



LLOYDMINSTER  
WATER TREATMENT PLANT

# Let's **LEARN** about **WATER**

Join me, Border  
Buddy, as we follow the  
water we drink from the river  
to your tap.



**COLOURING**  
and Activity Booklet

# THE RIVER



Have you ever wondered where your tap water comes from? It comes from the North Saskatchewan River!

Water from the river is pumped 32 kilometres to the Water Treatment Plant where the treatment process begins.

# Water Treatment

# WORD SEARCH

Use the list at the bottom of the page to find the words hidden in the word search.

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

ALUM  
BACTERIA  
CALIBRATION  
CARBON  
CHLORINE

CLARIFIER  
COAGULATE  
DESILTING POND  
DISTRIBUTION  
FILTERS

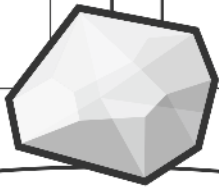
FLOC  
OPERATOR  
POLYMER  
LABORATORY  
LIME

RESERVOIR  
RIVER  
SAFE  
TESTING  
TURBIDITY

*See back cover for answers.*

# TREATMENT

When river water reaches the Water Treatment Plant, treatment products are added to get rid of contamination.



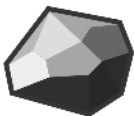
Alum is added as part of the coagulation process that helps impurities such as suspended particles, bacteria, and algae lump together. These small lumps are called "floc" and settle out in the clarifier.



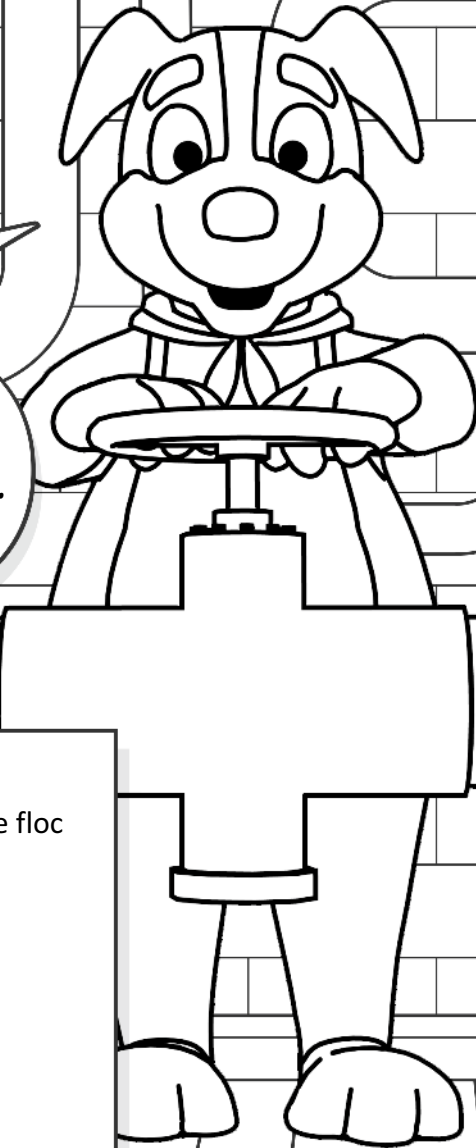
Polymer is added to strengthen the floc and help it settle in the clarifier.

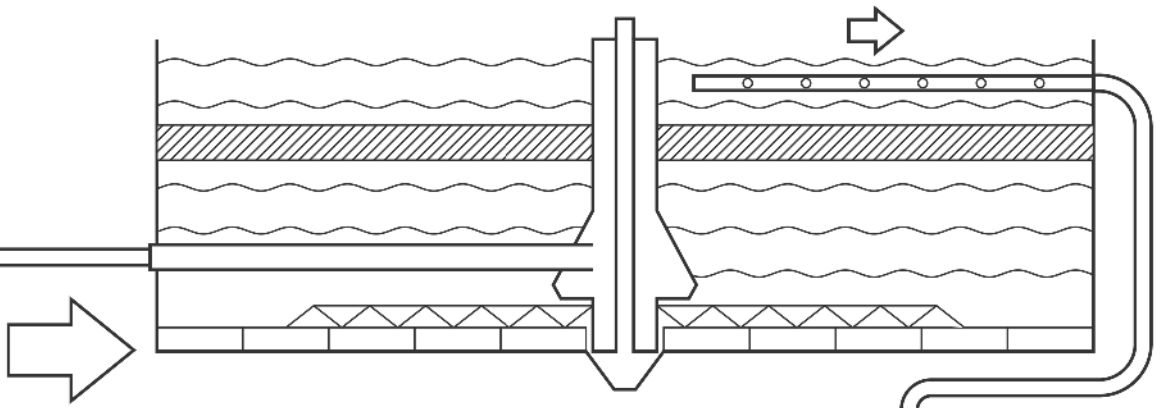


Lime is added to help with the coagulation process and make the water less acidic.



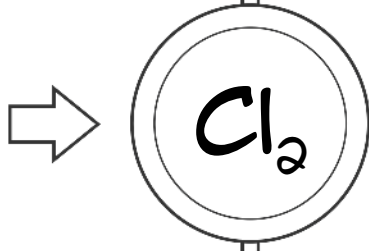
Powder activated carbon is added to remove undesirable tastes and odours.



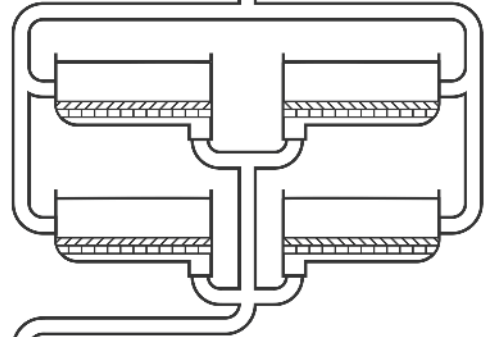


The upflow clarifier unit is where floc is created to form a sludge that settles to the bottom of the clarifier, producing clean clear water.

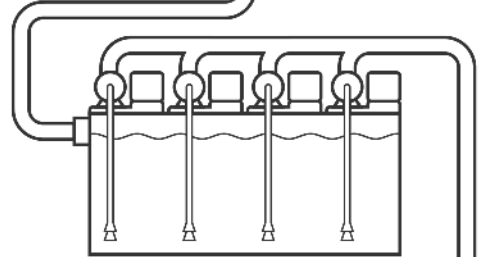
Chlorine is added to kill harmful bacteria.



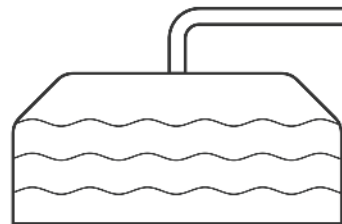
Anthracite and sand filters are used to remove any leftover particles.



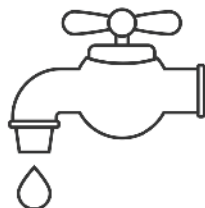
Treated water flows into a big clear well for storage. Pumps are used to move the water out to the city.



The west end reservoir provides additional water storage for emergencies, high water demands and fire flows.



Finally, clean water arrives at your tap.



1. This is where extra water is stored in case of an emergency
2. A measure of suspended particles in the water
3. Water that comes from your tap is \_\_\_\_\_ to drink
4. \_\_\_\_\_ is added to water to kill harmful bacteria
5. The water rests in this pond to let suspended particles settle to the bottom
6. Makes the floc heavy so it settles in the clarifier
7. The process of the water going out to the public
8. The place where many tests are done to ensure your water is safe
9. This natural force moves water downhill
10. There are four anthracite and sand \_\_\_\_\_ at the Water Treatment Plant
11. \_\_\_\_\_ forms in the bottom of the clarifier
12. The Water Treatment Plant \_\_\_\_\_ water to your house

- A. Chlorine
- B. Laboratory
- C. Turbidity
- D. Gravity
- E. Distribution
- F. Desilting
- G. Reservoir
- H. Filters
- I. Polymer
- J. Sludge
- K. Pumps
- M. Safe

# Water Treatment

# WORD MATCHING

Connect the word on the left to the answer on the right



# YOUR TAP

Once the water has been treated, it's pumped through over 120 kms of water lines in the city to reach every tap in Lloydminster.

Now that you understand how much work goes into making your water clean, why not enjoy it, conserve it and tell someone what you've learned!

# DID YOU KNOW?

About one per cent of the earth's water is suitable for drinking<sup>1</sup>.

Approximately 2.5 billion people in the world do not have access to safe drinking water<sup>2</sup>.

If you turn off your tap while brushing your teeth in the morning and night, you can save enough water to fill a 200 gallon fish tank in one month<sup>3</sup>.

A tap that drips six drops per minute will lose 1,200 litres of water in a year<sup>4</sup>.

In Kenya, the average daily water use per person is 13.6 litres. The average Lloydminster resident uses 160 litres per day<sup>5</sup>.

To save water, only water your lawn when necessary<sup>6</sup>.

Toilet flushing is the activity in your home that uses the most water<sup>8</sup>.

SOURCES:  
1,3 [www.epa.gov](http://www.epa.gov)  
2,5 [www.unwater.org](http://www.unwater.org)  
4 [www.wsask.ca](http://www.wsask.ca)  
6,7,8,9 [www.sandiego.gov](http://www.sandiego.gov)

Watering the lawn and garden is the activity that uses the most water outside your home<sup>7</sup>.

To conserve water in the kitchen, wash full loads of dishes in the dishwasher, keep drinking water in the refrigerator and wash vegetables in a bowl<sup>1</sup>.



Answers to Word Search (page 3).

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