

Take a Spark and
make it burn!

ROCKIN' SPARK STATION IDEA PACKET



**Body
Functions**



Mary Ann Johnson

Take a Spark and make it burn!

Dear Rockin' Idea Packet user,

Congratulations on joining the Spark Station family! I hope you are as excited as I am here at Home School Coach, LLC! I am looking forward to adding you to a growing list of successful and inspired parents! These packets will provide you many opportunities to connect in some meaningful ways with your children as you learn together.

I want to take this opportunity to share a few things that will help you make the best use of this Rockin' Spark Station Idea Packet.

- Print off each packet as it arrives in your in-box. They can also be filed and stored on your hard drive. However, if they are in hard copy form your children can help you use them to the fullest.
- Punch the pages and store them in a binder.
- Have them in an easily accessed place so you and your children can view the binder on a regular basis. You can even store the binder in the Spark Station itself.
- Let your children who can read help you choose the activities that appeal to them most right now, from the topic that interests them most.
- Mix it up. Don't think you have to do all of the activities in one packet before moving on to the next.
- Remember that when you use a packet with a two year old you will probably return to the same topic again when they are six, eight, ten, or twelve. So save that binder!
- Have a lot of fun!!!

If you have purchased a single packet I hope you enjoy it. If it is helpful to you, you might want to check out the monthly subscription which is the most cost effective way to receive Rockin' Spark Station Idea Packets on a regular basis. You can find out more about the monthly subscription at:

<http://home-school-coach.com/store-2/rockin-closet-idea-subscription/>

If the Spark Station is a new concept to you learn a bit more about it and what makes it work at home-school-coach.com in the "START HERE" category.

If you have any questions, you can contact the office by email: majcoach@gmail.com

To greater family connections,

Mary Ann Johnson

Owner, Home School Coach, LLC

A ROCKIN' SPARK STATION IDEA PACKET

Body Functions: Boogers, Snot, Poop, Urine, Burps and Farts



INTRODUCTION

Have you ever noticed how interested kids are in these particular bodily functions? If you think back to when you were in grade school how many of your recess jokes were about poop, snot, burps or farts. Yeah, lots!! The other day my five year old grandson went into gales of laughter over the word poo which was attached to a silly joke. How many times have you said to a son, “Stop burping like that; it’s rude!” If you are like me, a person who had three boys, then you will have to answer...A LOT!

How Do You Know What Kids Want To Learn

I have said over and over in many presentations on how to know what your children really want to learn about that the thing that is gross, making a mess or is bugging you is exactly what they want to know about. In this particular case it is so true. Why not stop reminding your boys they are rude and take bodily functions out of the realm of things we only joke about and bring them smack into some of the best educational experiences you will ever have with your children. Think I’m kidding. Just read this letter that I got from a mom who did just that.

A LETTER FROM A PARENT

Hi MaryAnn,

I am working hard, but it took me longer than I expected to get my Spark Station organized! But, success at last! I just picked up my five books at the library last night. One of the books that I picked up at the library is about the human body and burps (lol! yes, two boys in my family) and I was following a spark! Their obsession with bodily functions is hilarious and they are wondering why these things happen! What fun! (funny! is more like it!) Anyways, I will keep you posted! Thanks so much for your wisdom...really and truly.

Luvs, Hana



So here are two boys interested in all the gas that can escape from a body. Not a mother's fondest topic! However, this mom knows how to listen and respond!

Hanna told me later that after she had shown her boys the book about where burps come from that she went to the library and checked out every interesting book she could find on urine, gas, snot, all of it. And she said that for a whole month her boys were so interested and poured over the books.

They talked about all this stuff. They wanted to know everything. They drew bodies and tracked bodily functions in them. How does a burp go from the top of you to the bottom of you? They were so into it. This is science at its best. Now they may not remember the terms because these were fairly young boys but they will not forget how their body works.

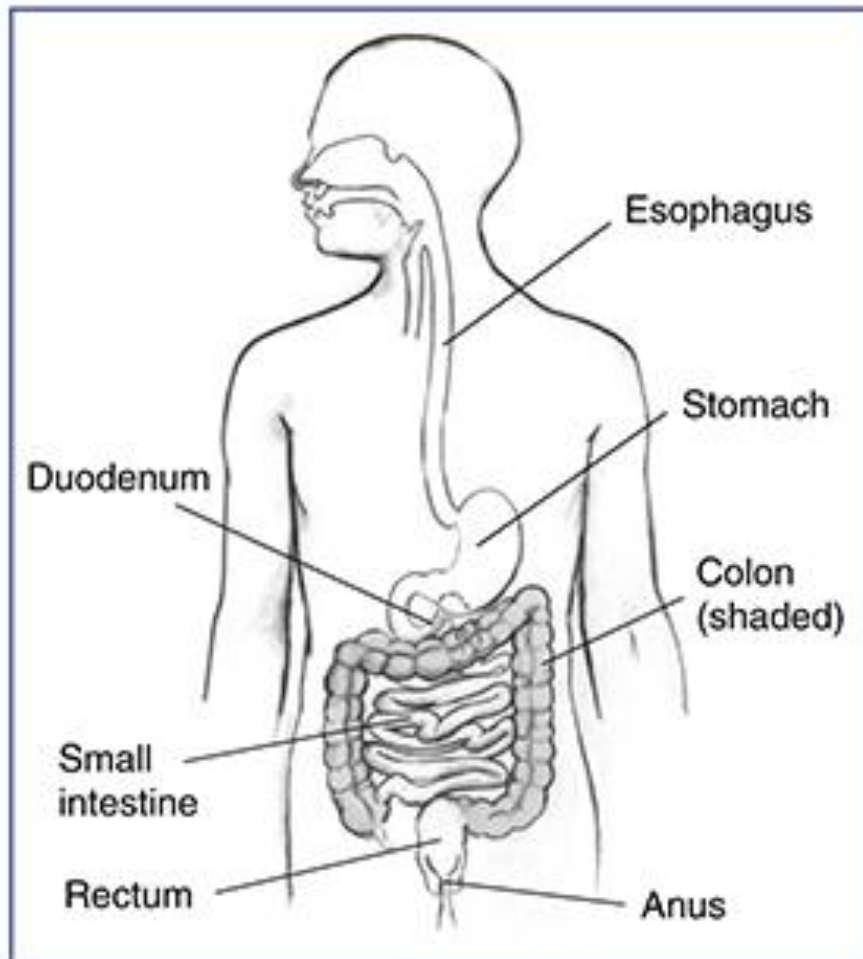
So let's get to work and learn all about snot, boogers, urine, burps and farts and poop and have a great time doing it.

TABLE OF CONTENTS

INTRODUCTION	3
PART 1: SNOT AND BOOGERS	
1. It's Snot A Bad Thing!	7
2. Why Kids Eat Boogers	7
3. Making Synthetic Boogers	8
4. Bodacious Boogers	9
5. Slimy Mucus	10
6. Poems, Rhymes And Riddles	11
7. Books	11-12
8. Recipes	
a. Booger Pretzels	12
b. Monster Snot	13
PART 2: POOP and PEE	
1. What Is Poop Made Of?	13
2. What Color Is Poop?	14
3. Why Does Poop Stink?	14
4. What Is Pee?	14
5. The Parts Of Your Urinary Tract	15
6. Let's Do Some Poop Math	15
7. Worm Fertilizer	16
8. Lesson On Synonyms	16
9. Making Poop	16
10. Scat	16
11. Where Your Poop Goes	16
12. Animal Poop	17
13. Bird Poop Painting	17
14. Make Pee Pals	17-18
15. Where Does Pee Come From?	18
16. Draw The Urinary System	18
17. Color Your Urine	19
18. Poems, Rhymes And Riddles	19
19. Books	20-21
20. Recipes	
a. Potty Fruit Snack	21
b. No Bake Cookies	22
c. Animal Poop	22

PART 3: BURPS AND FARTS

1. What's A Fart?	22
2. How Often Do We Fart?	23
3. Why Do Farts Smell?	23
4. Famous Fart Food	23
5. Let It Rip! The Sound Of Farting	23
6. Who Farts Besides People	23
7. Who Doesn't Fart	23
8. Burps	24
9. Burping The Alphabet	24
10. Acid And Farts	25
11. Homemade Stink Bomb	25
12. Draw Your Digestive System	26
13. Fart Journal	26
14. Whoopee Cushion	26
15. Poems, Rhymes And Riddles	26
16. Books	27
17. Recipes	
a. Fun Lunches	28
b. Edible Digestive System	28



PART I: SNOT AND BOOGERS

1. ITS SNOT A BAD THING!

Snot is another name for mucus. Mucus is produced in your nose and has some pretty important jobs. Did you know that your nose and sinuses make about a quart (about 1 liter) of mucus (snot) every day and that you swallow most of that. Eweee.

Mucus protects your lungs. Mucus is sticky and it traps all the dust, germs, dirt and pollen that get into your nose when you breathe. Then the mucus, along with some small hairs in your nose called cilia move the mucus (snot) either to the front of



your nose where you blow it out or to the back of your throat where you swallow it. Eweee. (mucus is sticky because of a substance called mucin.) Mucus is essentially a thin paste made of mucin and water.

When the mucus, dirt, and other debris get dry and clump together, you're left with a booger. Don't you just hate that! Boogers can be squishy and slimy or tough and crumbly. Everybody gets them, so they're not a big deal. In fact, boogers are a sign that your nose is working the way it should!

If you have to get rid of boogers, your best bet is to blow 'em out of your nose and into a tissue. Picking your nose isn't a great idea because boogers contain lots of germs and because poking around in your nose can make it bleed. If germs do sneak in, and you get sick, you'll probably get a runny nose because your body makes extra snot to wash away the germs.

Also, just in case you were wondering, mucus is a non-Newtonian gel. Look that up mom and dad! Mucus (snot and boogers) doesn't just repel bad stuff. It can conduct particles into the nasal lining, which helps you smell things. One study showed that mucus actually alters the way the world smells to us. So, to sum up: Without snot and boogers, your body would have no protection against all the dangerous microbes you breathe in every day, and things would smell really weird (or wouldn't seem to have any odor at all).

2. WHY KIDS EAT BOOGERS!

Have you ever wondered why kids sometimes eat boogers? Eweee. Well there is a biochemist from the University of Saskatchewan who believes that mucus (snot and boogers) has a sugary taste that is meant to entice kids to have a snack. He believes that the germs in your snot help a child's immune system become stronger and increases their body's natural germ defense. Friedrich Bischinger, an Austrian doctor thinks the same thing. However, other experts believe this theory (which has yet to be tested) doesn't necessarily hold water, since people swallow nasal secretions every day, even in their sleep, even if they don't eat their boogers. I'll bet your mom is glad to hear that!! By the way scientists have a great term for nose-picking: rhinotillexomania and they have another term for swallowing boogers (mucophagy). Good grief!



Can Run Even When You Don't!

3. MAKING SYNTHETIC BOOGERS

This is perfect for 3 and 4 year olds. Make some synthetic boogers by mixing corn starch and water. It is sticky (especially as it dries out) and when you let it drip from your fingers it really does look like boogers. Eweee! You have just shown how mucin and water make snot which as it dries becomes a booger.



Snot making for older kids

You will need:

- Hot water
- A cup
- Gelatin - Plain works best
- Corn syrup
- A fork
- A teaspoon



- a. Fill half a cup with hot water or boiling water.
- b. Add three teaspoons of gelatin to the water.
- c. Let it soften before stirring with a fork.
- d. Add a quarter of a cup of corn syrup.
- e. Stir the mixture again with your fork and let the mixture sit to cool look at the long strands of gunk that have formed.
- f. As the mixture cools slowly add more water, small amounts at a time until you get texture or consistency desired.

What's happening?

Mucus is made mostly of sugars and protein. Although different than the ones found in the real thing, this is exactly what you used to make your fake snot. The long, fine strings you could see inside your fake snot when you moved it around are protein strands. These protein strands make snot sticky and capable of stretching.

Adapted from <http://www.sciencekids.co.nz/experiments/fakesnot.html>

Not enough snot yet. Here are a couple more recipes.

4. BODACIOUS BOOGERS

You will need:

- White model magic clay *
- Water colors, brush and water
- wax paper



Use brush and water to make a small puddle of very concentrated paint. Mix white model magic clay with watercolors to make gross colors of nose discharge.

Be creative! Shape your clay into chunks, globs, or pools. Dry on wax paper. Then fill up a tissue! Or wear your art on your sleeve for dramatic effect! Use your imagination!

*You can buy the Carola Model Magic or you can make your own. Big difference in cost!

Make Your Own Model Magic

You will need:

- 2 cups baking soda
 - 1 cup corn starch
 - 1 1/2 cups cold water
- a. Combine 2 cups of baking soda, 1 cup of cornstarch and 1 1/2 cups of cold water in a pan. Stir the ingredients until you have a smooth consistency.
 - b. Place the pan over your stove on medium heat. Stir the mixture until it boils.
 - c. Continue stirring to remove any lumps. Set a pan cover slightly askew and cook the mixture until it has the consistency of mashed potatoes. Keep a close watch on the pan and stir every few minutes to avoid burning.
 - d. Pour the mixture into a large bowl. Saturate a kitchen towel in cold water and wring out so it is damp rather than dripping. Place the towel over the mixture and allow it to cool.
 - e. Sprinkle cornstarch on a clean kitchen surface and knead the mixture once it has cooled until pliable, then use as desired.



Tips: Knead in more corn starch, a little at a time, as needed if the dough is too "wet." Keeping a damp kitchen towel over the extra dough, it will keep for some time, though if you plan to keep it for more than a couple of days, you might want to add peppermint flavoring, as it can start to smell sour. Keeps for about two weeks.

The texture and weight of the two are very different. The Crayola Model Magic is light as air (well, practically, anyway), spongy, and stretchy. The homemade version is soft and pleasing to work with, but doesn't have any of those Model Magic qualities. It is heavier, doughy, and pulls right apart rather than stretching. So, if the special tactile experience of Model Magic is what you like, then the homemade version won't compete.

Adapted from <http://www.southernasbiscuits.com/2011/11/homemade-model-magic.html> and <http://artfulparent.com/2011/12/model-magic-crayola-vs-homemade.html>

5. SLIMY MUCUS

You will need:

- Blue gel glue
- Saturated* solution of borax in water
- 1 container, such as a coffee can or bowl
- 1 old Pyrex® or heat resistant glass measurer
- 1 quart saucepan
- Food Coloring (optional)

Let's talk about saturation for a moment before making the goo. In chemistry, saturation is the point at which a solution of a substance can dissolve no more of that substance. To help you understand, let's look at an everyday example.

Your little sister elbowed her glass of milk and it spilled on the table. You run to the dispenser, get a paper towel and lay it over the mess. That one paper towel soaked up 3/4 of the milk and then it won't hold any more. It is saturated with milk.



Our activity calls for a saturated solution of borax in water -- water with so much borax stirred in that no more will dissolve. Since hot water can hold more borax than cold water, you will heat the water to boiling when making the saturated borax solution.

- To make a saturated borax solution, place 1 cup of water in saucepan and add about cup of borax.
- Boil a few minutes until most of the borax dissolves.
- Pour off the liquid into the heat-resistant glass measurer and save it.
- Discard the remaining borax. Cool the solution.
- Thin the blue gel glue with water to about a 50/50 blend. Measure the glue/water solution.
- In the old container or coffee can, combine about two parts of the glue and water mixture and one part liquid borax solution (volume to volume). You will probably have to play with the proportions to get the best slime.

If it is too sticky, add more borax solution; too stringy add more glue. Add a few drops of food coloring to change the color of your slime.

From <http://www.pregnancy.org/article/kids-activity-making-snot-and-boogers>

Watch a Video about snot. <http://on.aol.com/video/why-boogers-form-326721421>

6. POEMS, RHYMES, RIDDLES

Please do not pillory me for these terrible poems, rhymes and riddles. I did not make them up I just said them as a child and you probably did too. Teach them to your kids at your own discretion. :)

Having fun, fun, fun
Flicking boogers at the sun
If the sun gets too hot
Then your boogers turn to snot!

Booger Love by Brod Bagert

I love this little booger,
All shiny green and black.
You can hold it for a minute,
But I want my booger back.

It stays right where I put it,
It sure knows how to stick.
And if it gets too dry...?
It just needs a little lick.

I can hold it on my finger,
I can flick it in the air,
I can stick it underneath a desk,
Or underneath a chair.

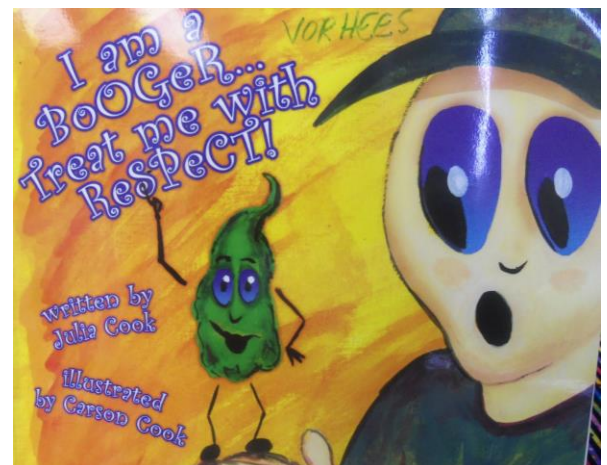
I can make a ball and roll it
Just to see which way it goes,
I love this booger anywhere...
Except inside my nose.



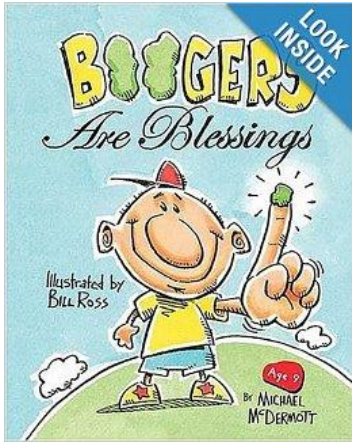
From <http://www.squidoo.com/preschool-science-lesson-plans>

7. BOOKS

- *Blood and Goo and Boogers Too: A Heart-pounding Pop-up Guide to the Circulatory & Respiratory Systems* by Steve Alton
- *I Am a Booger... Treat Me With Respect!* by Julia Cook (age 4 and up)
- *Why Is Snot Green?: And Other Extremely Important Questions (and Answers)* by Glenn Murphy
- *Snot Stew* by Bill Wallace and Lisa McCue
- *The Booger Book* by Christy Roosma
- *Benny's Boogers: A Silly Rhyming Children's Picture Book* by Xavier Finkley and Laura García

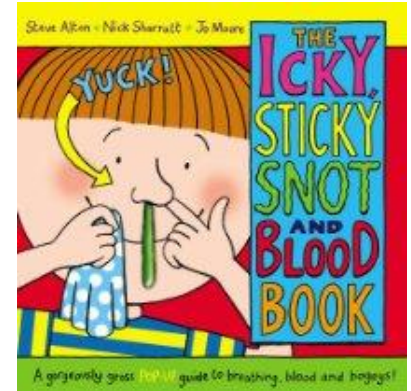


THE HOME SCHOOL COACH



- *Boogers Are Blessings* by Michael McDermott
- *The Booger Book: A Silly Book About Hygiene (Hygiene for Kids)* by Lindsay Jordan
- *Maddy's Guide to Life: Boogers* by Kristina Andersen
- *Why You Shouldn't Eat Your Boogers: Gross but True Things You Don't Want to Know About Your Body* by Francesca Gould and JP Coover
- *Blood and Goo and Boogers Too* by Steve Alton (For those seeking gross-out in pop-up form, this colorful tome delivers, complete with a squishy lump of snot on the cover. Pass the Kleenex!)

- *Please Don't Eat Your Boogers* by Casey Crayne, Steven Daily and Tyler Daniels
- *The Icky, Sticky Snot and Blood Book* by Steve Alton



8. RECIPES

Ok lets really be gross and have a few boogers for lunch!

A. Booger Pretzels

You will need:

- Cheese-whiz
- Pretzels
- Green food coloring

This one is perfect for the gross out factor. Simply melt some Cheese-Wiz with green food coloring and keep going until you find that perfect booger color. Pour it into a bowl with some pretzel sticks next to it. This is the one time kids should be eating their snot.



From

http://www.oneincomedollar.com/2012_10_17_archive.html

B. Monster Snot

You will need:

- Powdered Egg Whites (Meringue powder, available at craft stores)
- Water
- Mixer
- 3 small bowls
- Three spoons
- Rubber spatula
- Cake decorating tube and tip (I use zip lock bags with a hole cut in the corner)
- White sugar
- Food Color
- Waxed paper or parchment paper
- Cookie sheet



- a. Mix the water and powdered eggs together in the mixer. Use the directions on the powdered egg package for meringue.
- b. Beat the mixture on low while adding sugar. Again use the amount stated on your powdered eggs package.
- c. Beat till stiff peaks form.
- d. Separate into the three small bowls and use your food color to make different gross green, yellow and brownish colors.
- e. Put the colored meringue into your decorating bags or your Ziploc bags and squeeze the “snot” onto the waxed paper, layering the different colors. (Place the waxed paper on the cookie sheets before squeezing the meringue onto the waxed paper)
- f. Place the cookie sheet into a very slow oven 300 degrees or less and bake until they are crisp and dry. Enjoy!

PART II: POOP AND PEE

The real name for poop is feces. But we usually say turd, stools, crap, poo or poop and other words that you shouldn't say! If we are talking about animals then we say scat.

1. WHAT IS POOP MADE OF?

Poop is $\frac{3}{4}$ water. However, if you are unlucky enough to have diarrhea then it contains much MORE water! As your poop moves through your large and small

intestines, which are connected to your stomach, water is taken out of it. So the longer the poop stays in your body the drier it becomes. The drier the poo the harder it is to go. Ouch!



Another 1/3 of your poop is made of dead bacteria. These bacteria are part of the garden that grows in your body to assist it in digesting food. Imagine that, little plants that grow in your digestive tract! Another 1/3 of your poop is from things in the food you eat that your body cannot digest and use as energy in your body. This indigestible material is called fiber and is important not for energy to run your body but to help the poop move out of your body. The rest of your poop is made of fats such as cholesterol, inorganic salts such as phosphates, live bacteria, dead cells, mucus from the lining of your intestines and protein. What! there is snot in your intestines too. Well there is mucus in your intestine but it isn't exactly the same as what your nose makes.

2. WHAT COLOR IS POOP?

Poop is usually brown. It is darker in color with a meat diet and lighter with a milk diet. The brown color comes from dead red blood cells which are mixed in with the poop. Eweee! Poop can be a number of different colors: brown, yellow (Check a new babies diaper), black if it has a lot of blood in it, a bit reddish if you eat enough beets, and if you eat foods with blue coloring in it your poop can be green or green blue. Sometimes brightly colored foods pass through the intestines almost unchanged so the poop may be speckled with bright red fragments such as pimentos, or bright yellow kernels of corn. Ewee! Look kids, you asked for this! :) Adapted from http://www.smellypoop.com/facts_about_poop.php

3. WHY DOES POOP STINK?

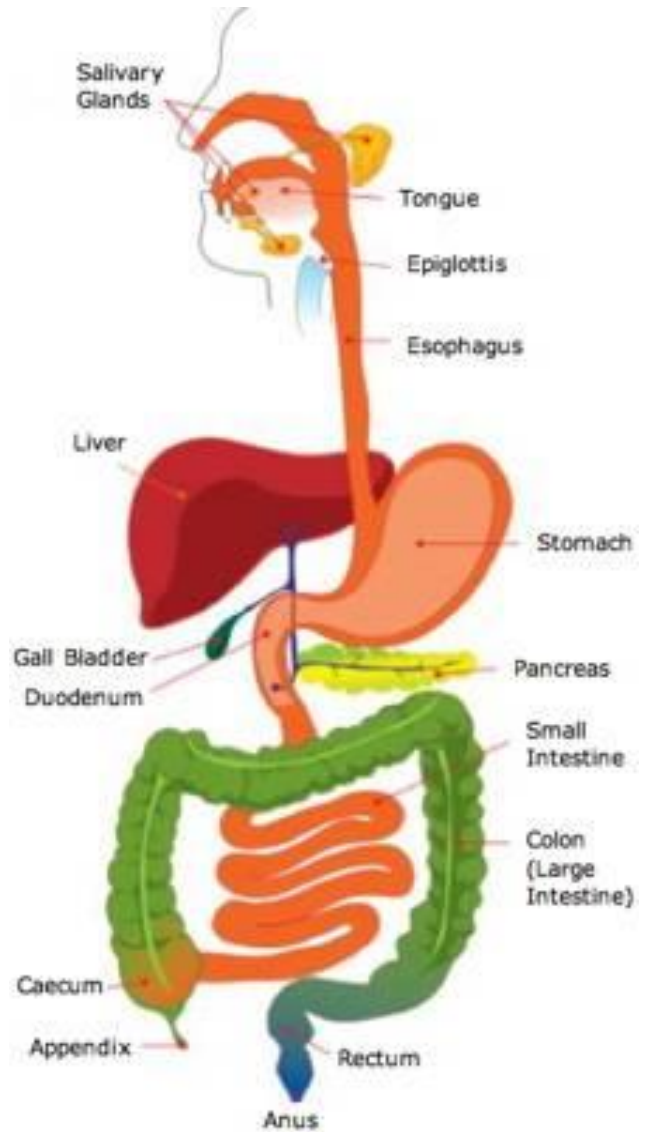
Poop stinks because of the bacteria that are in it. Bacteria produce smelly sulfur rich compounds such as hydrogen sulfide. This is the same gas that makes a fart smell. Eweee! The more meat you eat the bigger the stink!

4. WHAT IS PEE?

Pee is one of the first body fluids a kid learns about. Pee is also called urine. You drink, you pee. But urine is more than just that drink you had a few hours ago. The body produces pee as a way to get rid of waste and extra water that it doesn't need.

Pee is created in the kidneys. The kidneys are really important to keeping your body healthy. In the kidneys waste products are turned into urine and then the urine is flushed out of your body through your urinary system. Without the kidneys, waste products and toxins would soon build up in the blood to dangerous levels. To get out of your body urine travels through the urinary tract.

In addition to eliminating wastes, the kidneys and urinary tract also regulate many important body functions. For example, the kidneys monitor and maintain the body's balance of water, ensuring that our tissues receive enough water to function properly and be healthy. Did you ever notice that if you drink a lot, you pee more



and the pee is pale yellow? That's because your body is getting rid of extra water and your pee has more water in it than usual.

Adapted from

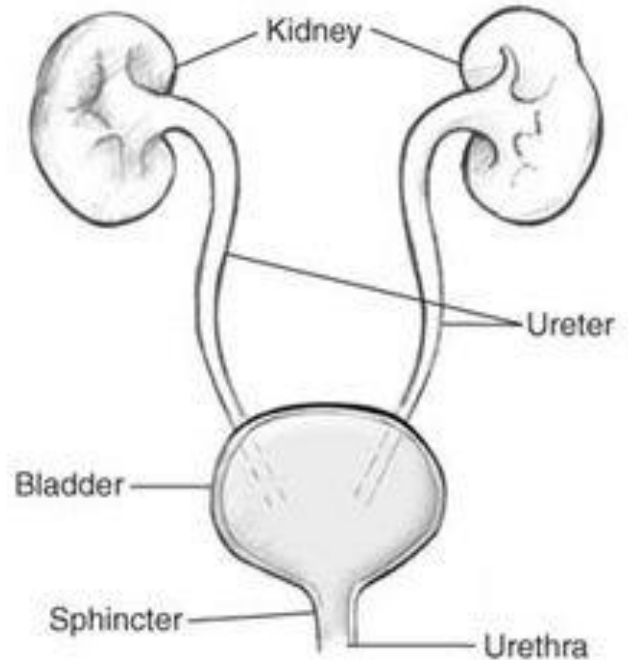
http://kidshealth.org/parent/general/body_basics/kidneys_urinary.html and

<http://kidshealth.org/kid/htbw/pee.html>

5. THE PARTS OF YOUR URINARY TRACT

The urinary tract is a pathway that includes the:

- Kidneys: two bean-shaped organs that filter waste from the blood and produce urine
- Ureters: two thin tubes that take pee from the kidney to the bladder
- Bladder: a sac that holds pee until it's time to go to the bathroom
- Urethra: the tube that carries urine from the bladder out of the body when you pee



6. LETS DO SOME POOP MATH

- A. The skipper caterpillar is just an inch and a half long but can shoot its poop a distance of six feet. How many times its length does this caterpillar shoot its poop? If you could throw something that many times your height, how far would it go?
- B. Rabbits produce 500 pellets of poop a day. How much is 500? Have children in lower grades count out 500 M&M's (the brown ones, after all, are perfect!) by first creating piles of ten or twenty-five.
- C. Scientists have found a chunk of fossilized T. Rex poop that weighs 16 pounds. Sixteen pounds! How much is that exactly? Have your kids use different sized rocks and combine them to create this weight. They can weigh the rocks individually and then add them together to get the 16 lb. total. They can round the individual weights up and down, add the rocks together and see how close they come to the 16 lb. total.
- D. Geese poop, on average, once every 12 minutes. Sloth, on the other hand, poop only about once a week. Wow—the possibilities here are endless. How many times an hour do geese poop? How many times a day? A week? A month? A year? How often do sloth poop each month? Each year? How many more times a year does a goose poop than a sloth? What is the ratio?
- E. Each day, on average, people produce 1 ounce of poop for each 12 pounds of their body weight. How much poop would a 60-pound kid produce? A 96-pound kid? How about basketball player, Shaquille O'Neal, who weighs 338 pounds?

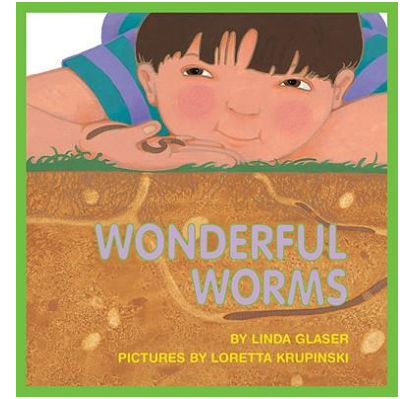
From <http://www.susangoodmanbooks.com/educators/poopguide.html>

7. WORM FERTILIZER

Make a worm bin and create your own super fertilizer from worm poop for your garden. Making a worm bin is relatively easy; the kids can help. It involves setting up a wood or plastic box with wire mesh, moistened newspaper, and worm food (kitchen scrapes like ground-up eggshells, fruit, and vegetable scraps).

You can find directions on how to do this here - <http://whatcom.wsu.edu/ag/compost/Easywormbin.htm> and http://www.sierraclub.org/e-files/worm_bins.asp

Red worms are the very best and can be ordered here <http://www.topline-worms.com/>



8. LESSON ON SYNONYMS

Have a lesson on synonyms and make a game of it. Use the internet to find synonyms for poop or try introducing a thesaurus or a synonym dictionary. Here are some to get you started:

- Dung
- Droppings
- Spraints (otter poop)
- Fumets (deer poop).
- Coprolite (fossilized poop)
- Castings (worm)
- Crottels (rabbit)
- Guano (bat)
- Scat

9. MAKING POOP

Watch a super cool video showing you how some kids made some fake poop just like your body does. Then do what they did.

Then watch this step by step tutorial on how to make your own poop. <http://www.squidoo.com/make-poo#module117204251>



10. SCAT

If you want to learn about scat, invite a hunter and/or wildlife specialists to come talk about their uses of scat.

You could also make a Match That Scat Memory Game. To create the game, draw a dozen animals on index cards (or print them off of the Internet with your computer) and pictures of their scat on a separate set of cards. (For examples of scat, try a scat guide or <http://www.terrierman.com/scatanswers.htm>) If you don't mind the giggles, have your kids design the game themselves.

11. WHERE YOUR POOP GOES

Have an educator from your local wastewater treatment department come talk to your students about what happens after they flush their toilets.

12. ANIMAL POOP

Watch an ant farm closely to see that the ants do with their poop. Find ways to measure it. Do research to find out how other creatures deal with their waste.

Use the same idea for other pets.

Send away for owl pellets (owls regurgitate the bones of their prey neatly wrapped in fur) and dissect them. Or, visit <http://www.kidwings.com/> and do a virtual pellet dissection.

13. BIRD POOP PAINTING

This project teaches about the different diets of birds and also some research skills.

You will need:

- ¼ c white tempera paint
 - Squeezable condiment bottle
 - Berries
 - Seeds
 - Nuts
 - Other bits of appropriate food
- a. Have each child choose a bird and research its diet
 - b. Put about 1/4 cup of white tempera paint into a squeezable condiment bottle.
 - c. Add crushed berries, seeds, nuts, and other bits of foods that would be appropriate for the poop they're making.
 - d. Put the lid on the bottle and shake to mix.
 - e. Spread the work area with newspaper and place a large piece of black construction paper on top of the newspaper.
 - f. Have kids stand above the paper and squeeze the condiment bottle until a plop of paint poop comes out. If the paint mixture is too thick, add a bit of water or cut a bigger hole in the condiment bottle lid.
 - g. After the paintings dry, write the name of the bird on them and display. Instead of pop art, think of it as poop art!

14. MAKE PEE PALS

Make Pee Pals and play a joke on your friends. Pee Pals will gross out your kids' friends while proving that carbon dioxide gas bubbles can make heavy objects float. In this activity your kids drink soda that they pretend is urine. Of course, no one should ever drink real urine! Remind your kids to not drink or eat things they make in chemistry.

You will need:

- Raisins
- Small bowl that looks scientific
- Tablespoon
- Water
- Beaker or tall glass
- Yellow soda



THE HOME SCHOOL COACH

- a. Have your kids put four to six raisins in a bowl with one tablespoon water. The raisins will absorb some water and look more like bugs.
- b. Ask them to pour the yellow soda into the glass. They should hide the soda bottle and the raisin box.
- c. Invite your children to round up an audience. Have your kids hold up the glass with the yellow soda, and have them explain to the crowd that this is pee. Tell them to feel free to use the scientific name, "urine."
- d. Have your children hold up the raisins in the bowl. They should tell the audience that the raisins are bugs that have been genetically engineered to get their food from pee and to clean the pee.
- e. Make sure your kids explain that the scientists who engineered the bugs named them Bugus Urinalis but their nickname is Pee Pals. Have your kids say that the Pee Pals are a little sluggish until they eat.
- f. Have your kids drop the Pee Pals into the glass, and have everyone watch as the pals will sink to the bottom. They should explain that the bugs are now eating.
- g. After a short time some of the pals will rise to the top of the surface and then fall back down. They will keep repeating this "dance." Your kids should inform the audience that the Pee Pals rise to the top to get oxygen and then fall back down to the bottom to clean the urine.
- h. After a few minutes your children should announce in a dramatic way, "The Pee Pals have cleaned the urine!"
- i. Have your kids ask for volunteers to drink it. When everybody says, "No way," your kids can dramatically drink the beverage. Then have them tell everybody how good it tastes.
- i. The raisins sink to the bottom of the glass of soda because they are denser than the soda. The fizz (or carbonation) of soda is from the carbon dioxide gas it contains. When carbon dioxide bubbles attach to the raisins, the raisins rise. At the surface the bubbles are released, and the raisins sink back down to the bottom of the glass.

From <http://tlc.howstuffworks.com/family/science-projects-for-kids-chemical-reactions4.htm>

15. WHERE DOES PEE COME FROM?

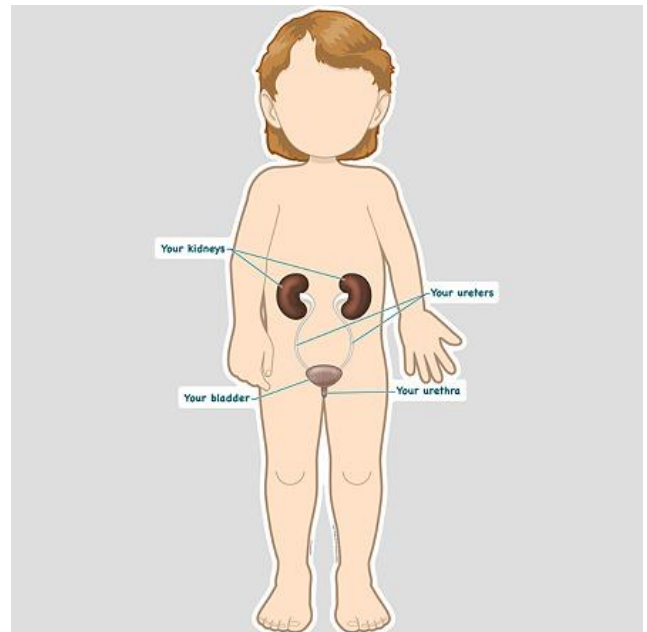
Watch a video about where pee comes from.

http://kidshealth.org/kid/closet/movies/USmovie.html?tracking=K_RelatedArticle

16. DRAW THE URINARY SYSTEM

You will need:

- Butcher paper
 - Markers for tracing
 - Construction paper, paint or crayons
 - Glue
 - Scissors
- a. Trace your kids on large pieces of butcher paper.
 - b. Then have them draw in their urinary system and their bowel system. You could cut out the internal organs from construction paper and glue them on or just draw them and color them in with paint or crayons.
 - c. Label the body parts



17. COLOR YOUR URINE

Have you ever wanted to color your urine or wondered what causes urine to become colored? If so, you're in luck, because here is the answer! Some of these ideas are just to know for fun but some are safe enough to try. I myself have had red urine from fresh cooked beets. It takes a lot more beets if they are canned. :)

- Violet - I'm going out on a limb here, but I suspect you could get violet or purple urine if you combined beets with methylene blue.
- Blue - Methylene blue will turn your urine blue or greenish-blue. It can also color the whites of your eyes blue. The coloration of both urine and eyes is reversible. At one time, methylene blue was considered to be an effective treatment against malaria. As far as urine colorants go, this one is considered to be reasonably safe to eat, though you should be aware some people are allergic to methylene blue. Food coloring may turn your urine blue.
- Green - Asparagus will turn urine green and also will give it a very strong odor. Food coloring can turn your urine green, as can certain medications.
- Yellow - That would be the normal color, so I'm guessing this won't be a problem.
- Amber - Dark golden urine often results from dehydration (not drinking enough water). A very dark color might indicate the presence of bile in urine, which is symptomatic of a medical condition.
- Orange - Eating rhubarb can turn your urine orange.
- Red - Eating beets or blackberries can turn your urine red.
- Pink - Pink can result from eating smaller quantities of beets or blackberries.
- Brown - Brown urine results from an overdose of the herb Goldenseal (not good). You should probably avoid this color, if at all possible.
- Black - As far as I know, you only get this from Blackwater Fever, which is associated with malaria. The black color comes from massive death of your blood cells, leading (usually) to the victim's death. Black is not a good color for your urine. Remember black poop is also caused by dead blood cells.
- Clear - All it takes to achieve clear urine is to drink plenty of water. Don't go overboard, since even too much water can be bad for you.

If you decide to try any of these out for yourself, be sure to read the safety information that accompanies the chemicals and use common sense.

Adapted from <http://chemistry.about.com/od/colorchemistryprojects/a/how-to-color-urine.htm>

18. POEMS, RHYMES, AND RIDDLES



Why are turds always tired? Because they're pooped out!

Why did Piglet look in the toilet? He wanted to see Pooh!

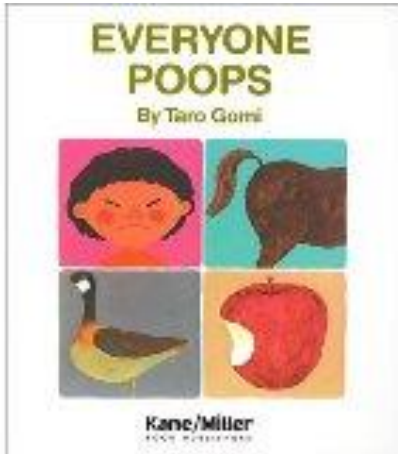
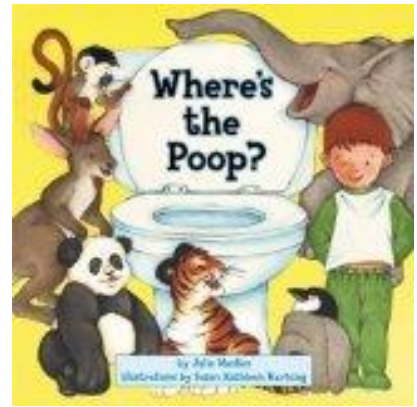
What do you do when you are eaten by an elephant? Run around and around till you're all pooped out.

"Never kick a fresh turd on a hot day." - Harry S Truman

Ink, pink, a penny a wink
Oh, how do you stink!

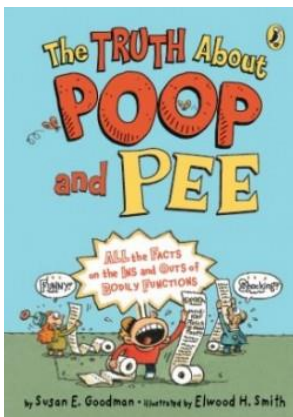
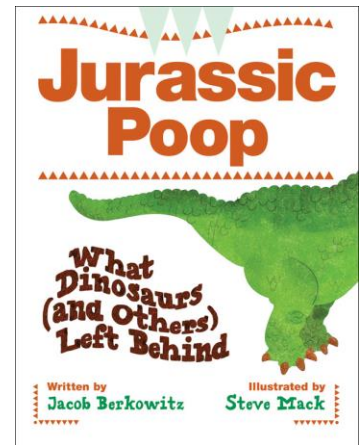
19. BOOKS

- *Where's the Poop?* by Julie Markes
- *I Can't, I Won't, No Way!: A Book For Children Who Refuse to Poop* by Tracey J. Vessillo and Mike Motz
- *Everyone Poops (My Body Science Series)* by Taro Gomi and Amanda Mayer Stinchecum



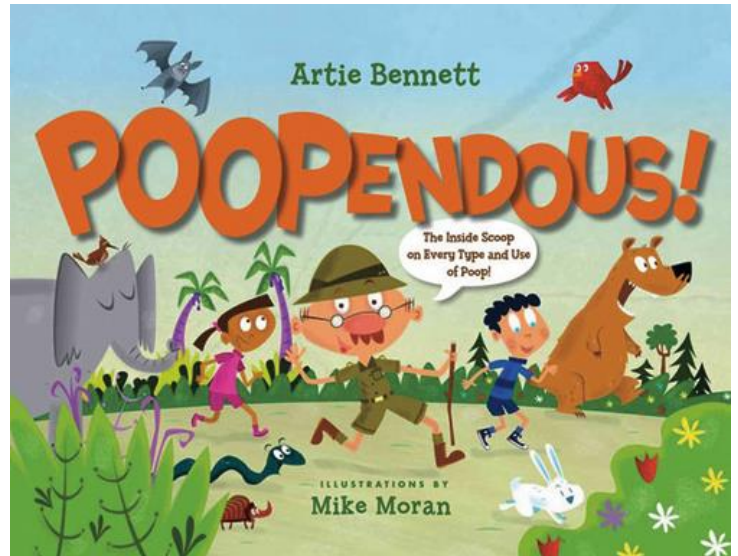
- *Even Poop has a Purpose.: Book No.1 in the Even Series. (Volume 1)* by Uncle Paul and Mr. Book
- *The Scoop on Poop* by Wayne Lynch the fascinating science of how animals use poop
- *Who Pooped in the Park? Yellowstone National Park: Scat and Tracks for Kids* by Gary D. Robson and Elijah Brady Clark
- *Percy The Poop* by Handlebar Kringle
- *Jurassic Poop: What Dinosaurs (and Others) Left Behind* by Jacob Berkowitz and Steve Mack

- *Judy Moody and the Poop Picnic* by Jamie Michalak and Candlewick Press
- *The Dog Poop Initiative* by Kirk A. Weisler, Kirk Weisler and Bill Sturgess Fifth
- *Jamie's Poop Gas, Parsnips, Pants and Romance* by Stephen Wray (funny book for kids aged 8 to 13)
- *ShamPOO & ShamPEE* by Xavier Finkley and Nayan Soni (A Silly Rhyming Children's Picture Book)
- *Who Pooped in the Northwoods? - Scat and Tracks for Kids* by Gary D. Robson and Robert Rath
- *Dung Beetle: The best book of bugs in pictures about what kids really want to know about insects that clean up in nature* by Ifeanyi Esimai
- *Animal Poop - What's All the Stink About?* By Mark Smith
- *The Chew Chew Poop Pee Express: A Magical Journey Through the Digestive System* by Susan LaBarre and Janine Nicholson



- *The Long Journey of Mister Poop* by Angèle Delaunois, Marie Lafrance and Daniel Zolinski
- *Poop-Eaters: Dung Beetles in the Food Chain* by Deirdre A. Prischmann, Patrick Olson and Charity Jones
- *The Truth About Poop and Pee* by Susan E. Goodman and Elwood H. Smith
- *Who Pooped in the Park? Death Valley National Park: Scat and Tracks for Kids* by Gary D. Robson and Robert Rath
- *The Dinosaur That Pooped A Planet (Danny & Dinosaurs)* by Tom Fletcher, Dougie Poynter & Tom Fletcher and Garry Parsons

- *How to Track a Lion* (Scatalog: a Kid's Field Guide to Animal Poop) by Dory Zane
- *How to Track a Leopard* (Scatalog: a Kid's Field Guide to Animal Poop) by Dory Zane
- *How to Track a Rhinoceros* (Scatalog: a Kid's Field Guide to Animal Poop) by Dory Zane
- *How to Track an Elephant* (Scatalog: a Kid's Field Guide to Animal Poop) by Henry Owens
- *How to Track a Hippo* (Scatalog: a Kid's Field Guide to Animal Poop) by Henry Owens
- *Where to Pee on a Pirate Ship* by L.L. Muir (For ages 10 and up)
- *I Have To Go!* (Classic Munsch) by Robert Munsch and Michael Martchenko
- *Wonderful Worms* by Linda Glazer
- *Garden Wigglers* By Nancy Loewen
- *Poopendous!* By Artie Bennett



20. RECIPES



A. Potty Fruit Snack

You will need:

- 1 Banana
 - 1 Pretzel Stick
- a. Cut the tip off of a banana and then scoop out the center for the bowl.
 - b. Place it on a banana slice.
 - c. Cut a larger piece off and cut the bottoms of the sides. Place in the back.
 - d. Cut off an edge piece and place on the top.
 - e. Break off a pretzel piece and press on the side. Super duper easy!!

From <http://kitchenfunwithmy3sons.blogspot.com/2013/07/potty-training-fruit-snack-other-potty.html>

B. No Bake Cookies

These simple chocolate cookies are a fun, slightly gross, way to celebrate Poop. They do not need to be baked, so kids can mold them into cow pies, pellets, etc.

You will need:

- 3 cups quick rolled oats
- 1 cup sweetened, flaked coconut
- ½ cup cocoa
- ½ teaspoon salt
- 2 cups sugar
- ½ cup milk
- ½ cup (1 stick) butter
- 1 teaspoon vanilla

- a. In a large bowl, combine the oats, coconut, cocoa, and salt. Blend well.
- b. In a saucepan, combine the sugar, milk, and butter. Bring to a boil over medium heat and cook, stirring, for three minutes.
- c. Remove the sugar mixture from the heat and stir in the vanilla.
- d. Pour the sugar mixture into the dry ingredients and stir until blended.
- e. Drop by teaspoonfuls onto wax paper. Let cool.



C. Animal poop

You can create a bowl or small baggie of bunny poop just by choosing some chocolate covered raisins. These can be mixed with mini marshmallows for ghost poop. A fun snack, well deserved at the end of a super fun learning session.

PART III: BURPS AND FARTS

1. WHAT'S A FART?

Farts are also called flatus (flay-tus), flatulence or intestinal gas. It is the act of passing intestinal gas from the anus. The word "FART" can stand

for: Frequency Actuated Rectal Tremor. When you eat, you don't swallow just your food. You also swallow air, which contains

gases like nitrogen and oxygen. Small amounts of these gases travel through your digestive system as you digest your food. Other gases like hydrogen carbon dioxide, methane are made when food is broken down in the large intestine. There are also itsy-bitsy critters inside of us. Those critters are called bacteria. Bacteria eat some of the food we swallow. The stinky fart gas comes from those bacteria. All of these gases in the digestive system have to escape somehow, so they come out as farts!



2. HOW OFTEN DO WE FART

Most people fart about 14 times a day. People that eat a lot of veggies fart more. People that eat a lot of veggies fart a lot, but they don't have stinky farts. If we bottled our farts it would make about half a liter, which would fill one empty pop can every day.

3. WHY DO FARTS SMELL?

The smell of farts comes from gas made in our bodies by digesting food and bacteria. This gas contains sulfur. The more sulfur-rich foods you eat, the more sulfides and mercaptans will be made by the bacteria in your intestines, and the more your farts will stink. Foods like cauliflower, eggs and meat are really bad for making stinky farts. Beans on the other hand, may make you fart a lot but they aren't usually the smelly kind.

4. FAMOUS FART FOOD

The most famous farting food is the bean. What is it about these little things that cause such a stink? Beans contain sugars that we can't digest. When these sugars make it to our intestines, the bacteria go berserk, start feasting and make loads of gas. Other foods that are great for making you fart are broccoli, cabbage, raw apples, milk and raisins.

5. LET IT RIP! THE SOUND OF FARTING

The sound of a fart is caused by the vibrations of the anal opening. The sound of your fart depends on the speed of the fart leaving your body and the tightness of the sphincter muscles of your anus.

6. WHO FARTS BESIDES PEOPLE

Just about everything that eats will fart. Fish fart. Toothy sharks fart. Even whales fart. What animal farts the most? It's the termite. Termites fart so much that they warm up the world.

7. WHO DOESN'T FART

Is there something that eats that doesn't fart? A few things and they all live in the sea. Jellyfish and coral don't fart. They have mouths, but no back door, so food goes in and waste comes out the same opening. Sponges don't fart either. And there's a sea worm that doesn't have a mouth, intestines or a back door. It doesn't even eat! There's a special bacteria that lives in it and keeps it alive. It's a very skinny worm, which probably doesn't surprise you.

Did You Know...

- Where does the fart gas go when you hold it in? It just goes back up your intestines...and comes out later.
- Turtle farts smell terrible
- Can you fight with farts? Some reptiles do. They use farts as a weapon.
- Is there such a thing as a fossil fart? Yes! If a bug is trapped in tree sap and farts as it dies, that fart will be trapped in sap, too. Scientists have found little fossil farts in very old, hard tree sap (which is called amber).

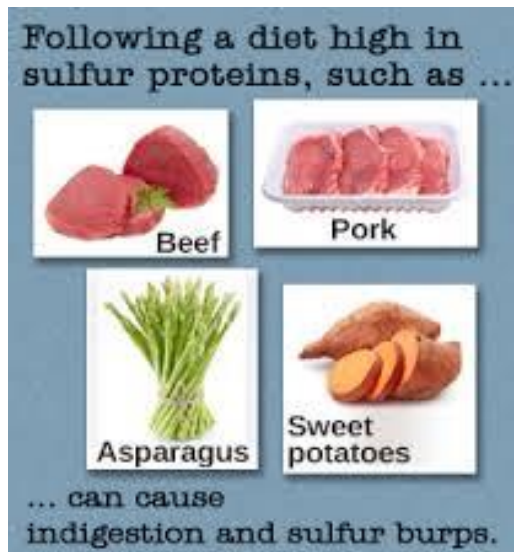
Think about this: If you could go into space without a suit and you let one rip, your fart would have enough pressure to push you forward.

Adapted from <http://www.kidzworld.com/article/473-the-science-of-farting#ixzz2u1VC5mAO>

8. BURPS

"Burp!" You just couldn't stop it in time. Where did that burp come from! A burp, sometimes called a belch, is nothing but gas. A burp is the sound that is made when the gas comes up and out of your throat. When you eat or drink, you don't just swallow food or liquid. You also swallow air at the same time. The air we breathe contains gases, like nitrogen and oxygen. Burps are not farts that come out your mouth. They have to do with your stomach and not your intestines.

Sometimes when you swallow these gases, they need to get out. That's where burping comes in! Extra gas is forced out of the stomach, up through the esophagus, the tube for food that connects the back of the throat to the stomach, and out of the mouth as a burp. It doesn't usually leave slowly. Gas can quickly escape which is why we can't always cover our mouth in time.



Some kids find that drinking soda or other carbonated beverages makes them burp more. Can you guess why? If you're thinking that it's because these drinks contain extra gas, you're right! The gas that makes the drinks fizzy is carbon dioxide another gas that can bring on big burps. Sometimes eating or drinking too fast can cause indigestion, which can make a person burp because this can send extra air into the stomach. The same thing happens when you drink through a straw: extra air in = more burps out.

It seems like the only people who can get away with really loud burps are little babies, their parents cheer when they burp because it means that the babies won't feel the extra gas in their stomachs and cry. But unless you're a baby it's probably a good idea to be polite when it's time to burp. Whether your

burp is loud or quiet, saying "excuse me" is a good idea.

Did you know that cows burp a lot? It was only awhile ago when researchers started taking an interest in this. Every year the cows in the US burp about 50 million tons of valuable gases into the atmosphere. If these gases could be caught and directed, the burps of ten average cows could keep a small house heated for a year. Those are some pretty powerful burps.

Adapted from <http://www.kidzworld.com/article/756-the-ins-and-outs-of-burping#ixzz2ulVauZXR>



9. BURPING THE ALPHABET

If you want to be able to burp the alphabet - or your favorite song - here's the secret. The more air you swallow the longer and louder your burp is going to be. So swallow some air and then belch out a tune!

10. ACID AND FARTS

You will need:

- A ziplock bag
- A sink or bucket
- Newspaper
- Baking soda
- Vinegar

Where in the digestive system is acid produced (Stomach). Acid produces gas when it dissolves something. So, when your stomach adds acid to food and the acid melts the food that is going to produce gas that either goes out the front (burping) or the back (farting). And we'll prove it now."



- a. Working over a bucket or sink which is surrounded by paper, pour some baking soda into the Ziploc bag.
- b. Then pour some vinegar in the Ziploc bag.
- c. QUICKLY zip it closed and step back. The bag will swell as the acid dissolves the baking soda and gas is produced. Then it will pop.

11. HOMEMADE STINK BOMB

You will need:

- Book of matches (20 matches)
- Household ammonia
- Empty 20-ounce plastic bottle with cap

- a. Use scissors or a knife to carefully cut the heads off of a book of matches.
- b. Place the match heads inside the empty 20-oz bottle. Add about 2 tablespoons of household ammonia.
- c. Seal the bottle and swirl the contents around.
- d. Wait 3-4 days before uncapping the bottle. After this time your stink bomb will be ready to be opened.
- e. Uncap the bottle when you're ready to release the stink.



Stink Bomb Facts and Safety

This stink bomb forms ammonium sulfide, $(\text{NH}_4)_2\text{S}$, which is the same chemical used in commercial prank or trick stink bombs. The ammonium sulfide is produced as a result of a reaction between hydrogen sulfide and ammonia: $\text{H}_2\text{S} + 2 \text{NH}_3 \rightarrow (\text{NH}_4)_2\text{S}$ The vapor is flammable and associated with hydrogen sulfide gas (rotten egg smell that is toxic in high concentrations), so only make/use the stink bomb in a well-ventilated area, away from heat and flames. Adult supervision is recommended.

From <http://chemistry.about.com/od/chemistryhowto/a/Stink-Bomb-Recipe.htm>

Watch a stink bomb tutorial video

<http://video.about.com/chemistry/Stink-Bomb-.htm>

12. DRAW YOUR DIGESTIVE SYSTEM

Draw your digestive system where burps and farts are made.

- a. Trace your kids on large pieces of butcher paper.
- b. Then have them draw in their digestive system where burps and farts are made. You could cut out the internal organs from construction paper and glue them on or just draw them and color them in with paint or crayons.

13. FART JOURNAL

Have kids keep a journal of how many times they pass gas for one week. (Any kind of flatulence counts.) Calculate how many times, on average, they pass gas in a single day. Next, eat beans or another food, such as broccoli, that produces gas. Have kids keep track of their flatulence for another day or two to see if beans really are “the musical fruit.”

14. WHOOPEE CUSHION

Ok, so it’s really gross and rude but why not buy a whoopee cushion and have some ridiculous fun for a few days. Then quietly send it to the garbage bin and no harm done but lots of silly, giggly family fun.



15. POEMS, RHYMES, AND RIDDLES

What is born into this world
Without hide, hair, or skin;
Cries once and never cries again? A fart

What goes through your pants without making a hole? A Fart

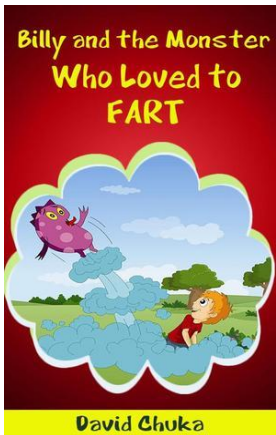
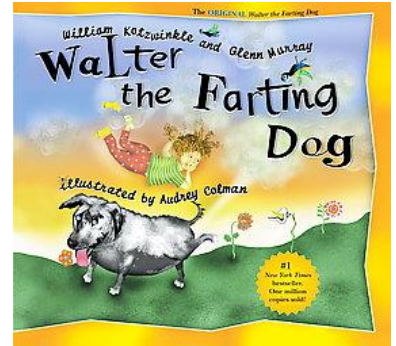
Beans, beans, the musical fruit:
The more you eat, the more you toot!
The more you toot, the better you feel,
So let's have beans for every meal!

Arty Farty had a party
All his friends were there.
When Tuti Fruiti did a beauty
They all went out for air

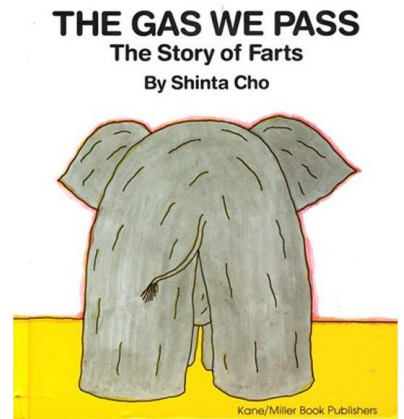
Pardon me
For being so rude
It was not me
It was my food

16. BOOKS

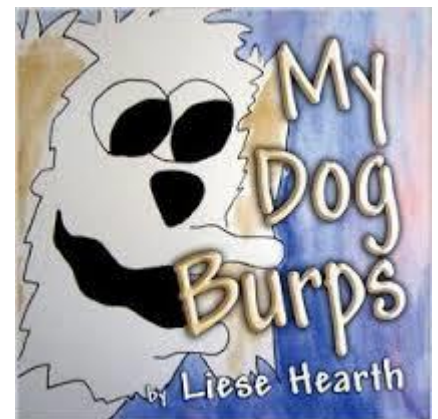
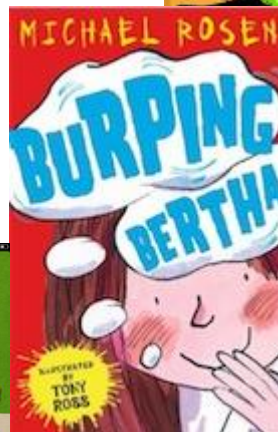
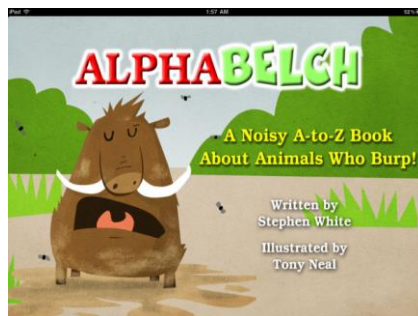
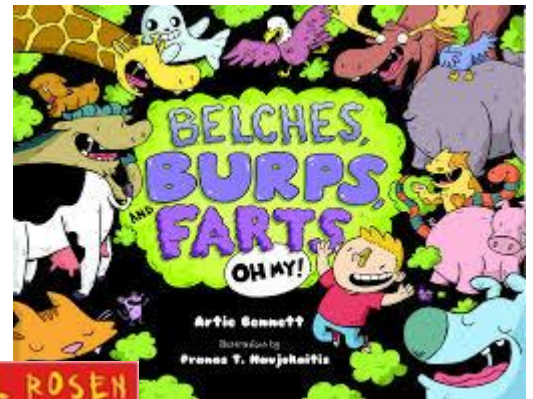
- *Fart Monster: A Super Funny Illustrated Book* by Mark Smith (for Kids 8-13)
- *Penelope and the Humongous Burp* by Sheri Radford
- *Walter the Farting Dog* by William Kotzwinkle and Glenn Murray
- *The Boy Who Farted and Flew to the Moon: A hilarious Fart Book for kids age 6 - 12* by Ivan Offolbot and J. Fetterling
- *FARTS Fire In The Hole! (Fart I) A Children's Fart Book Full of Hilarious Cartoons and Jokes* by Tristen Randall
- *Billy and the Monster Who Loved To Fart* by David Chuks



- *The Gas We Pass: The Story of Farts* by Shinta Cho
- *It All Began With a Bean* by Katie McKy
- *Rocky the Rude - Farts, Fun and Manners for Kids - Book for Age 4-8* by E.S. Kay, Dexter Buenaluz and Jonathan Jones
- *Do Birds Fart?: Answers to 50 of the Coolest Questions About Animals* by Alec the Science Kid
- *Mom, Why Do My Farts Stink?: Questions Only Mom and Science Can Answer* by Carol Mona and David Kantrowitz



- *The Human Body: A Kids Book about Body Systems! Learn Fun And Interesting Facts About Noises Our Body Makes And More (Biology)* by Gary Dickinson
- *George Brown Class Clow and the Super Burp* by Nancy Krulik
- *Alphabelch: A Noisy A to Z Book About Animals that Burp* by Stephen White
- *The Best Belcher* by Lynda Medlyn
- *Toots and Burpsy Body Does Some Funny Things* by Tony Guerrero
- *Belches, Burps and Farts Oh My!* by Artie Bennett
- *The Burp Book* by J.B. Davis
- *Burping Bertha* by Michael Rosin
- *Mrs. Bottles Burp* by Robyn Archer
- *My Dog Burps* by Liese Hearth



17. RECIPES

A. Fun Lunches

Make some fun lunches using “burp and fart” foods. Use your imagination! Remember those terrible farting turtles. :)



B. Edible Digestive System

Eat a digestive system out of vegetables, which are “burp and fart” food.

