Water Germs Busted by Chlorine!

Coloring and Activity Book

Featuring...



The Chlorin8tor



Little Hector, The Disinfector

COPYRIGHT 2004 AMERICAN CHEMISTRY COUNCIL®

Water Germs Busted by Chlorine!

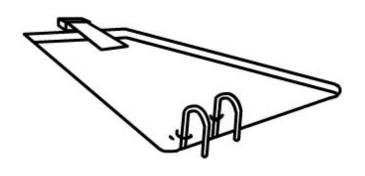
Before water pours out of your faucet, a chemical called chlorine is added to it to kill tiny, invisible germs that could make you sick.

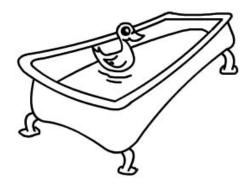


Chlorine is added to water in places called water treatment plants. Then the water is pumped through pipes to homes, schools, parks and swimming pools.



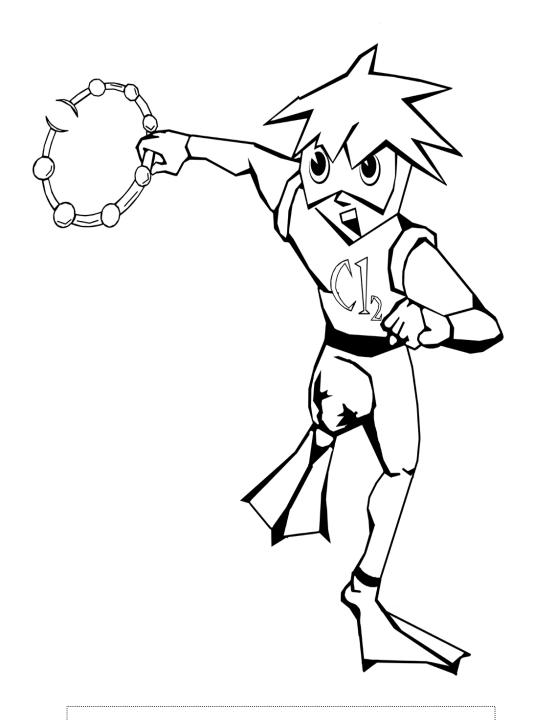
Water is safe to drink and bathe in if it is treated properly with chlorine.





Introducing....

There's more to the story of chlorine, but first, meet a superhero and his little helper who work hard every day to bust MANY GERMS THAT COULD MAKE YOU SICK:



THE CHLORI N8TOR WITH HIS TRUSTY ELECTRON GRABBER

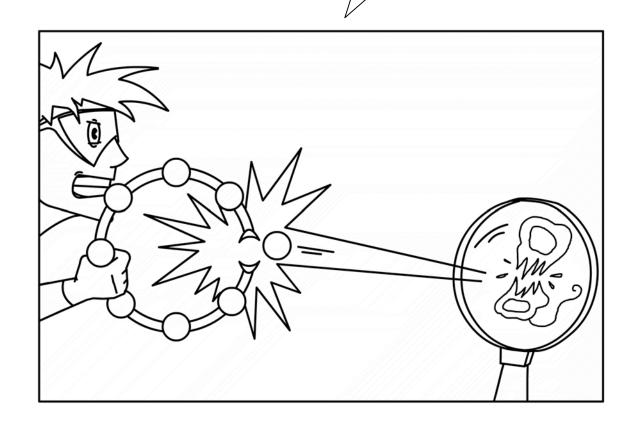
AND....



LITTLE HECTOR--THE DISINFECTOR

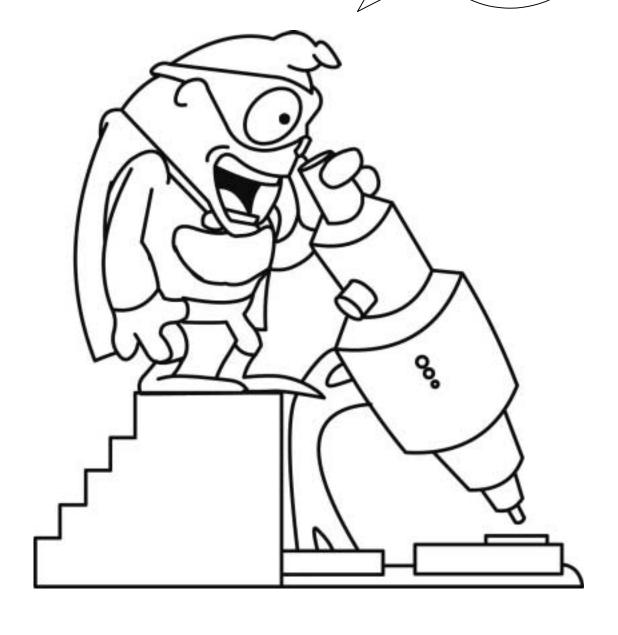
Chlorine is a GERM-BUSTER—it rips electrons (which are tiny atomic particles) out of germs, taking away their power to make you sick! The Chlorin8tor uses his ELECTRON GRABBER to rip electrons out of germs. AND THEN, GERMS ARE HI STORY!

My ELECTRON
GRABBER destroys
germs as it sucks
electrons into the
8th spot on the ring.
That's why I am
the Chlorin8tor!



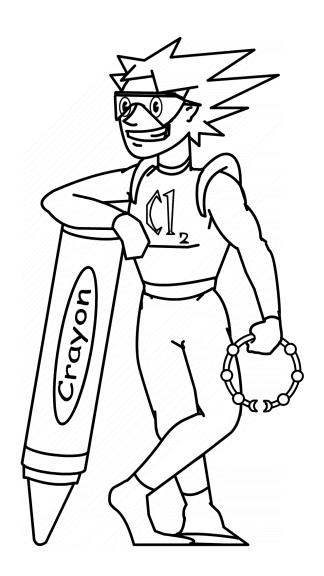
Tiny germs, that can make people sick, live in water from lakes and rivers. These germs come in lots of shapes and forms and they can only be seen through a microscope.

Hey, these guys are even smaller than I am!

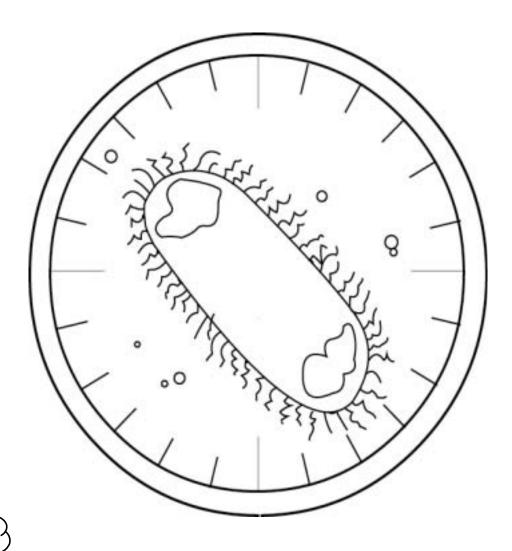


Turn the page to see some of the water germs that Hector sees. The small photograph at the bottom of each coloring page shows what each germ looks like through a microscope. Some of the colors in those photos are natural, but some are from dyes that scientists add to see the germs better. Have fun "adding your own dyes" and coloring the germs that are

BUSTED BY CHLORI NE!



E. COLI





UGH!

E. coli has PILI: spikey little hairs with sticky tips that help it cling to surfaces and cause sickness. If you drink water that has E. coli in it, you can get a <u>very</u> bad stomachache and diarrhea.



E. coli bacteria ©Eye of Science/Photo Researchers, Inc.

LEGIONELLA PNEUMOPHILA



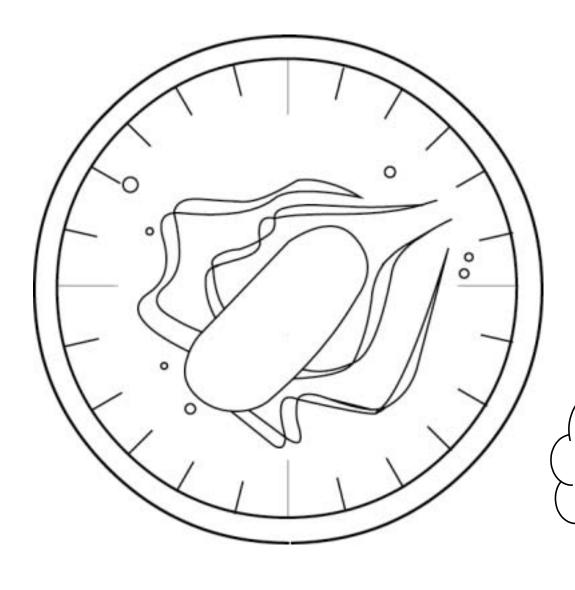


Legionella bacteria ©Eye of Science/Photo Researchers, Inc.

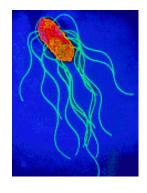
Legionella pneumophila has a FLAGELLUM: a thin whip attached to its main section, that helps it move about in water. Legionella pneumophila can cause a sickness called PNEUMONIA (say it like this: new-MOAN-ya), which is a serious infection of the lungs.



SALMONELLA TYPHI



I may look like Alexander the <u>Great</u>, but I sure don't feel <u>Great!</u>



Salmonella ©Dr. Linda Stannard/Photo Researchers, Inc.

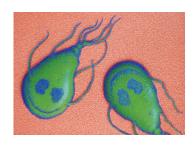
Salmonella typhi has long hair-like FLAGELLA for movement. Many years ago, before chlorine was added to drinking water, this germ caused a serious disease called TYPHOID FEVER. Alexander the Great, who ruled over most of the known world more than a thousand years ago, is thought to have died of Typhoid Fever.



GIARDIA LAMBLIA



Gotta RUN!



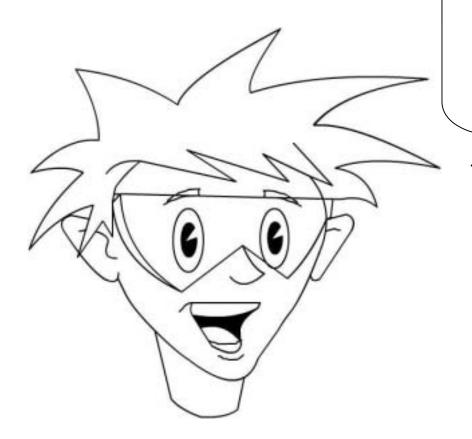
Giardia lamblia parasite ©Chris Bjornberg/Photo Researchers, I nc. Although Giardia lamblia looks like it has two eyes, they are not really eyes! They are NUCLEI. Nuclei are a simple kind of brain for this little creature. Giardia can cause a bad case of diarrhea.



Those are just a few of the water germs that are busted by the Chlorin8tor and Little Hector the Disinfector. When they've finished their work, water is said to be DI SI NFECTED, and fine to drink.

Ahhh, good to the very last drop!





We sure hope you had fun learning about the water germs that are Busted by Chlorine!

See you soon for our next DISINFECTION ADVENTURE!



Germ Buster Word Find

В	Т	F	L	Α	G	Е	L	L	U	M
F	S	Q	S	V	M	R	Р	Е	V	I
M	U	Α	N	L	I	L	I	G	Р	Т
Υ	Ν	F	L	Е	С	O	L	I	D	Υ
D	U	Α	Н	M	R	Α	I	O	F	Р
Т	С	С	Н	L	O	R	I	N	Е	Н
G	L	В	G	J	S	N	N	Е	V	O
С	E	K	V	R	С	K	Е	L	S	I
U	I	R	Z	Е	O	В	Т	L	K	D
О	Е	I	M	Т	Р	G	G	Α	L	Z
Н	O	U	Ν	S	Е	R	С	N	Z	Α

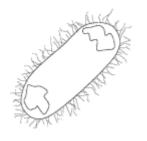
E COLI NUCLEI PI LI LEGI ON ELLA FLAGELLUM

CHLORI NE
TYPHOI D
GERMS
SALMONELLA
MI CROSCOPE

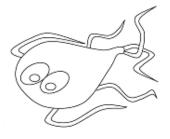
Name that Germ!

Draw a line to connect each germ with it's name:

Salmonella typhi



Legionella pneumophila

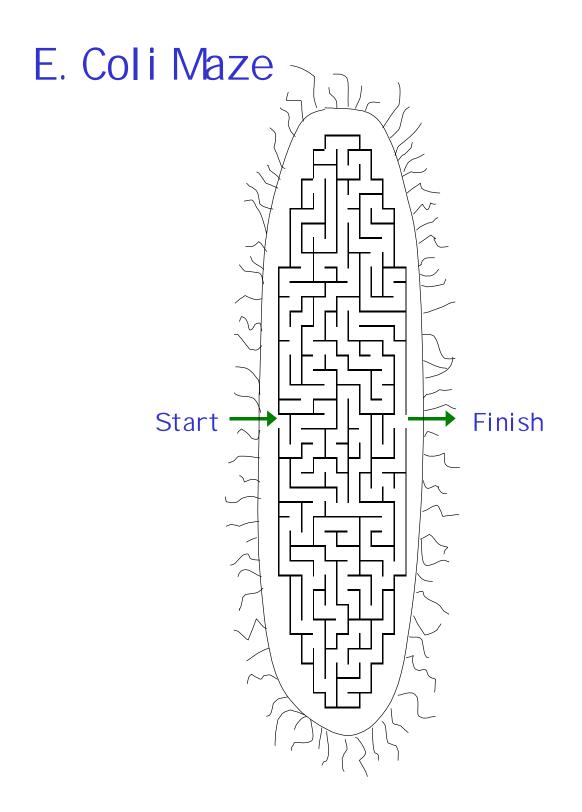


Giardia lamblia



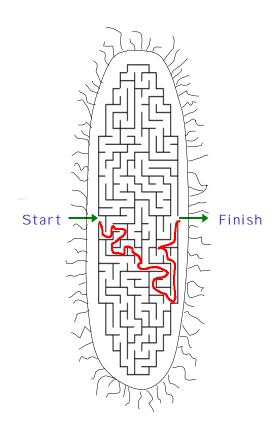
E. coli





Answer Key

В	Т	F	L	Α	G	Ε	L	L	U	M
F	S	O	S	>	M	R	Р	Ε	\	
M	J	Α	N			L		G	Р	Т
Υ	Z	ш		Ш	\bigcirc	0				Y
D	٦	Α	\equiv	\sum	R	Α	_	0	F	Р
T	\bigcirc	\circ	\pm	Ш	0	R		Z	Е	H
G	L	В	G		S	Ν	N	Ε	\	O
С	Ε	Κ	٧	R	С	K	Ε	L	S	
U		R	Z	Е	0	В	Η	L	K	D
O	Ε	$\overline{}$	M	Τ	Р	G	G	Α	L	Z
Н	Q	U	N	S	Ε	R	С	N	Z	Α



Copyright Notice

This document may be copied and distributed freely as provided below.

This work is protected by copyright. The Chlorine Chemistry Division of the American Chemistry Council, which is the owner of the copyright, hereby grants a non-exclusive royalty-free license to reproduce and distribute this document, subject to the following limitations:

- 1. The work must be reproduced in its entirety without alterations.
- All copies of the work must include a cover page bearing the notice of the Chlorine Chemistry Division of the American Chemistry Council copyright and this notice. Copies of the work made under the authority of this license may not be sold.



COPYRIGHT 2004
AMERICAN CHEMISTRY COUNCIL®