How is a flushing toilet like a neuron firing?

* All-or-nothing principle – the toilet either flushes completely or not at all; it doesn’t flush a little or a lot
* Direction of impulse – the toilet only flushes one way, the impulse can’t come the other direction (you hope!)
* Refractory period – after you flush the toilet, it won’t flush again for a certain period of time, even if you push the handle repeatedly
* Threshold – you can push the handle a little bit, but it won’t flush until you push the handle past a certain point (this corresponds to the level of excitatory neurotransmitters that a neuron must absorb before it will fire)
* Resting potential –the toilet is waiting to fire, and the water in the tank represents the overall negative charge inside the neuron waiting for depolarization
* Action potential – opening the flap in the tank and the water rushing through the pipes
* Depolarization – represented by the toilet flushing

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