

Wastewater Treatment Process

Watch the Wastewater Treatment Process video on hamilton.ca/watereducation to find out where the “stuff” you flush down the toilet goes and how we all have an impact on the environment. Answer the questions below while you watch the video!

Name: _____

1) “Wastewater” is all of the dirty water that goes down your toilets and drains. Where does wastewater go to be treated (a.k.a. cleaned)?

2) How does the wastewater get there?

- a) Wastewater Collection System b) Trucks c) Tunnels

3) After initially being pumped, _____ moves the wastewater through the rest of the treatment plant.

- a) A pump b) Gravity c) A worker

4) During pre-treatment, a chemical is added to remove phosphorus from the wastewater. This is important because too much phosphorus can cause _____ in Hamilton Harbour which has a negative impact on plants and wildlife.

- a) Waves b) Drought c) Algae blooms d) Acidic water

5) Only the 3Ps should be flushed down the toilet. What are they?

6) At the treatment plant, clarifiers remove solids from the liquid wastewater which are treated separately. Solids sink to the bottom of the clarifiers and fats, oil and grease float to the top. These things are referred to as:

- a) Sludge & Scum b) Sludge & Slime c) Slime & Scum

9) Aeration basins add _____ to the wastewater. Adding this is important because bacteria need it to break down organic material during the treatment process and it helps aquatic life thrive.

10) In the near future, an extra level of treatment will be added to the plant called “tertiary treatment”. This extra treatment will help remove more _____ and _____ from the wastewater.

11) During the summer months, chlorine is added and then removed from the wastewater to remove potentially harmful bacteria like _____.

- a) Influenza b) E.coli c) Listeria

12) Once wastewater is fully treated it is called “final effluent” and it gets released back to the environment into _____.

13) The solids that were removed from the wastewater are thickened and placed into an anaerobic digester. Anaerobic bacteria in the digesters break down biodegradable material and destroy pathogens. Anerobic means:

- a) With oxygen b) Without oxygen c) Exercise

14) The large globe that you can see from the highway stores a byproduct of solids treatment called _____. This is purified into natural gas and used to generate electricity.

15) The biosolids are dewatered into “cake” which can be used as fertilizer. The City of Hamilton generates an average of 100 tonnes of cake every day. That’s the equivalent of _____ elephants!

16) The final effluent leaving the wastewater treatment is the largest single source of processed water entering Hamilton Harbour. What can we do at home to ensure we protect the health of our harbour?
