


PARA3002 TUTORIAL

POOP QUIZ



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1. Name 3 modes of transmission used by parasites.

- vector-borne
- **faecal-oral**
- **predator-prey**
- direct (venereal)
- transplacental
- transmammary

} horizontal

} vertical

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2. How many times have you defecated in the last week?

Natural activity!
(do it or die!)

- 1-4
- 5-8
- 9-12
- 13-16
- 17+

} what is 'normal'?

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3. List 10 vernacular names for faeces?

Very much entrenched in human language

But can be a taboo/distasteful topic

- poo, shite, number twos, pat, stool, dung, droppings, turd, crap, brown mullet, etc....

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4. List 5 physical characteristics of faeces.








- weight/volume (frequency)
- appearance (form, consistency)
- colour (green-brown-black)
- contents (blood, corn, seeds,...)
- odour (gaseous by-products)

cf. senses (sight, sound, smell, touch, taste)

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Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on the surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. Entirely Liquid

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5. List 5 chemical characteristics of faeces.

- carbon (C) biomass
- hydrogen (H) metabolites [pH]
- oxygen (O) metabolites
- nitrogenous (N) metabolites
- phosphorus (P) metabolites
- electrolytes (salts)

} hydro-carbons

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6. List five biological entities you may find in faeces?

- viruses
- bacteria
- fungi
- protozoa
- helminths

smallest (10 nm)
↓
largest (10 m)
9 orders of magnitude

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7. Name three protozoan parasites transmitted by faeces?

- *Entamoeba*
- *Giardia*
- *Balantidium*

} cysts

- *Eimeria/Cryptosporidium*

} oocysts

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8. Name two nematode parasites transmitted by faeces?

- *Enterobius*
- *Trichuris*
- *Ascaris*

} eggs





- *Strongyloides*
- *Ancylostoma/Necator*

} larvae

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9. History of faecal collection

nomad	farmer	villager	urbanite
			
indiscriminate	pots night soil	cess pools septic tanks	sewers treatment works

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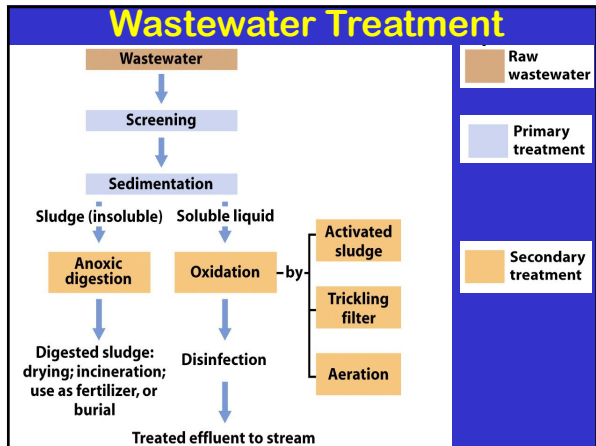
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10. Sewage treatment

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graph LR
    collection --> S1[screening  
sedimentation]
    S1 --> S2[anoxic digestion  
activated sludge]
    S2 --> S3[filtration  
disinfection  
blending  
storage]
    S3 --> WWT[then water treatment]
    WWT --> S4[sedimentation  
flocculation]
    S4 --> S5[filtration]
    S5 --> S6[chlorination]
  
```

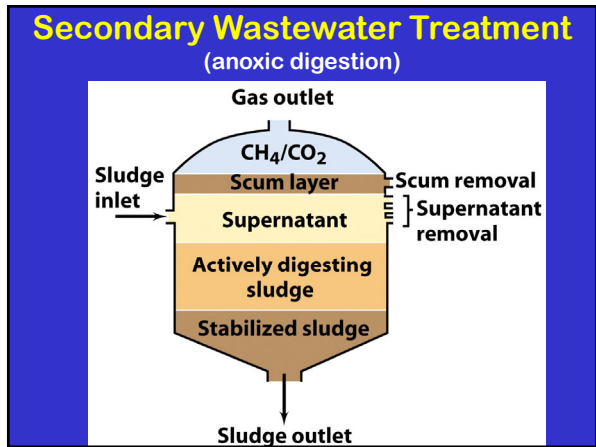
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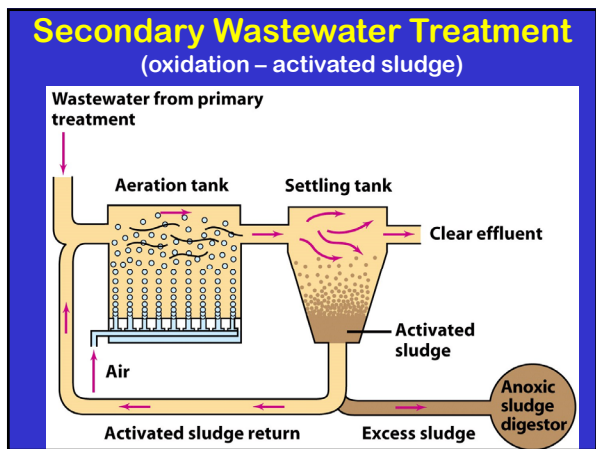
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16



17



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Wastewater Treatment

biological reactor destroys and removes most:

- solids, organic matter
- regulated chemicals
- some micro-organisms



• screening, settling and BNR (biological nutrient removal) which reduces nutrients (nitrogen, some phosphorus)

• quality suitable for outdoor irrigation (e.g. golf courses)

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DO
NOT
EAT
POO!

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