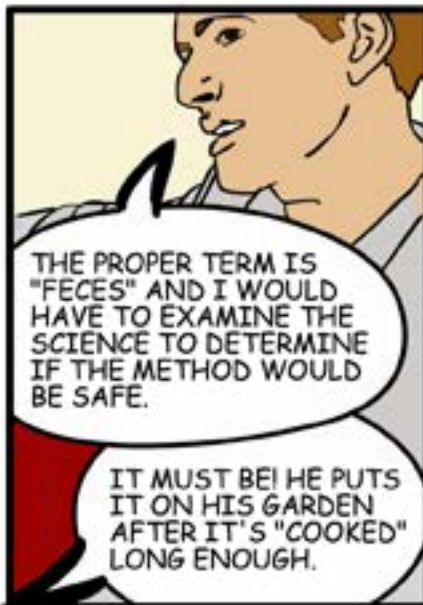
THEY WERE UNSANITARY. THE CONTENTS CONTAMINATED THE GROUNDWATER AND SPREAD DISEASE. ANYONE ELSE?

MY UNCLE SANDY IS A HIPPIE, AND HE COMPOSTS HIS TURDS!



THE PROPER TERM IS "FECES" AND I WOULD HAVE TO EXAMINE THE SCIENCE TO DETERMINE IF THE METHOD WOULD BE SAFE.

IT MUST BE! HE PUTS IT ON HIS GARDEN AFTER IT'S "COOKED" LONG ENOUGH.



SOUNDS LIKE SOMEBODY HAS AN EXCELLENT IDEA FOR A SCIENCE PROJECT!



Uncle Sandy's Compost
is it safe to use to grow food?



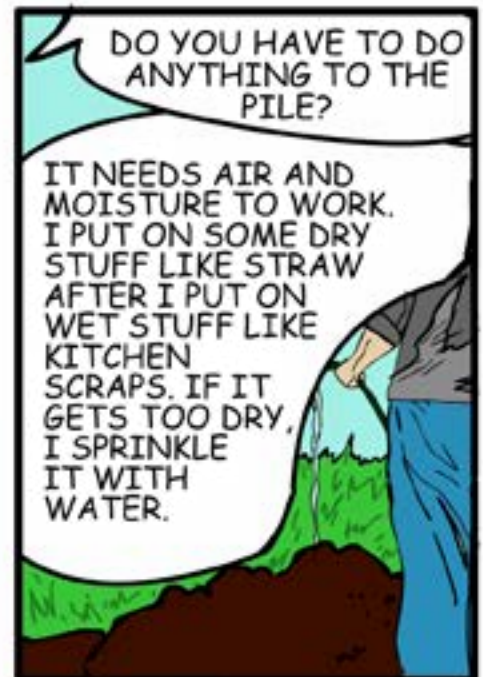
ANDY AND BEN VISIT UNCLE SANDY'S GARDEN AND ORCHARD.

Uncle Sandy takes them to the garden first...

YOU GROW ALL THIS STUFF WITH TURDS?...

AND VEGETABLE SCRAPS, JUNK MAIL, GRASS CLIPPINGS - IF IT WILL ROT, I'LL COMPOST IT.





On the way over to the teacher's backyard

WHY DO YOU GET TO CARRY THE TOILET? I WANT TO!

SO DO I!

WE CAN TAKE TURNS, BUT I PUT THE MOST IN THERE!



SO ONCE WE DUMP THE TOILET, WE WILL COVER THE PILE WITH MORE LEAVES AND WEEDS. NEXT YEAR WE'LL START A ANOTHER PILE AND LET THIS ONE COMPOST.



BE SURE TO CAREFULLY WASH THE CONTAINER AND DUMP THE DIRTY WATER IN THE COMPOST PILE TO KEEP FROM SPREADING THE BAD BACTERIA.

AND WE'LL HAVE TO BE SURE TO WASH OUR HANDS!



Back in Tennessee, Andy and Ben get serious.

OUR TEACHER WANTS US TO SEE HOW HOT YOUR PILE GETS.

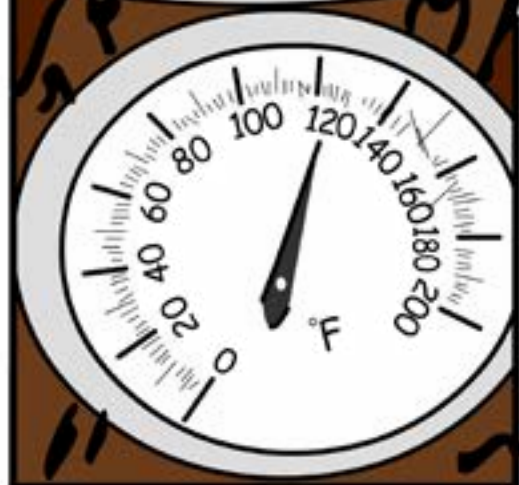
GOOD IDEA! COME THIS WAY.



WE HAVE TWO PILES, ONE WE ARE ADDING TO EVERY DAY WHICH WILL BE HOTTER, AND ONE THAT IS RESTING OR FINISHING. I STUCK A THERMOMETER IN THE CENTER OF THE HOT PILE. WHAT DOES IT SAY?



WOW! 120 DEGREES! THAT'S REALLY HOT.



Outside Lolo's schoolhouse

MAMA, I HAVE A SURPRISE FOR YOU. CAN YOU COME WITH ME TO THE CLASSROOM?

SURE, I CAN.



REMEMBER THE BUGS THAT WERE ROLLING UP THE BALLS OF POOP?

HOW COULD I FORGET?

WELL, WE ARE LEARNING A VERY IMPORTANT LESSON FROM THEM.



THEY SHOWED US THAT POOP IS WORTH SAVING AND SO IS PEE. AND WE ARE DOING IT RIGHT HERE!

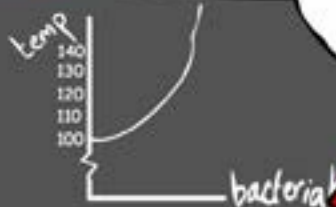


Andy and Ben stand at the front of their classroom.

SO THIS RIGHT HERE WAS ONCE A TURD!

PLEASE REFRAIN FROM USING SLANG.

THE TEMPERATURE OF THE COMPOST WAS HOT ENOUGH TO KILL A LOT OF STUFF. AND THEN, IT SITS AROUND AND COOKS LONG ENOUGH TO MAKE SURE ALL THE BAD GUYS ARE DEAD, BEFORE UNCLE SANDY USES IT. HE HAS NEVER GOTTEN SICK EATING ANYTHING FROM HIS GARDEN.



IN CONCLUSION, MY UNCLE SANDY SAYS, "EVERYONE'S POOP IS SOMEONE ELSE'S MEAL AND NOBODY SHOULD TAKE A CRAP IN THEIR DRINKING WATER."

ANDREW! THE PROPER TERM IS FECES OR EXCREMENT!

...CAN'T WE JUST SAY POOP?

Lolo is visiting her bug friends.

YOU ALL ARE SOME OF THE BEST TEACHERS I KNOW.

Lolo heads back home.

MAMA, WERE YOU JUST VISITING OUR NEW TOILET?

YES, I WAS, AND I JUST ADDED SOME DRIED FLOWERS. IT'S A VERY NICE TOILET, THANKS TO YOU AND YOUR LITTLE BUG FRIENDS.

On the next page you'll find the design I used for building the composting toilet at my house. There are many designs to choose from, some as simple as the toilet that Lolo's class used. What follows is a list of books, videos, and websites, so you can learn the many ways people are safely creating great compost from their daily deposits.



Uncle Sandy's Composting Outhouse

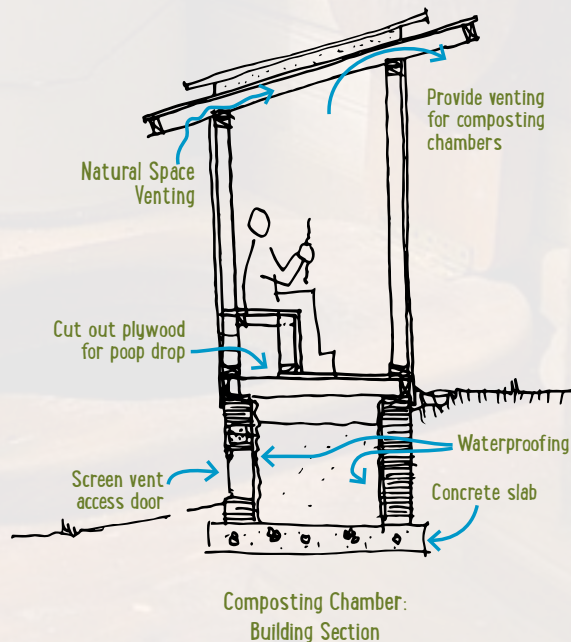
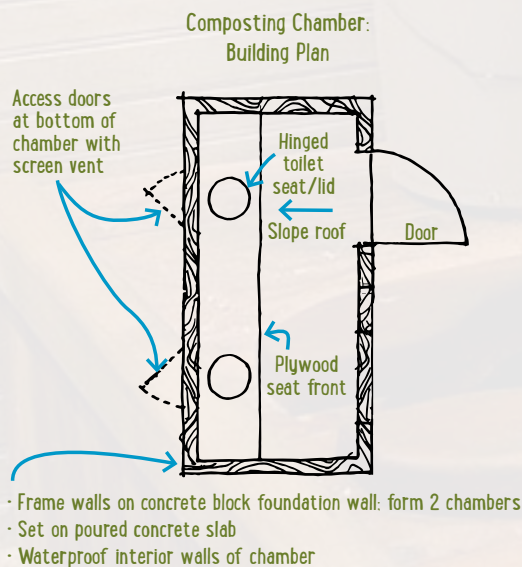


The beauty—and simplicity—of the two-chamber outhouse design is the use of time: two separated concrete or stone boxes below the outhouse. Once the first chamber is full, which takes about a year, users start filling the 2nd chamber, which fills up over the next year. At this point we dig out the now 2-year-old compost from chamber #1, and begin again. Microbial action has digested this two-year-old compost to the point where it no longer has any trace of poop left; it is all dark rich soil. I know from having dug out my own two-chamber composter—at my home—several times.

This can be done (see drawings) in a way that is good enough to maintain an attractive composting toilet. Of course there are issues: mainly matters of location, maintenance, and legality. Remember that every toilet needs some maintenance. All toilet spaces need to be clean. The difference is that the two-chamber system takes a dry flush, and a digout once a year.

You can get more information in some of the “Resources” provided here. I wish you all the best as you learn how to make the most of your poop.

— Uncle Sandy, 2012



Want to learn more?

Visit this book's website at: www.thescoopaboutpoop.com

Books

The Humanure Handbook: a Guide to Composting Human Manure, by Joseph Jenkins

In its 3rd printing, this award-winning, self-published, comprehensive book answers all your doubts, fears, and how-to questions. The book is available at the website www.humanurehandbook.com (free download available).

Read the Humanure Handbook free online: humanurehandbook.com/contents.html

The Big Necessity: The Unmentionable World of Human Waste and Why it Matters, by Rose George, Metropolitan Books, 2008

Comprehensive overview of global sanitation and the lack of it.

Organizations

www.peepoople.com Creators and distributors of a one-use sanitizing biodegradable toilet bag.

www.sostenica.org Building sustainable housing with dual-chamber composting toilets in Nicaragua.

Articles

Black Gold, by Rachel Lindsay - Includes images of composting toilets in Nicaragua including one that is generating methane and fueling a stovetop. www.SustainableNicaFarming.wordpress.com/2012/11

Humanure Sanitation Paper:

humanurehandbook.com/downloads/humanure_sanitation_paper.pdf

Public Sanitation Using Hot Composting:

humanurehandbook.com/downloads/Cornell_Humanure_10_2013.pdf

Make your own humanure toilet: humanurehandbook.com/humanure_toilet.html

The International Compost Sanitation Forum and Message Board

Home Page: www.jenkinspublishing.com/messages/

Build a serious compost bin system: humanurehandbook.com/hacienda.html

Videos, Etc.

National Geographic's short film on composting toilets in an urban business setting. www.youtube.com/watch?v=wNMs9oiPuvo

Compost Sanitation, Presentation by Joseph Jenkins at the Dry Toilet Conference, Finland 2012

Humanure Handbook Videos: humanurehandbook.com/videos.html

Photos of humanure toilets: humanurehandbook.com/album_toilets/album_toilets.html

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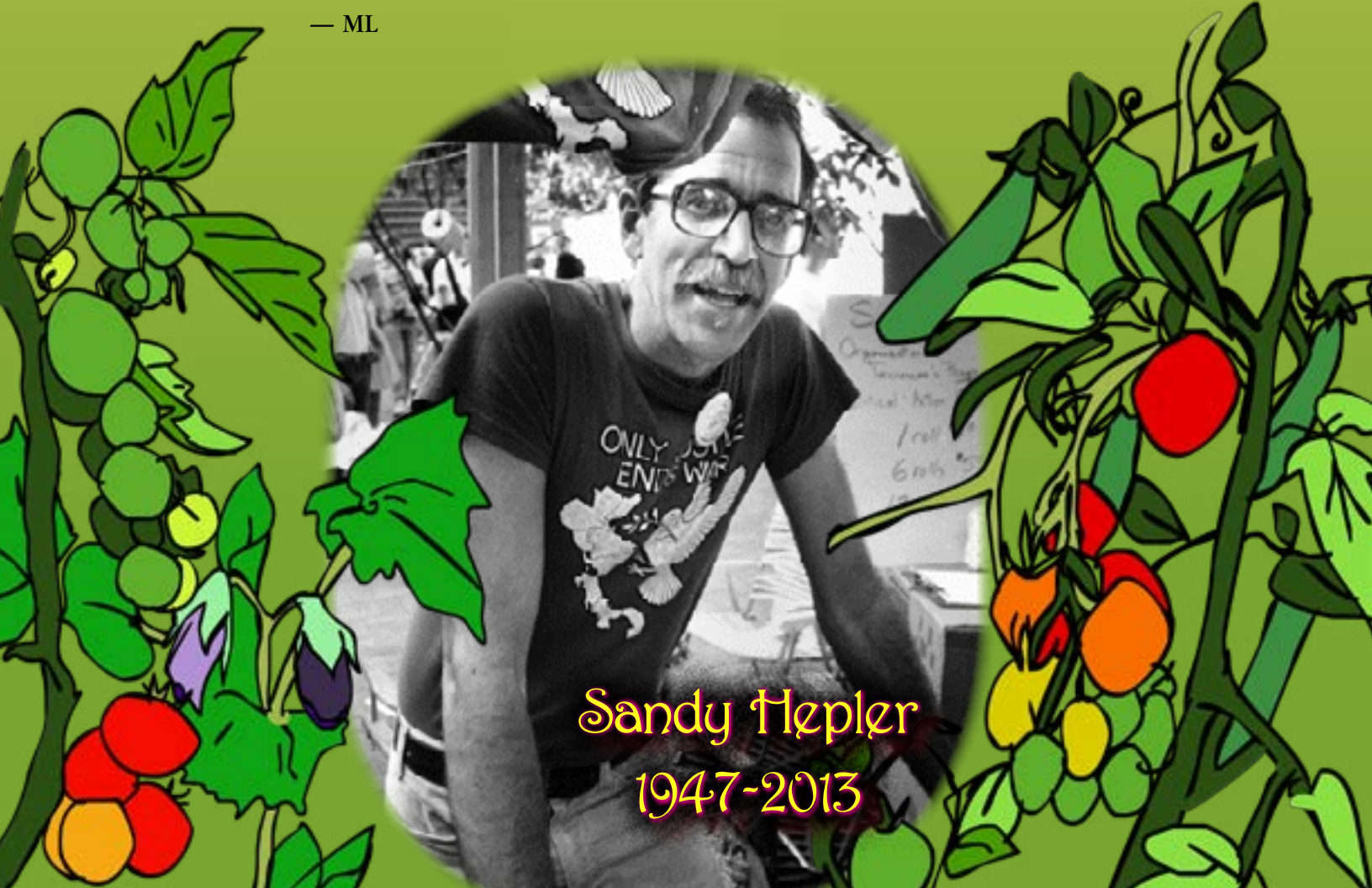
Introduction and Dedication

HUMANS AND ANIMALS make a lot of poop and pee all over the world. If not handled with care, it can cause pollution, disease, and death. When it is properly composted, the pollution can be controlled, harmful bacteria destroyed, and lives saved. The end result is our gift to the earth.

THIS COMIC BOOK was created with childlike curiosity in the hope that it will help put aside our disdain and disgust as we confront the act we all do, and pay the least attention to.

SANDY HEPLER AND I were going to write this comic book together, as we both appreciate compost of all kinds. But his time for leaving came just as we were getting started. Before his death he made sure his friends knew that he wanted to have the ultimate compost experience. He had us bury him in his beloved orchard where he could feed his trees, unencumbered by coffins or vaults. Through the years he was a tireless champion for the betterment of health and nutrition in places where the need was great. This comic book would not have happened without his friendship, encouragement, and funding.

— ML



Sandy Hepler
1947-2013