

الفصل التاسع

التحليل البكتريولوجي لمياه الشرب باستخدام طريقة الأنابيب المتعددة

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(Pathogenic Bacteria)

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(E. Coli) (Escherichia Coli)

(E.Coli)

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(E. Coli)

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.(MPN)

(MF)

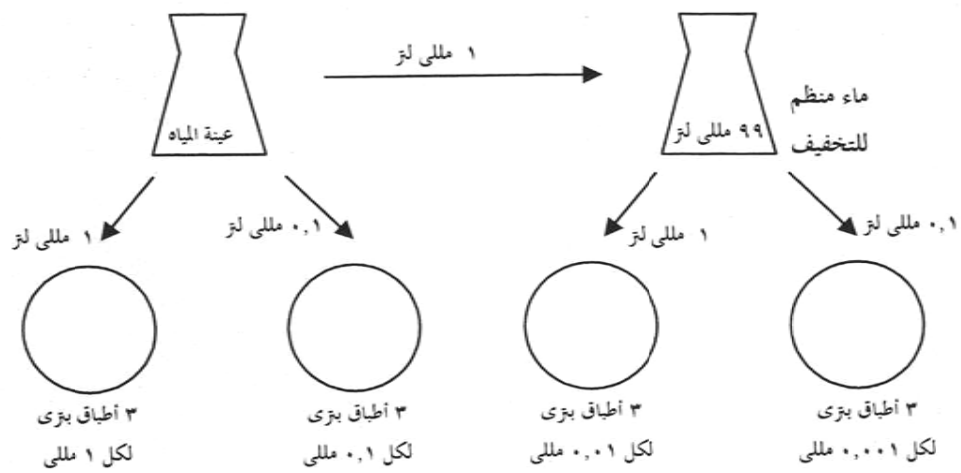
(EPA)

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.(Nutrient)

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(Standard Plate Count Test)

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(Bacterial Cluster)

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.(Multiple Tube Fermentation Method) .

.(Membrane Filter Method) .

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:(Multiple Tube Fermentation Method)

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(Complete Test) •

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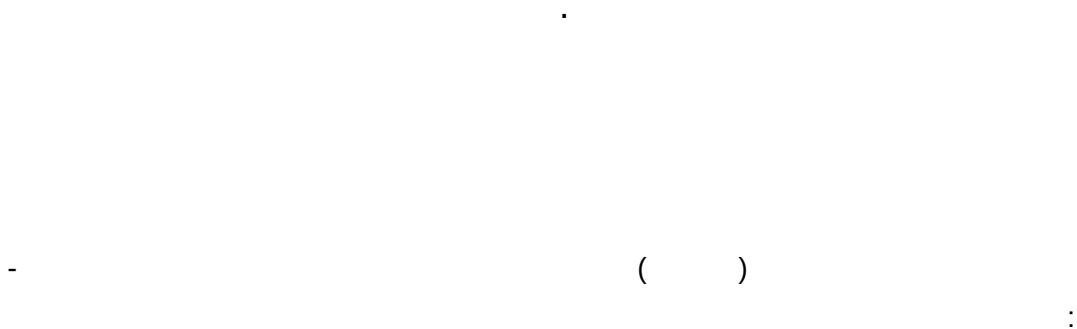
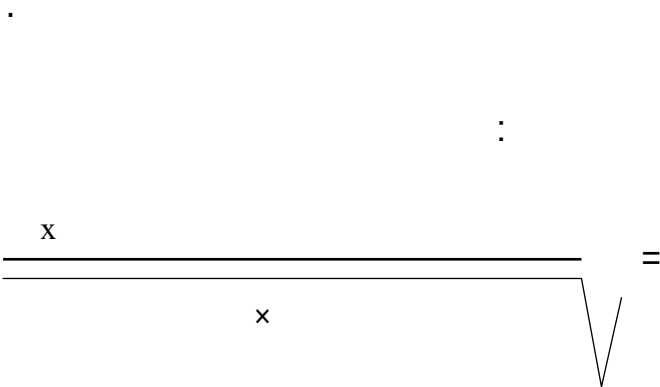
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(MPN)



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(Presumptive positive)

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(Most Probable Number (MPN))

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.(MPN)

(Reliability)

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(Confirmatory medium)

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(Durham)

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(Pressure Cooker)

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(Disaccharides)

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(Buffer)

(Stock)

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(Phosphate Buffer)

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(KH₂PO₄)

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(pH)

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(MgCl₂.6H₂O)

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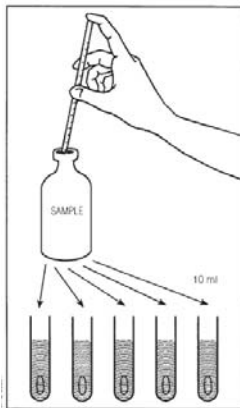
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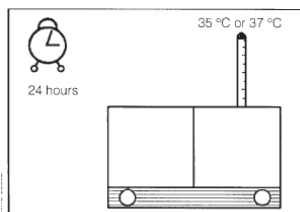
(١)



(٢)



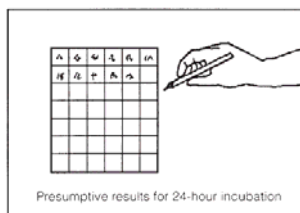
(٣)



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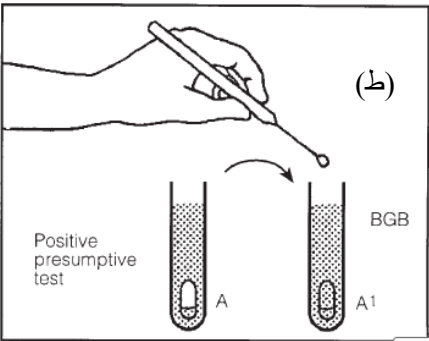
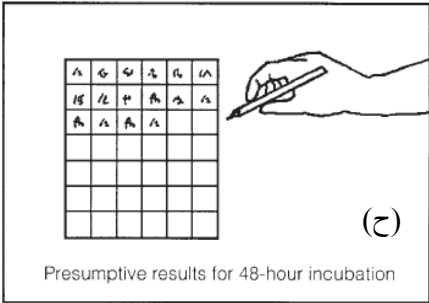
(٥)



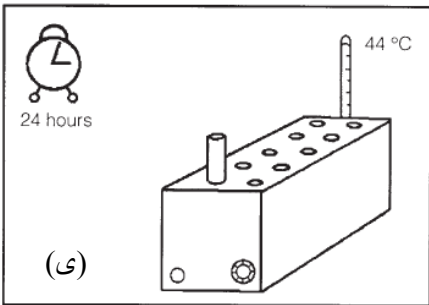
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(Durham)

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(MPN)	

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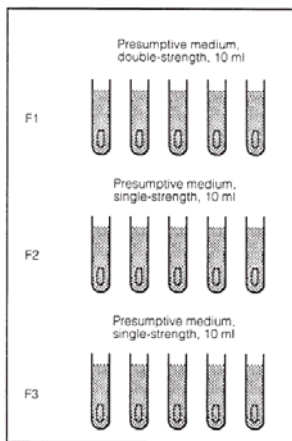
(MPN)

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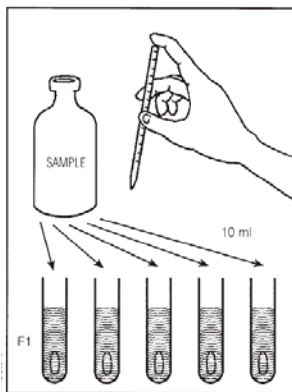
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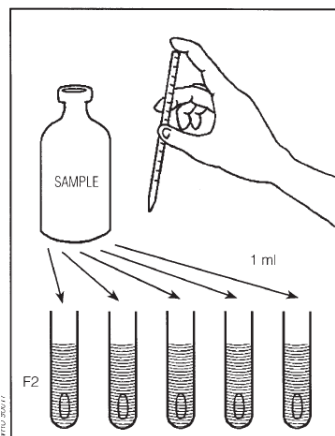
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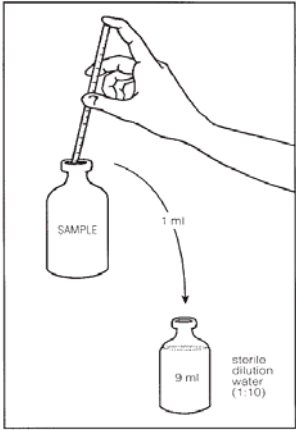
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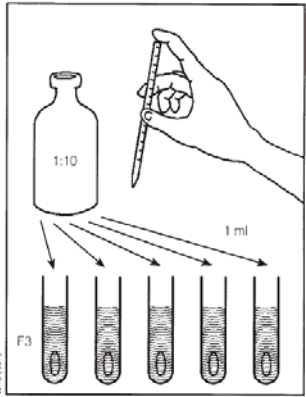
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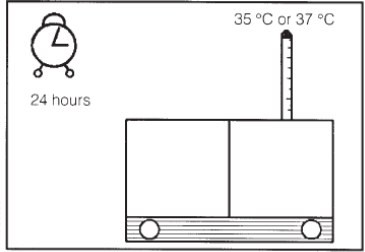
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(Incoulum)

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$$(\quad . \quad)$$

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(MPN)

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(MPN)

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17	0	1	4	1.8	1	0	0
21	1	1	4	1.8	0	1	0
26	2	1	4	3.6	1	1	0
31	3	1	4	3.7	0	2	0
22	0	2	4	5.5	1	2	0
26	1	2	4	5.6	0	3	0
32	2	2	4	2	0	0	1
38	3	2	4	4	1	0	1
27	0	3	4	6	2	0	1
33	1	3	4	4	0	1	1
39	2	3	4	6.1	1	1	1
34	0	4	4	8.1	2	1	1
40	1	4	4	6.1	0	2	1
47	2	4	4	8.2	1	2	1
41	0	5	4	8.3	0	3	1
48	1	5	4	10	1	3	1
23	0	0	5	10	0	4	1
31	1	0	5	4.5	0	0	2
43	2	0	5	6.8	1	0	2
58	3	0	5	9.1	2	0	2
33	0	1	5	6.8	0	1	2
46	1	1	5	9.2	1	1	2
63	2	1	5	12	2	1	2
84	3	1	5	9.3	0	2	2
49	0	2	5	12	1	2	2
70	1	2	5	14	2	2	2
94	2	2	5	12	0	3	2
120	3	2	5	14	1	3	2
150	4	2	5	15	0	4	2
79	0	3	5	7.8	0	0	3
110	1	3	5	11	1	0	3
140	2	3	5	13	2	0	3
170	3	3	5	11	0	1	3
210	4	3	5	14	1	1	3
130	0	4	5	17	2	1	3
170	1	4	5	14	0	2	3
220	2	4	5	17	1	2	3
280	3	4	5	20	2	2	3

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350	4	4	5	17	0	3	3
430	5	4	5	21	1	3	3
240	0	5	5	24	2	3	3
350	1	5	5	21	0	4	3
540	2	5	5	24	1	4	3
920	3	5	5	25	0	5	3
1600	4	5	5	13	0	0	4
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Confirmed Test

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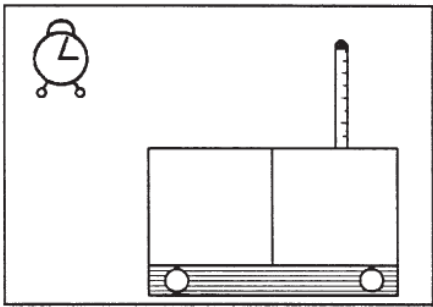
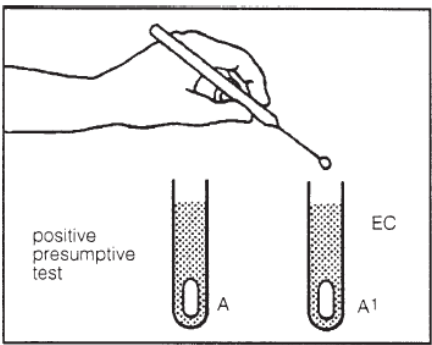
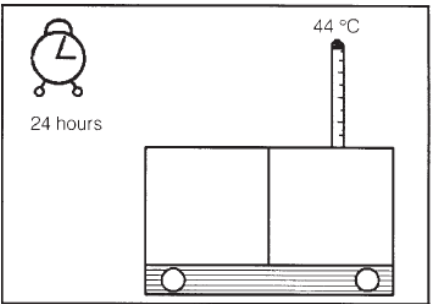
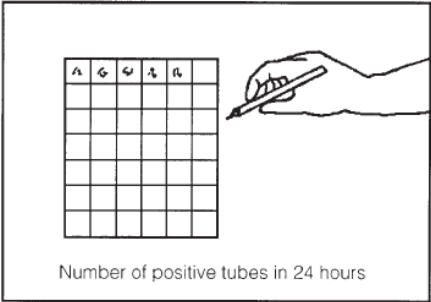
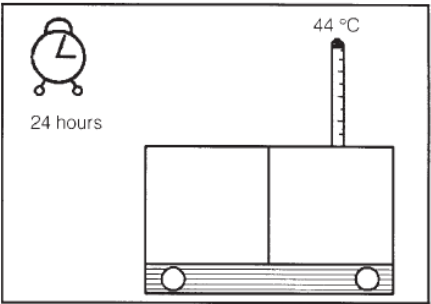
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MPN

(Sampling)

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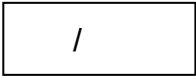
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(Most probable number)

(Azide dextrose broth)

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(⋮)

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(Catalase test)

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(Catalase negative)

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(⋮)

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⋅(Catalase)

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(Pseudomonas aeruginose)
(MPN)



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(Staphlococcus aureus)
(M. Staphlococcus broth) (MPN)

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(Egg yolk tellurite)

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.(Yellow zone)

(Opaque)

(Catalase)

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.(Catalase positive)

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.(Staplylscocci)

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الفصل العاشر

التحليل البكتريولوجى باستخدام طريقة الترشيح الغشائى

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(Factor of ten)

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:(MF)

(Vacuum pump)

(Water aspirator)

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(Porous)

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(Nutrient pads) .

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(TTC) .

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(Endo-type) . o

o (MFC) o o

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(Ingredients)

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(Nutrient)

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:(MFC) (M-Endo MF)

:M-Endo MF .

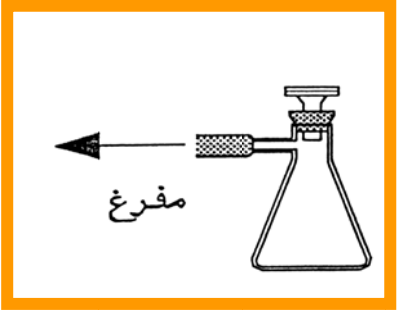
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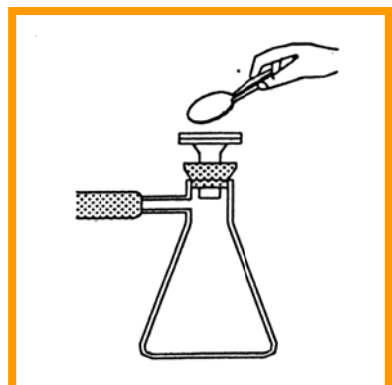
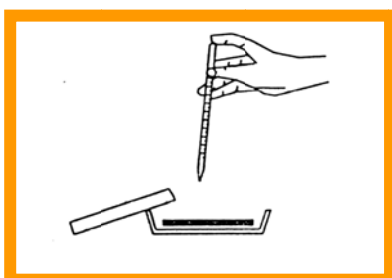
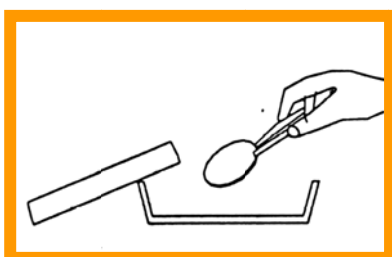
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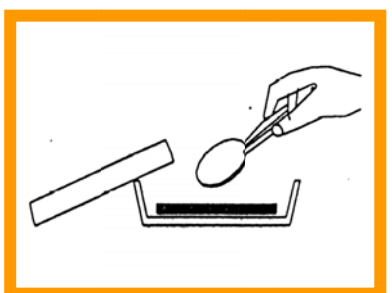
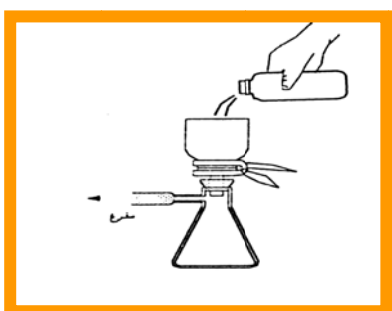
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Side-arm
Porous

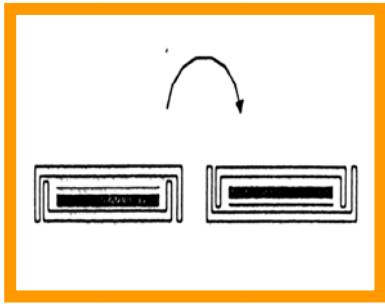


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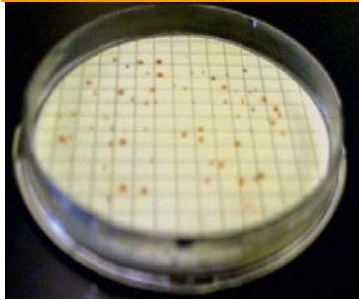
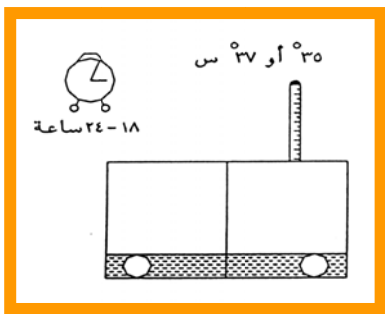
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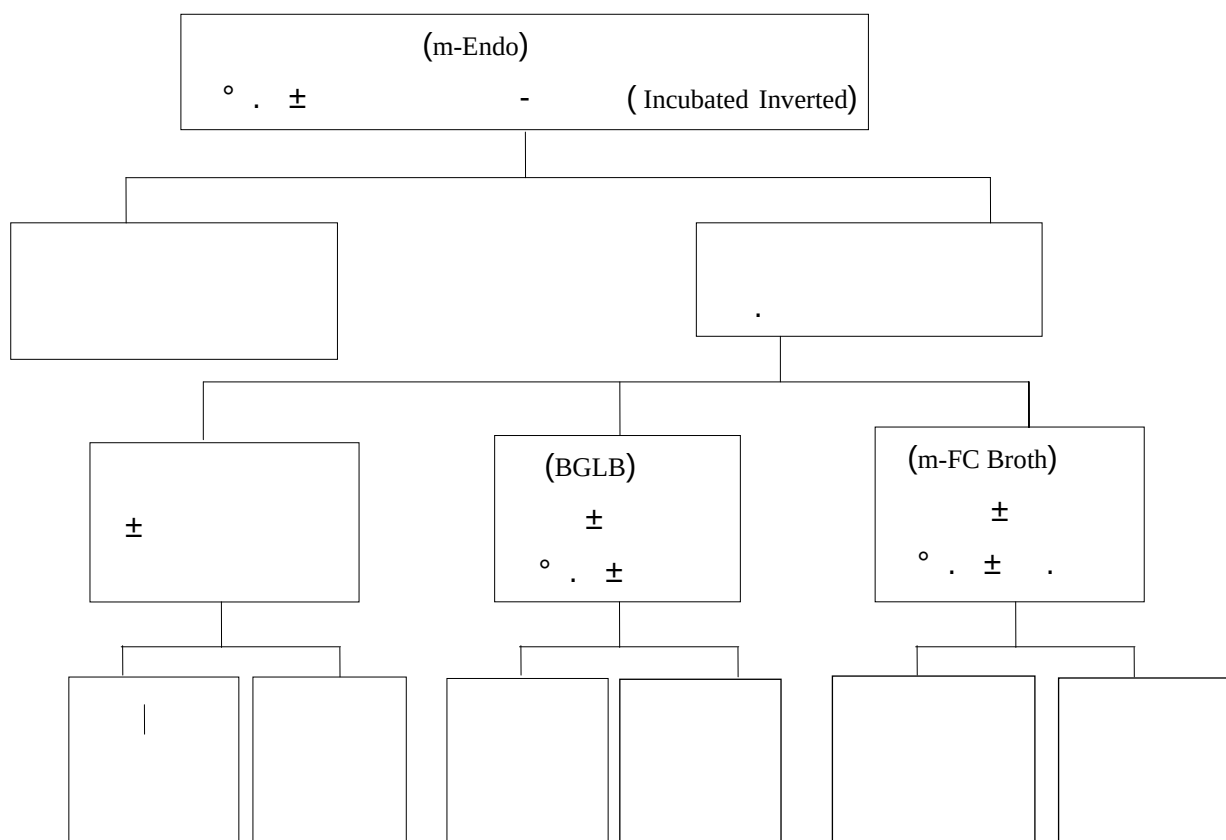
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Free Dilution or Rinse) / .
 (Water
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(Media list) .

.(Data Sheet)
 (Desiccators)

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(MPN)

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(Batch)

(Autoclave Sheet)

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(Labeled)

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الفصل الحادى عشر

التحليل البيولوجية (الميكروسكوبية) لمياه الشرب

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. (Blue green algae) .

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(Neurotoxin & Hepatotoxin)

(Filter Clogging Algae)

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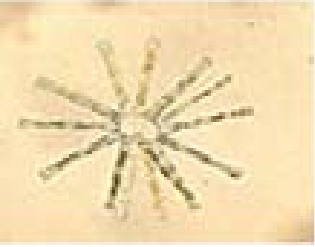
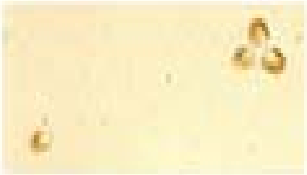
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	Anabaena laxa		التراب أو الحشائش	
	Asterionella	دياتومات	السمك	
	Chlamydomonas			
	Oscillatoria Tero			
	Syroira Petersenii			

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(Melosira)

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(10x, 20x, 40x, 100x)

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(10x, 12x, 15x)

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(Sedgwick-Rafter slide)

.(Counting slide)

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.(Stage (Calibration) micrometer)

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(Whipple plankton- counting disc)

.(Micrometer)

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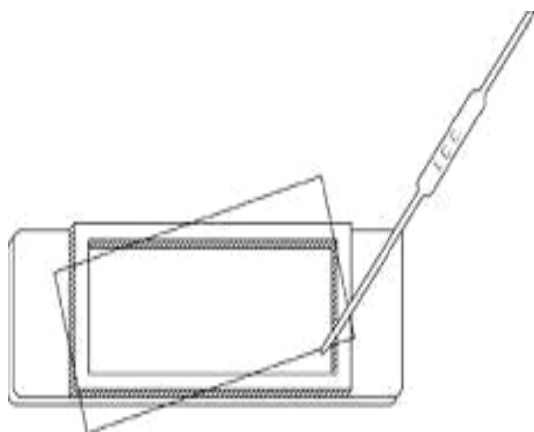
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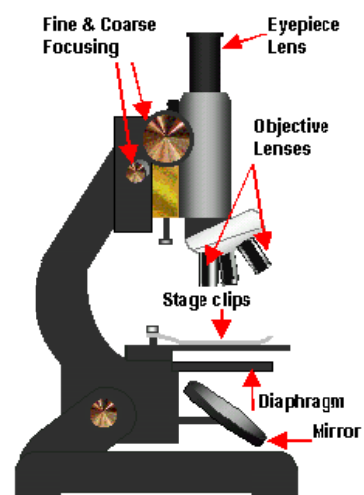
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.(Bolting cloth)



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20x

10x

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(Sedgwick Rafter Cell)

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.(Whipple Disc)

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(Whipple disc)

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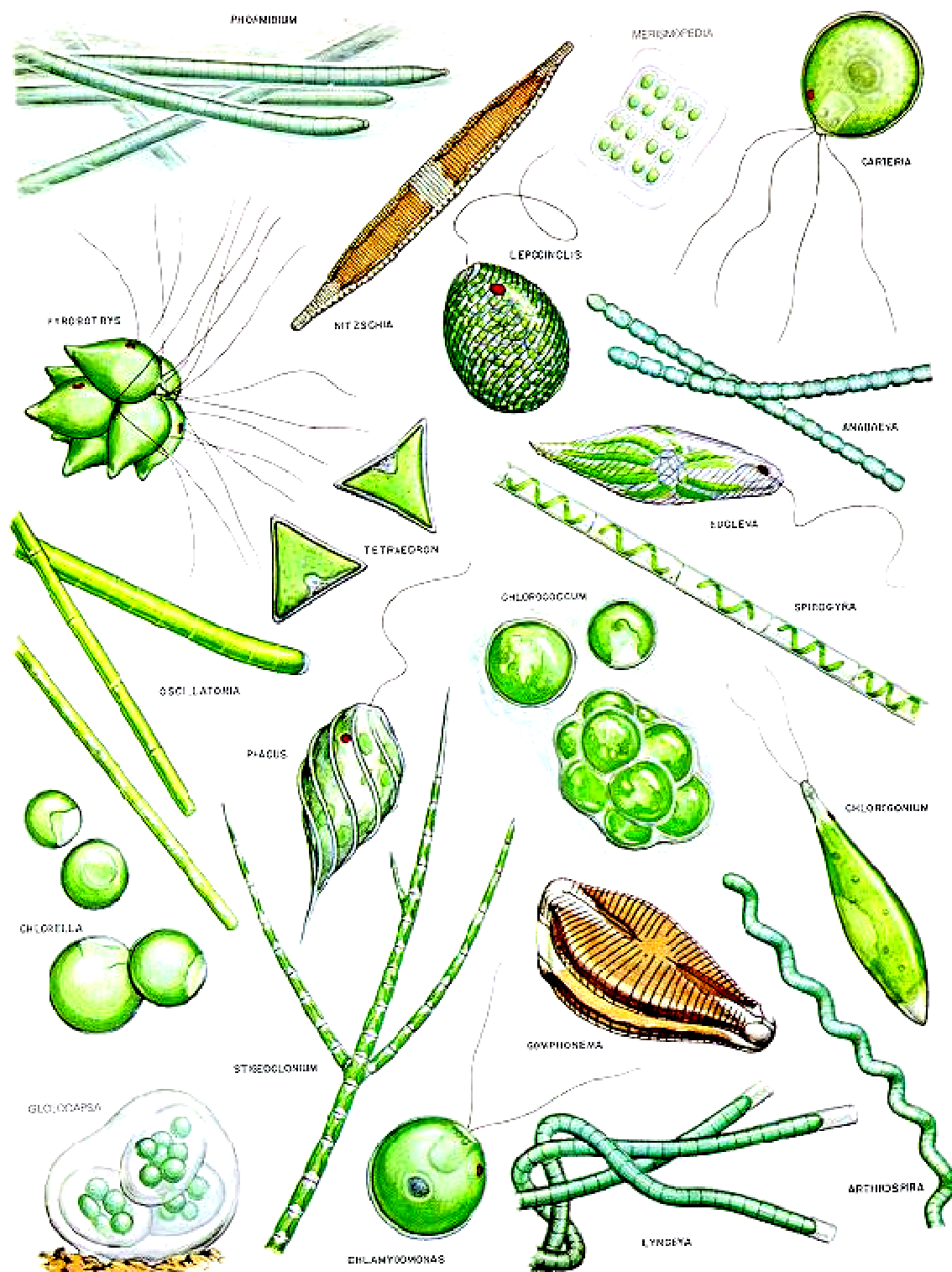
:(Sedgwick Rafter)

:Hepatotoxin
(Microcystin)
(Cyanobacteria)

.(Gastro-Eenritis, Dermatosis)

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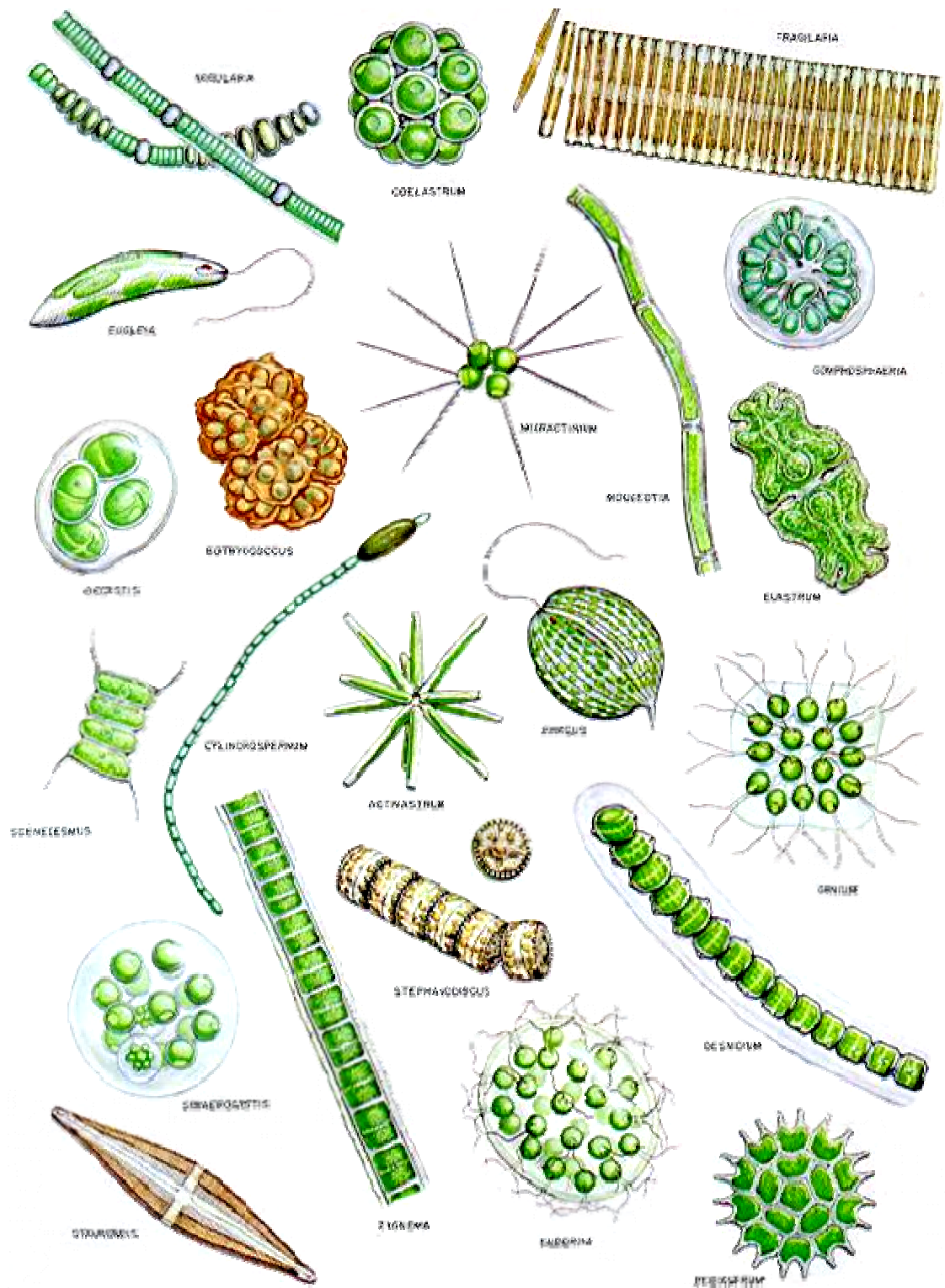


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الفصل الثانى عشر

أنواع ومصادر الأخطاء وضبط وتأكيد جودة التحاليل