Bernoulli's Principle and hand faucets

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Learning Objective

- Understand Bernoulli's Principle
- Apply Reasoning to solve problems
- Physics is way of solving things

- ***Context***
- Hand Faucet in Girls toilets mostly just leaks
- never spray enough water out

Learning activity

- To compare the feel when water from old taps and current day taps
- To bring a old tap and a new tap which are available in market these days
- Dismantle them
- Observe the parts of taps Note down the parts and difference

- **Think why is the water frothy and aerated in new ones?**
- **Which part makes it aerated and flow swiftly?**

Activity

- Compare hand faucet with head showers and the flow of water in them
- Observe the physical features
- Observe the flow water changes through an ordinary pipe fitted with head shower

Compare and match…

Reason out

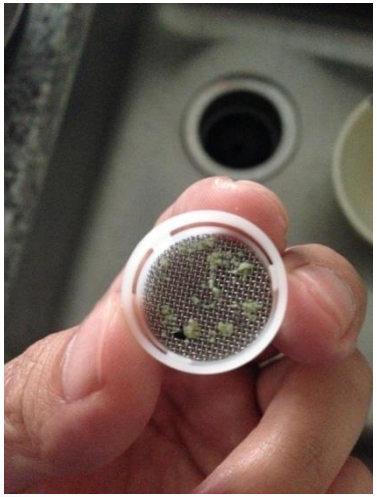
- Area of nozzle is related to velocity
- Reason for the mesh in the newgen taps
- Aeration due to mesh
- Flow of water from Small area of new taps and broader nozzle of old taps
- Arrive at the relation between them
- Purpose of the mesh

- **Check out your hypothesis**
- Remove the mesh or the front attachment from the tap and look at the flow now
- Add that attachment and observe it again

Confirm and activity follows…

- YES! YOU have arrived at Equation of Continuity

- Go back to your original faucet problem
- List out reasons for think a few sharp streaks of water, instead of a shower OR just water leaking through sides of faucet



Result and action

- Calcium salt clogging in faucet which is regular in our place
- Regular cleaning of faucet is enough instead of replacing it with a new one
- Reasoning with knowledge helps
- Share with other friends
- Physics is way of life ☺