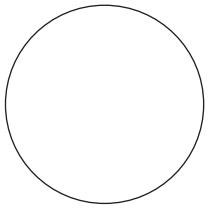
FLINN SCIENTIFIC

Name_____

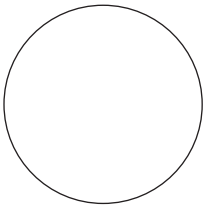
Microscope Worksheet

Activity 1. Becoming Familiar with the Microscope

Sketch the cork sample under 10X and 40X objectives.



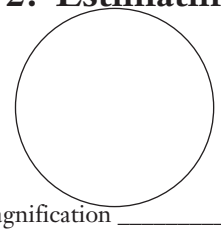
Objective Magnification _____
Ocular Magnification _____
Total Magnification _____



Objective Magnification _____
Ocular Magnification _____
Total Magnification _____

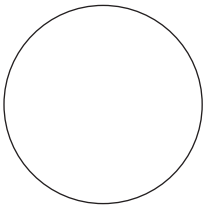
Activity 2. Estimating Crystal Size

Salt



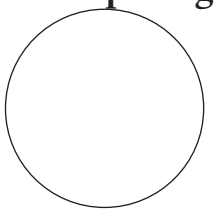
Objective Magnification _____
Ocular Magnification _____
Total Magnification _____
Trial 1 _____
Trial 2 _____
Trial 3 _____
Average Size _____

Sugar

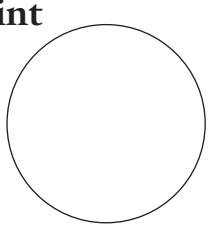


Objective Magnification _____
Ocular Magnification _____
Total Magnification _____
Trial 1 _____
Trial 2 _____
Trial 3 _____
Average Size _____

Activity 3. Preparing a Wet Mount with Newsprint



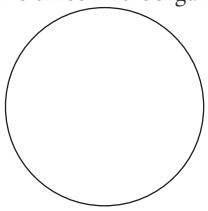
Naked eye



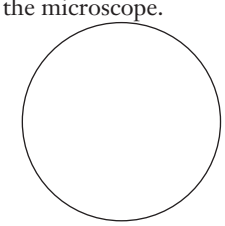
Objective Magnification _____
Ocular Magnification _____
Total Magnification _____

Activity 4. Finding and Identifying Microorganisms

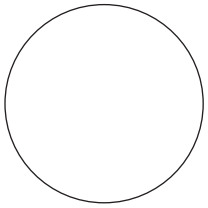
Sketch and name three microorganisms located under the microscope.



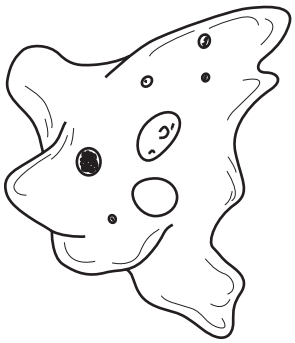
Objective Magnification _____
Ocular Magnification _____
Total Magnification _____
Organism name _____



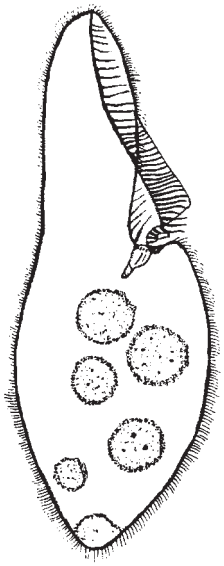
Objective Magnification _____
Ocular Magnification _____
Total Magnification _____
Organism name _____



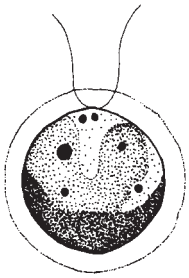
Objective Magnification _____
Ocular Magnification _____
Total Magnification _____
Organism name _____



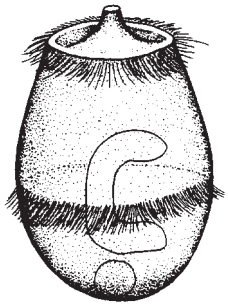
Amoeba



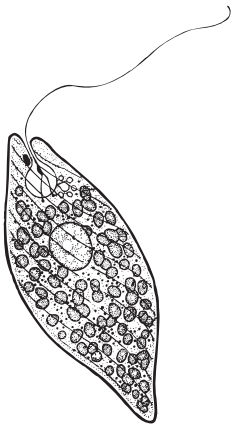
Blepharisma



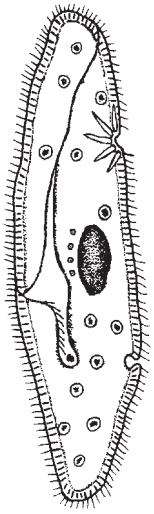
Chlamydomonas



Didinium

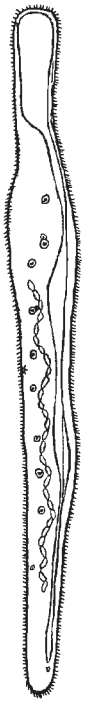


Euglena



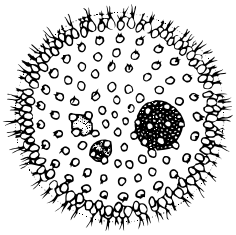
Paramecium

Chaos

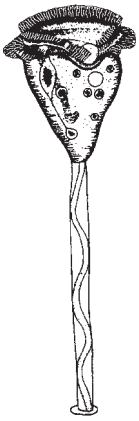


Spirostomum

Stentor



Volvox



Vorticella

Protozoa Identification Key

This simple dichotomous key and the accompanying drawings are included to assist in identifying common protozoa normally found in cultures. It is suggested that methyl cellulose solution be used as a slowing agent for fast moving protozoans.

1. *a.* Slow-creeping (sliding) or floats without apparent motion 2

   b. Exhibits other distinct motion patterns. 3

2. *a.* Small, creeps using pseudopodia (moving arm-like feet); single distinct-shaped nucleus . . . . . *Amoeba*

   b. Large, creeps using pseudopodia; many (hundreds) of small nuclei. . . . . *Chaos*

3. *a.* Colonial; spherical with more than 32 cells per colony . . . . . *Volvox*

   b. Not colonial 4

4. *a.* Cells have hair-like structures (cilia) 5

   b. Cells move with flagella (long whip-like organ) 6

5. *a.* Body covered with cilia 7

   b. Body has cilia in specialized areas or groups of cilia 8

6. *a.* One visible locomotor flagella; cell elongated . . . . . *Euglena*

   b. Two visible locomotor flagella; cell oval-shaped. . . . . *Chlamydomonas*

7. *a.* Body trumpet-shaped; usually attached to substrate. . . . . *Stentor*

   b. Body elongated; not attached to substrate 9

8. *a.* Cell on stalk; often attached to debris . . . . . *Vorticella*

   b. Cell not on stalk; two distinct bands of cilia . . . . . *Didinium*

9. *a.* Large cell, 1–3 mm in length; very elongated, almost worm-like in shape; contracts under stimulation. *Spirostomum*

   b. Smaller cells; not long and thin—like a worm 10

10. *a.* Small cell with “cigar-shaped” body, rounded ends; swims in a corkscrew-like fashion . . . . . *Paramecium*

    b. Medium cell with pear-like shape (bulbous on one end compared to the other end) . . . . . *Blepharisma*