

THE *Dirt Alert* **CHARGERS**

Introducing Rocky & Pebbles

*Keeping lead
out of our
bodies and the
environment!*

UPPER COLUMBIA
SPECIAL EDITION

Lake
Roosevelt
Forum

Hi! WE'RE ROCKY & PEBBLES

THE DIRT ALERT CHARGERS

**We live in Northeastern Washington,
just like you.**

WE WROTE THIS
ACTIVITY BOOK TO HELP
YOU LEARN ABOUT
METALS, ESPECIALLY LEAD,
IN OUR COMMUNITY'S SOIL.

PLAYING IT SAFE AROUND
LEAD AND POLLUTANTS
IS AN IMPORTANT PART
OF STAYING HEALTHY AND
PROTECTING THE
ENVIRONMENT.

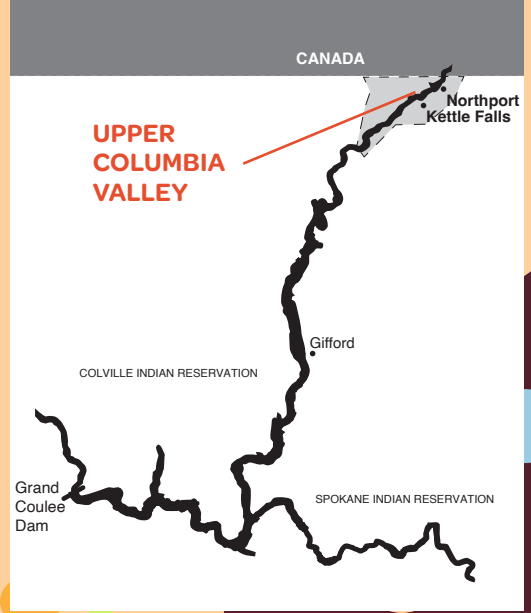
Rocky

Pebbles



METALS IN OUR COMMUNITY

Prospectors originally discovered valuable metals in our area in the late 19th century. Since then, hundreds of mines (large and small) were built to remove these metals from the earth for use in our daily lives.



Can you dig it?

LEAD, GOLD, SILVER, COPPER, AND ZINC ARE EXAMPLES OF VALUABLE METALS MINED IN OUR AREA.

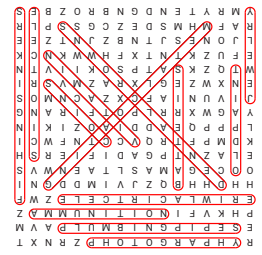


R Y H P A R G O T O H P Z R N X T
 E S E P I P G N I B M U L P A V M
 P H K V F I N O I T I N U M M A Z
 E R I W L A C I R T C E L E Z W F
 H H D H H B Q Z J V I M D D G N I
 O O C E G A M A S L T A E N W V S
 E L A Z N T P G A D I F I E R S H
 K D M P F T R Q V C C T N F W C I
 L P P P Q E A D D I A O Z I K I N
 Y A G W X R R L P O T F I R A N G
 J I V U N I A F C X Z A C N M O S
 E N X W Z E G L X R A Z M V S R I
 W T Q Z K S A T P S O K I I V T N
 E F U Z K T N T X F H W W K N C K
 L J O N E S J T N B Z J N T Z E E
 R A F M H M S D E Z C G S S P L R
 Y M R Y T E N D G N B R O Z B E S

WORD SEARCH

Find and circle the products that contain one or more of these precious metals.

- LEAD:
 - fishing sinkers
 - batteries
 - old paint
 - ammunition
- GOLD:
 - jewelry
 - electronics
 - coins
 - dental crowns
- SILVER:
 - electronics
 - coins
 - photography
- COPPER:
 - electrical wire
 - plumbing pipes
- ZINC:
 - vitamin
 - batteries
 - metal coating (like the shell of your car)



LEAD IN OUR COMMUNITY

Lead is a natural part of the environment.

It's a bluish-gray metal found in dirt and rocks. Miners look for lead in rich deposits of ore, a naturally occurring mineral that can also contain other valuable metals like gold and silver.

A three-step process is often used to mine, mill and smelt lead and other metals for use in products.

- 1. MINING** removes ore with valuable minerals by digging up and removing thousands and thousands of pounds of dirt and rock from the earth.
- 2. MILLS** separate the valuable minerals from the rock that has no value.
- 3. SMELTING** uses high heat, water and chemicals to separate the metal into a pure form that can be sold for use in products.



Regional mining, milling and smelting operations caused lead, other heavy metals, and various hazardous substances to be emitted into the air and released into the Columbia River. Regional smelters have contributed the largest amount of these pollutants.

TECHNOLOGY AND MODERN MACHINERY HAVE MADE MINING AND PROCESSING METALS MUCH SAFER.

That's why a lot of cleanup activities are focused on pollutants that entered the environment many years ago.

A TALE OF TWO COLUMBIA RIVER SMELTERS



LE ROI SMELTER | 1898 - 1921

Located in what is now Northport City Park, it used a network of railroads to deliver ore. The smelter began operations in 1898 to process copper, gold and silver. By 1901, the 30-acre site had 600 employees and processed 500 tons (1,000,000 pounds) of ore per day. After stopping operations in 1909, it reopened in 1915 to process lead. The smelter was permanently closed in 1921. In 2004-05 the site was cleaned up. This included over 7,700 tons of arsenic and lead contaminated soil being removed. The Washington Department of Ecology is scheduled to begin cleanup of the waterfront area in 2023.



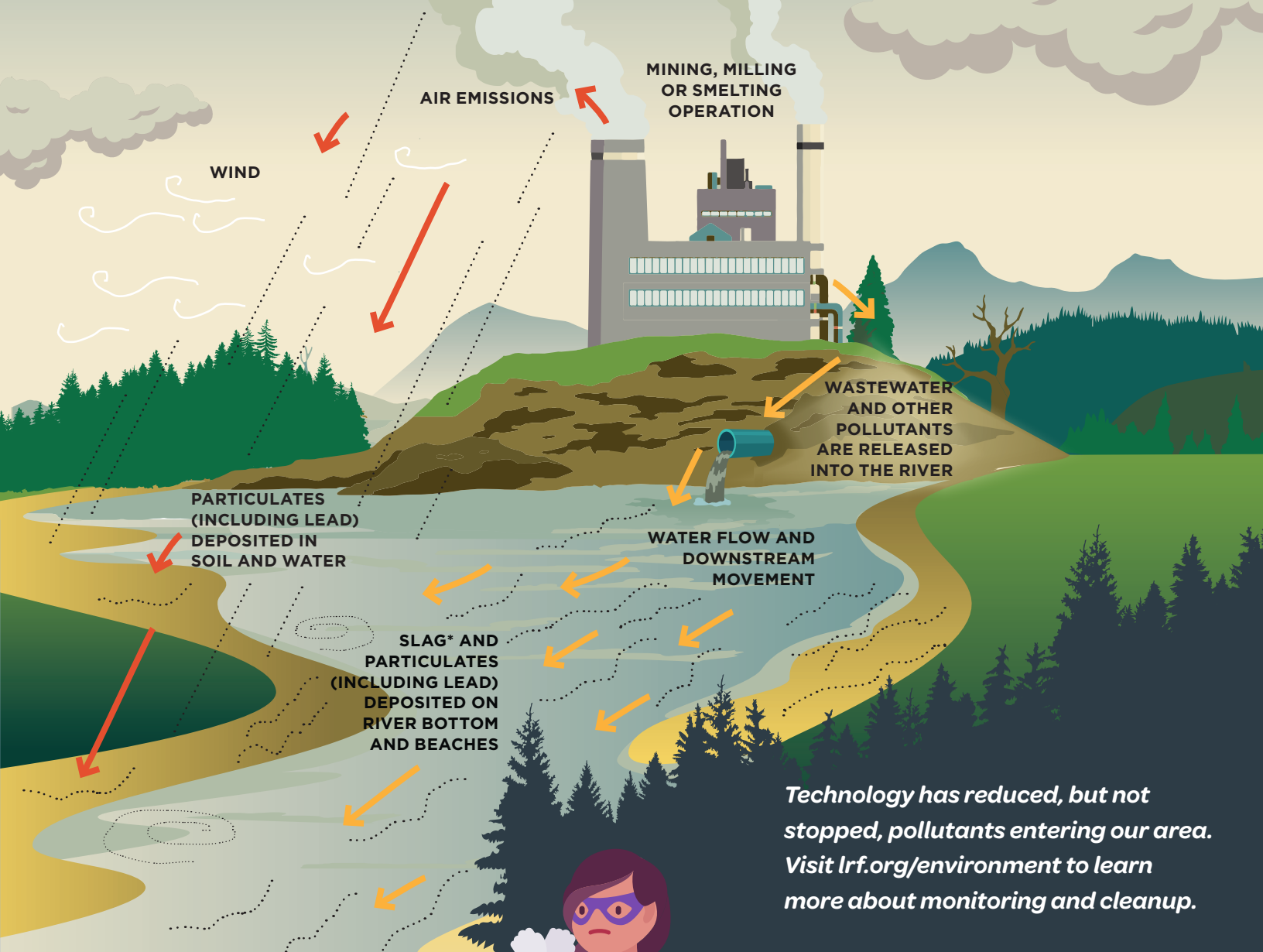
TRAIL SMELTER | 1896 - PRESENT

Located in British Columbia Canada, about 20 miles north of Northport, operations began in 1896. It's now one of the largest lead and zinc smelters in the world. It has over 1,400 workers and the capacity to produce over 310,000 tons of refined zinc annually. In the 1990s the smelter was modernized to remove more pollutants before wastewater enters the Columbia River and emissions are released to the atmosphere. Pollutants from this smelter have traveled into the U.S. The Environmental Protection Agency (EPA) is working with the smelter operator to study where pollutants are located and if they are harmful to people and animals.

FOLLOW POLLUTANT PARTICULATES

Tiny particles, called particulates, are released into the environment via air and water pathways. Some carry pollutants that can travel a long distance from their source.

Smelter pollutants have settled in our community's soil, lakes, beaches, and river bottom.



Technology has reduced, but not stopped, pollutants entering our area. Visit Irf.org/environment to learn more about monitoring and cleanup.



Black Sand Beach 2010 Cleanup
Northport, WA
9,100 tons of sediment containing slag was removed and replaced with clean soil.



***Slag**, which often looks like black sand, is the material left over from the smelting process. Slag is no longer released into the Columbia River.

LEAD AND MY BODY



Lead was used in products because it is soft, easy to melt, easy to work with, and durable.

Until the dangers of people breathing-in or swallowing small amounts of lead were understood, lead was used for all sorts of things. Examples are paint, pipes bringing water to cities and towns, gas for cars, and plastic toys.

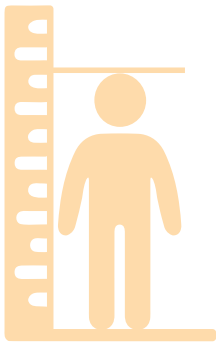
Soil sampling in our community shows high levels of lead in some areas. It can make us sick if we accidentally swallow (ingest) or breathe (inhale) too much. Keeping lead out of our bodies is hard to do because the tiny particles in soil are so small that we can't see or smell them.

Young kids are at the highest risk because their growing bodies absorb more lead than adults. Be a hero! Help little ones play it safe.

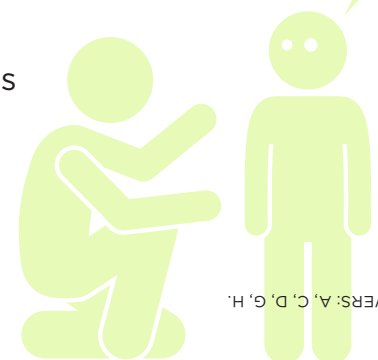
Health Dirt Alert!

CIRCLE ALL TRUE PHRASES

Swallowing or breathing in too much lead can:



- A. slow my growth and development
- B. turn my hair white
- C. damage my brain or nervous system
- D. cause learning and behavior problems
- E. set off metal detector
- F. make me color blind
- G. cause hearing and speech problems
- H. lower my IQ (intelligence quotient)



PLAYING IT SAFE AROUND LEAD CHECKLIST

MEET WITH YOUR FAMILY MEMBERS TO CHECK OFF THE SAFETY TIPS YOU DO NOW OR WILL DO.

INSIDE THE HOUSE

	I'll do it SOON SCORE 1	I do it NOW SCORE 2
We wash our hands and face before eating, especially after working or playing in soil.		
We scrub or peel vegetables from the garden before eating them, especially ones that grow under the dirt like carrots and potatoes.		
We don't wear dusty clothes around the house and keep them separate from clean clothes.		
We avoid areas where we know or believe lead is in the soil, and we take a shower and wash dirty clothes separately from other clothes.		
We wipe our shoes on a doormat or leave them outside to avoid bringing soil with lead into the house.		
We wipe our pet's paws before they come inside and wash them regularly to remove dust from fur.		
We use a wet mop and damp cloths to wipe dust off floors and other surfaces. We also vacuum regularly.		
We wash toddler toys and pacifiers often.		

OUTSIDE THE HOUSE

We wash off our toys after we use them.		
We wash our hands and face before eating.		
We keep our nose and mouth covered when we're on a dusty trail.		
We wear garden gloves.		
We reduce exposure to lead in soil by using raised beds and soil amendments in our garden.		
We dampen dusty soils before gardening or digging to avoid breathing in dust.		
We cover bare or dusty patches in our yard and play areas with bark, sod, or other material.		
We bring clean water with us for washing and drinking.		
We leave shoes outside the camper and tent.		
We wash our dog after camping.		

BONUS POINTS

We take blood tests in our family to see if too much lead is in our bodies.		
We eat a diet high in iron, calcium and vitamin C (like vegetables, milk and oranges) to help prevent lead from becoming a problem in our bodies.		
We use non-lead ammunition and fishing tackle when hunting or fishing.		
We do not plant gardens under the overhang of our roof to avoid pollutants from rain and melting snow runoff.		

TOTAL YOUR SCORE

Tally your scores for each column		
ADD UP YOUR SCORES FOR YOUR "PLAYING IT SAFE" SCORE	+	➔

Hey Friends and Fellow Dirt Alert Chargers!

THE MORE TIPS YOU FOLLOW, THE SAFER YOU ARE FROM TOO MUCH LEAD ENTERING YOUR BODY.



YOUR PLAYING IT SAFE SCORE

SAFETY HERO
Score: 36 - 44

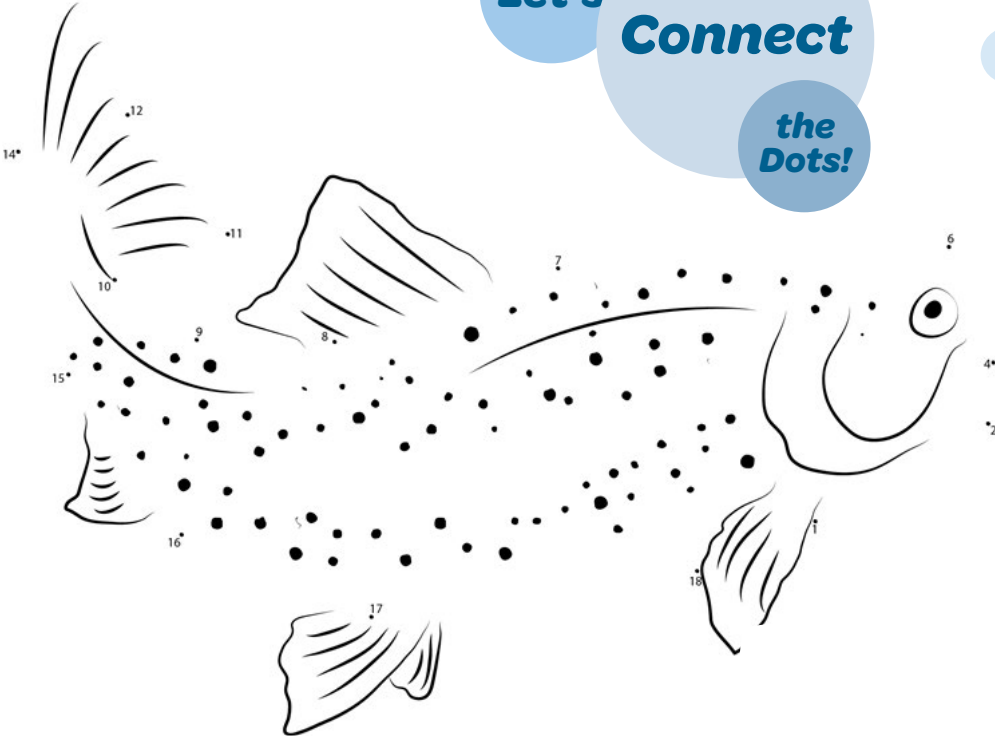
SAFETY STAR
Score: 28 - 35

SAFETY STARTER
Score: 0 - 27

PREPARING FISH THE HEALTHY WAY

13

Let's
Connect
the
Dots!

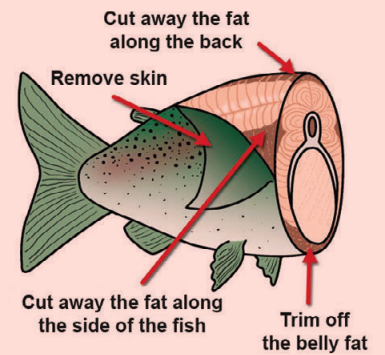


GOING FISHING? Visit the Lake Roosevelt Fish Advisory at www.lrf.org/fish-advisory

Fish are part of a healthy diet.

Following these tips will reduce the amount of contaminants that collect in the fat of fish.

1. Before cooking, remove the skin, fat, and internal organs
2. Eat younger and smaller fish
3. Eat a variety of fish
4. Follow the Lake Roosevelt Fish Advisory



Lake Roosevelt Forum Members

Area Residents and Communities
Bureau of Indian Affairs
Bureau of Reclamation
Colville Confederated Tribes
Ferry County
Lincoln County
National Park Service
Spokane Tribe of Indians

Stevens County
Teck American Incorporated
Upper Columbia United Tribes
Washington Department of Ecology
Washington Department of Fish and Wildlife

Committed to the environmental and economic well being of our communities

2206 S. Sherman Street | Spokane, WA 99203
509-535-7084 | info@lrf.org

This publication received funding through a grant from the Washington Department of Ecology. While these materials were reviewed for grant consistency, this does not necessarily constitute endorsement by Ecology.

© Copyright 2023. All rights reserved.

**Lake
Roosevelt
Forum**

