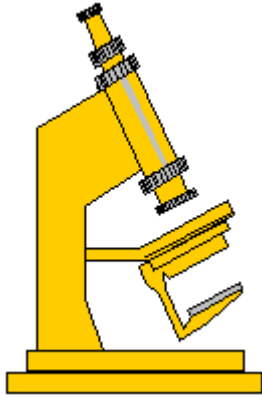
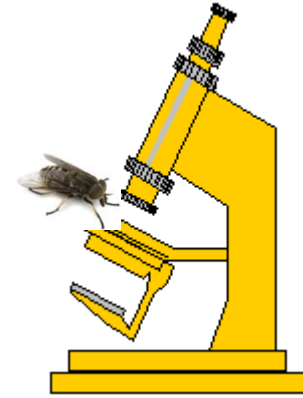


A first adventure with ...



Microscopes



Poynton Beavers

November 2025



+ 400 years !!

www.manchestermicroscopical.org.uk

Mike Mahon

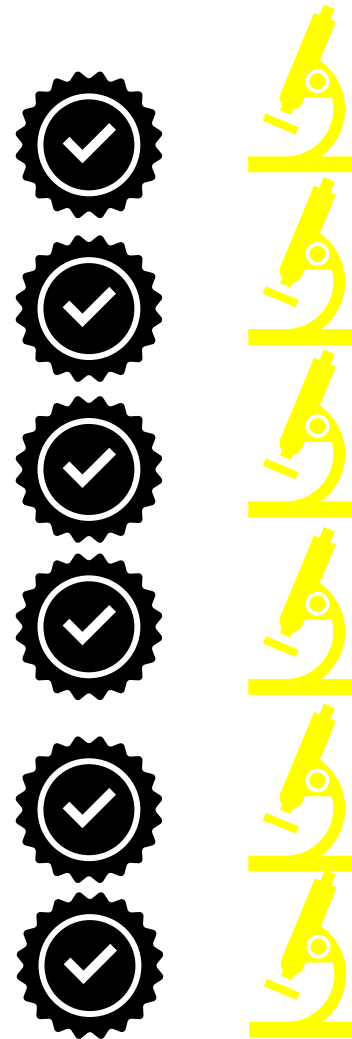
Manchester Microscopical Society

1880



Beavers are young people who:

- Master new skills and try new things
- Have fun and go on adventures
- Make friends
- Are curious about the world around them
- Help others and make a difference
- **+ Gain Science Badges**



Questions ?????

- Why do you need a microscope ?
- What does a microscope do ?
- What are the types of microscopes ?
- What can I look at with a microscope ?
- Can I take a picture or video or make a drawing ?
- Who uses Microscopes ?



Eye .

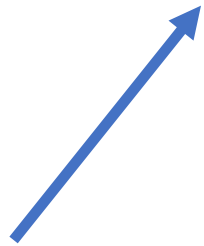
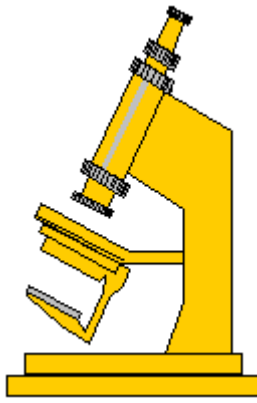
Magnify



Simple

Stereo

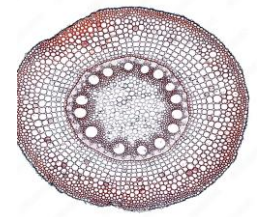
Compound



Solid Objects



Thin Items / Sections



Name / Date / What is it? / Magnification, ...

Scientists

Doctors

Forensics

Jewellers

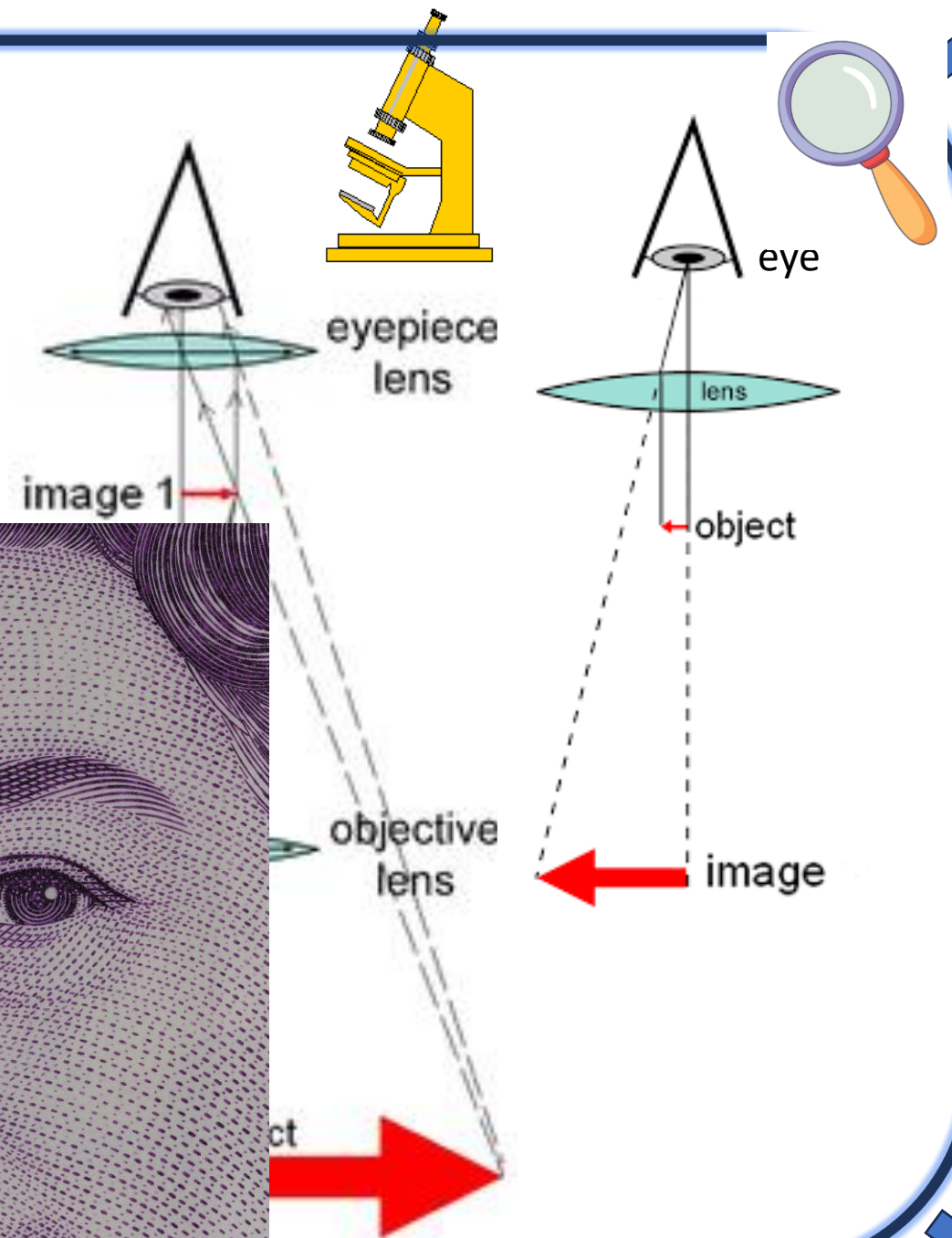
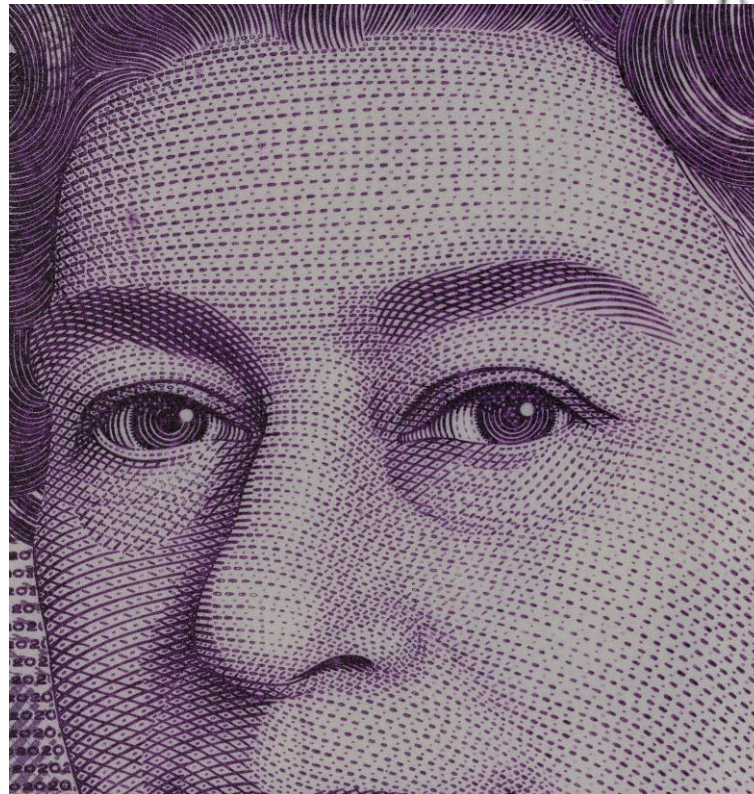
IT

..... You !



Magnification

- 0.1mm
- 1mm (x10)
- X 4 x10
- X 10 x10
- X 40 x10
- X 100 x10
- X 1000 x10!





Magnifying Glass
Ancients - now



Simple Microscope
1650



Brass Compound
Microscope
1850



Black Compound
Microscope
1950



Plug-In Compound
Microscope
1970



Research
Microscope
2000



Diamond Light Source
2023



Inspection & Stereo microscopes

Microscopes

Parts of the Microscope

Objective Lenses

Three or four lenses with a range of different magnifications

Stage

A platform that holds the slide for observation

Slide

A thin piece of glass that holds the specimen

Lamp

Provides light to illuminate the specimen, sometimes used with a mirror

Eyepiece Lens

Part of the microscope through which you look

Arm

Supports and connects the eyepiece lens to the base; also a handle for carrying

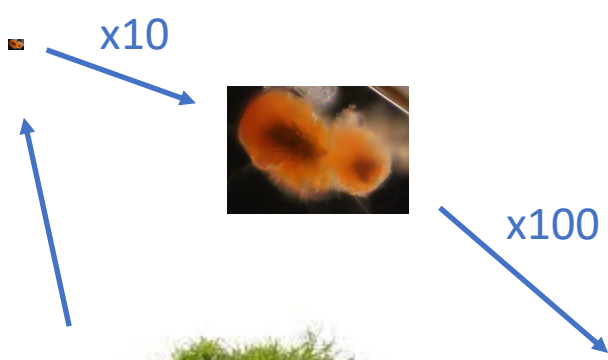
Focus Wheel

Used to bring the object in and out of focus

Base

Supports the microscope

Direction of Light

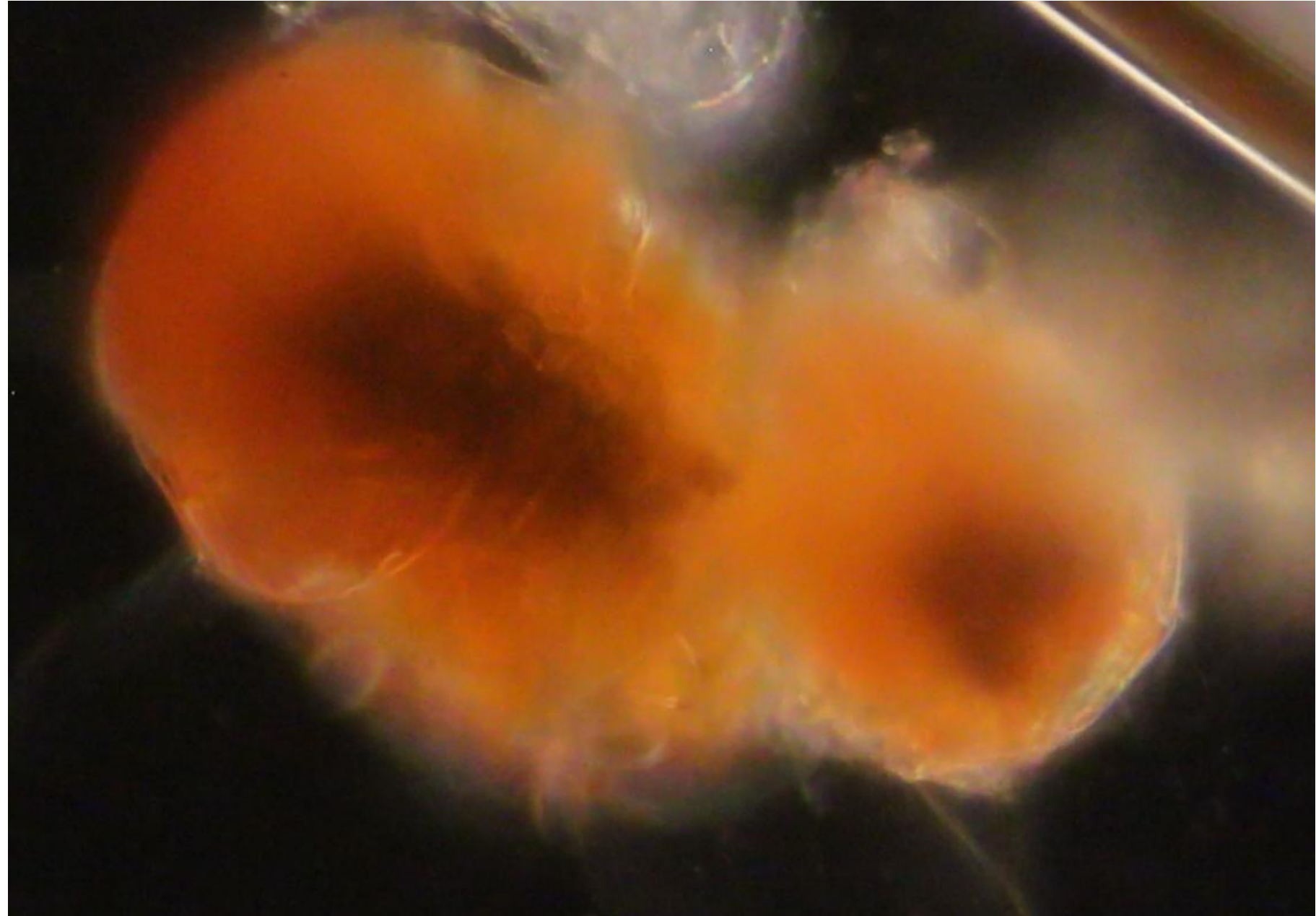


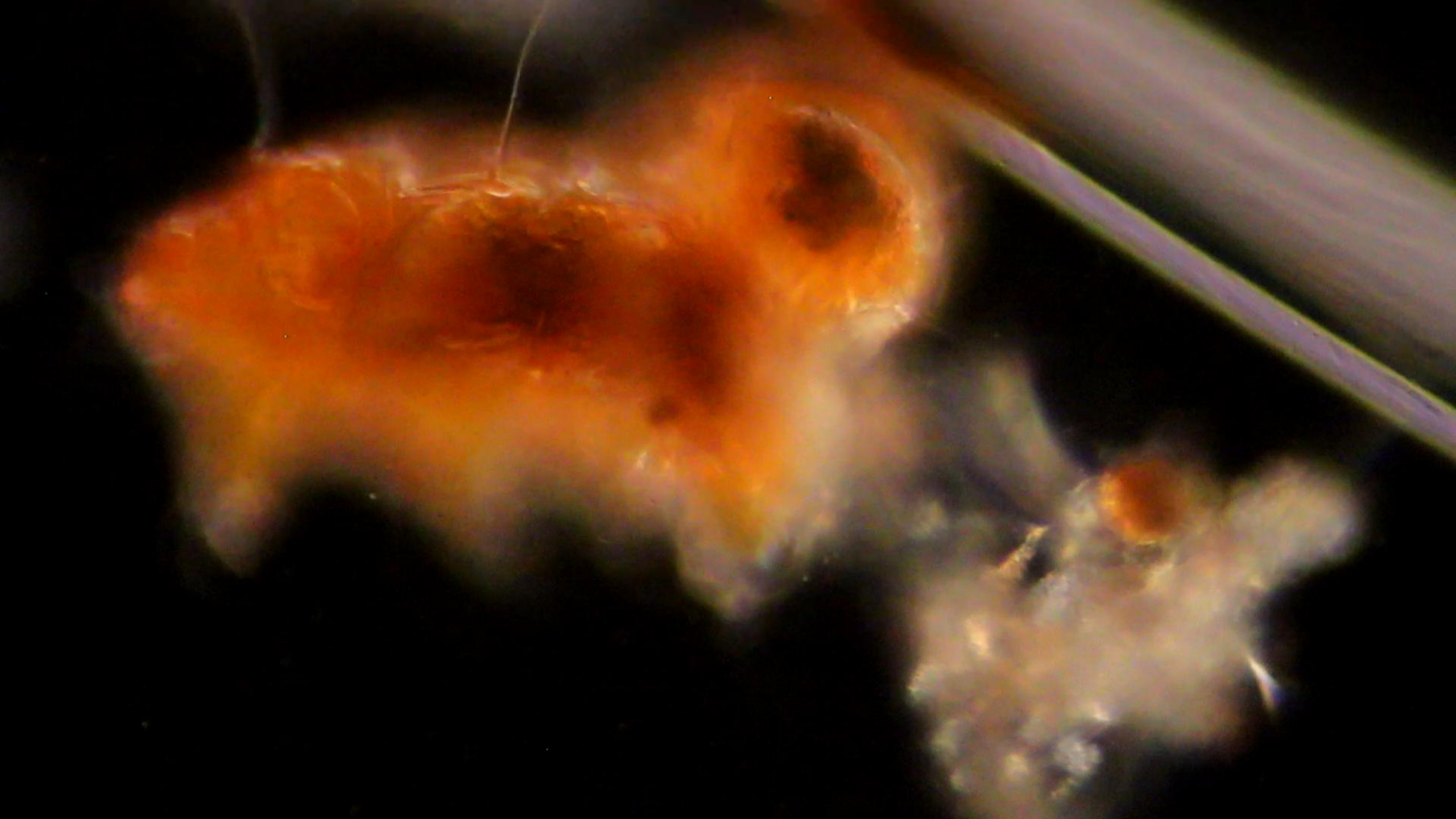
Moss

Water Bear

(Tardigrade)

5 inside a full stop !!

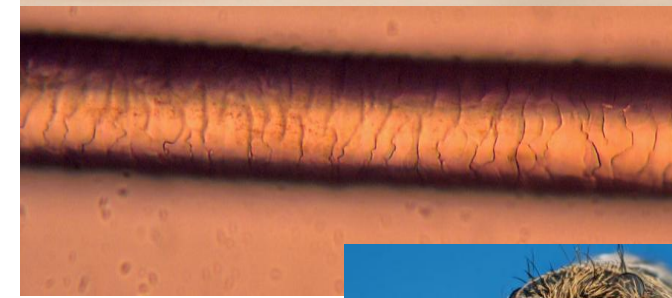
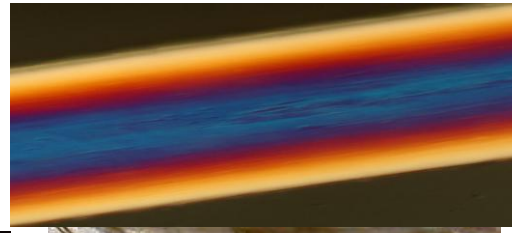




Things to look at ...

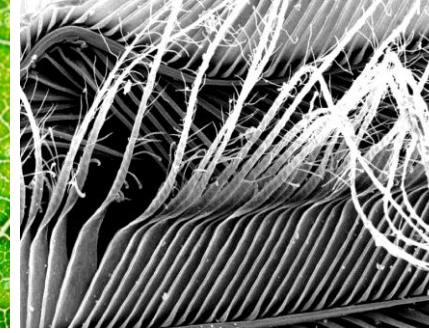
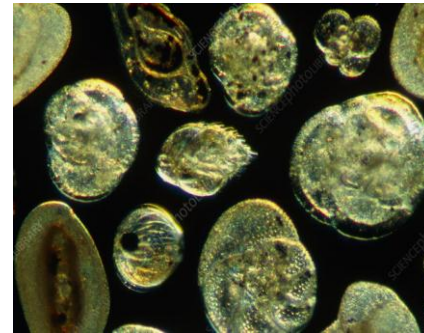
- **Yourself**

- Skin / Fingerprints
- Hair
- Blood



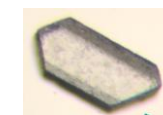
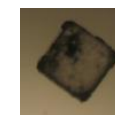
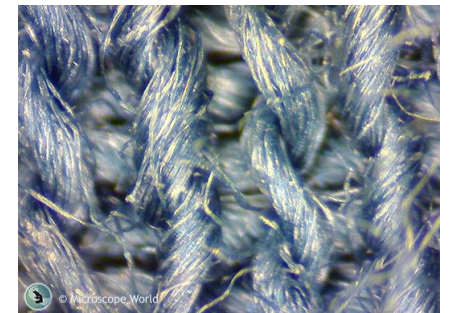
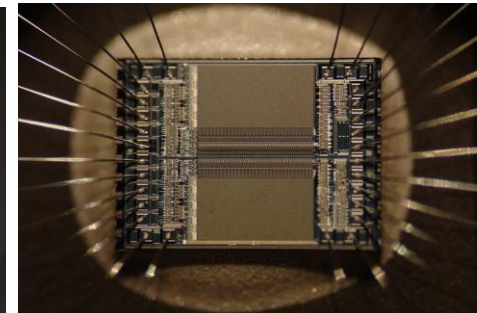
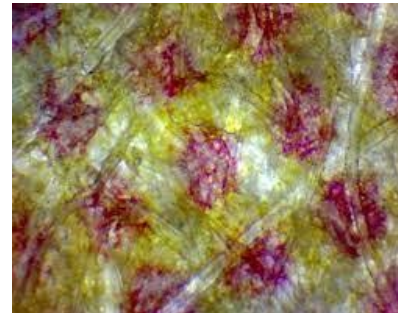
- **Outdoor items**

- Soil / Sand
- Plants / Moss / Lichen
- Feathers
- Pond Life
- Insects



- **Indoor items**

- Printed pictures
- Coins
- Computer chips
- Cellotape / Cloth / Salt / Sugar / ...



Practical Activity

3 Groups ... A B C

Time

• Intro

• Collect specimens to view and enlarge

• View Video demo

• View Microscopes demo

• View own material

• Quiz !

6.00	6.10	6.20	6.30	6.40-7.00
ABC ✓				
	A	C	B	
	B	A	C	
	C	B	A	
				ABC

Microscope Quiz

Name

1. What is the smallest size/thing you can see with your eyes alone?

.....

2. What do microscopes do?

.....

3. What did you collect to look at with microscopes?

.....

4. What did it look like? Can you draw it here?

5. What did you like most about the microscope evening?

.....

End

Microscope Quiz

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