

NYS ILS PRACTICE

Classification, Microscope Use,
Ball and Ramp, and Wooden
Block

CLASSIFICATION

- You must look at two (or more) items and **MAKE A YES/NO QUESTION** that you can separate (**classify**) them with.



More classification examples

- *Note – make sure that the question you make is based **only on the characteristics that YOU CAN SEE!!!**



Examples of good “yes/no” questions

- Does it have wings?
- Does it have four legs?
- Does it have three body sections?
- Does it have legs (make sure you have a question mark at the end!)
- Does it have tusks?
- Does it have eyes?

Examples of bad “yes/no” questions

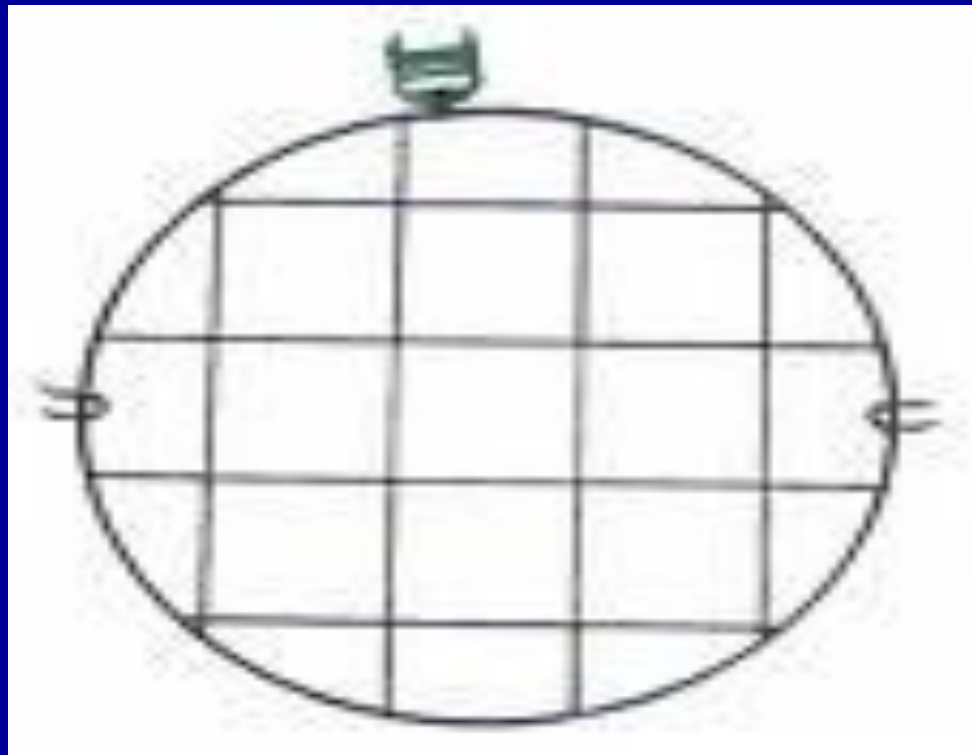
- Does it think?
- Does it have antlers? (when you mean to write antennae)
- Does it play nice with other insects?
- What is its favorite color?
- *IT HAS TO BE A YES/NO QUESTION BASED ON OBSERVABLE CHARACTERISTICS

MICROSCOPES

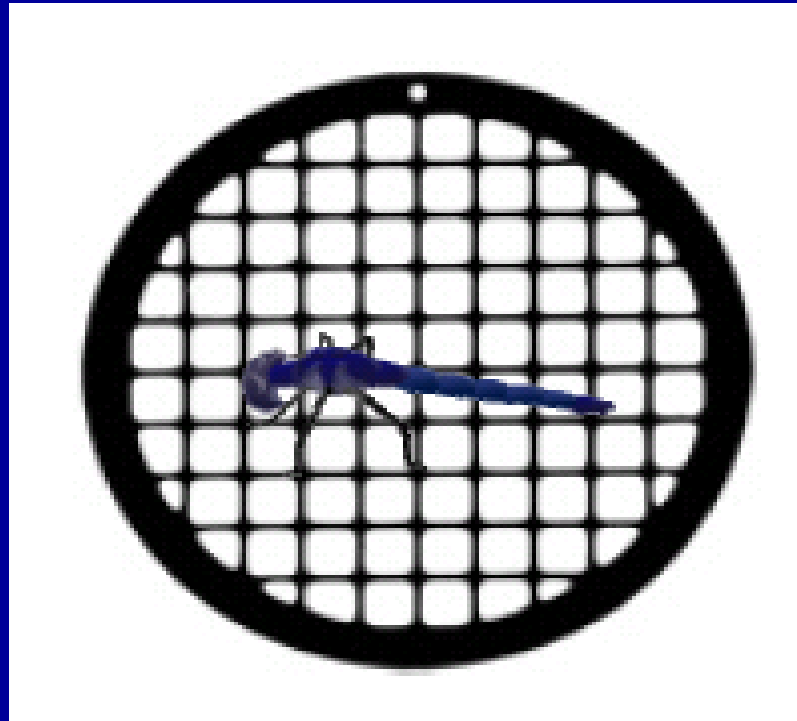
- Make sure you use the correct objective lens (**read the instructions!!!**)
- Make sure that you can FOCUS the lens so that you can make some observations of your specimen.
- Remember, **one “box” on the grid is equal to one millimeter. 1 box = 1 mm.**
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Examining a specimen

- 1 box = 1 mm

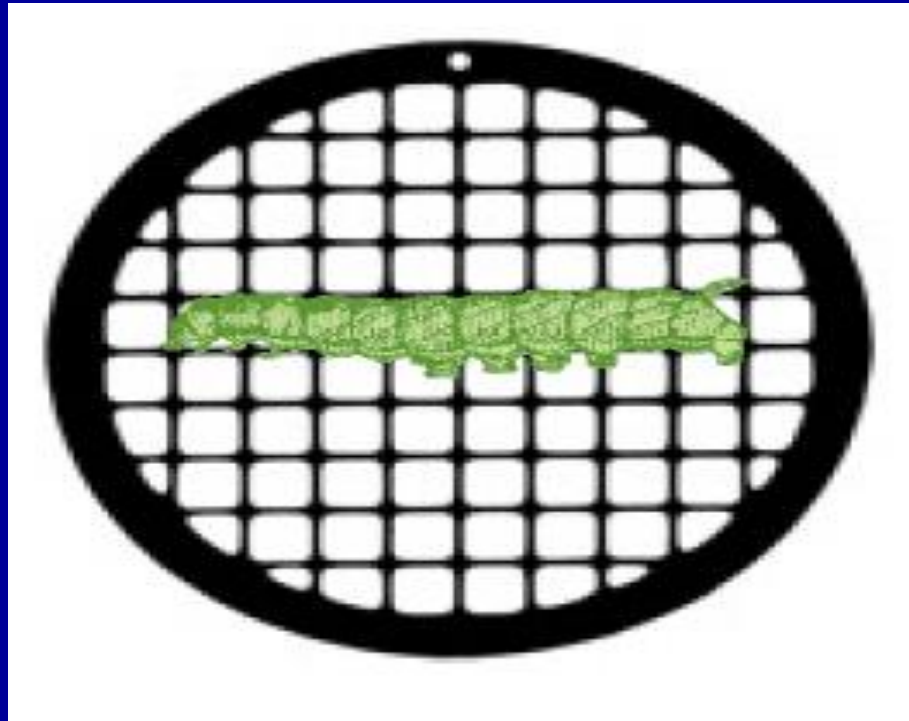


Measuring specimen practice



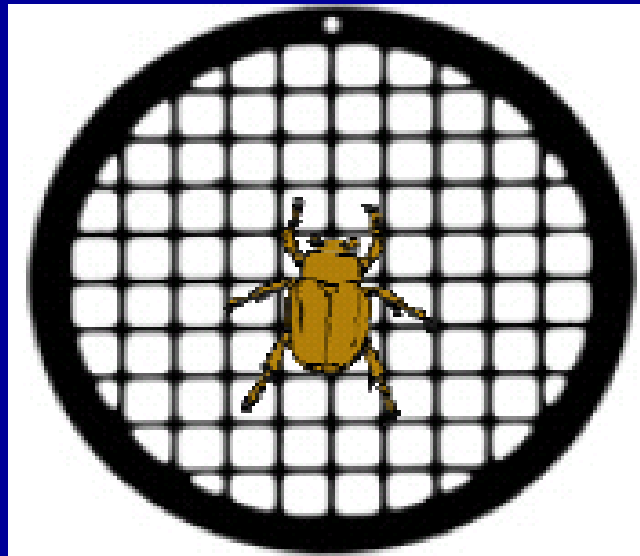
This dragonfly is about 6.25 millimeters

Measuring specimen practice



This caterpillar is about 8 millimeters

Measuring specimen practice



This beetle is about 3 millimeters

BALL AND RAMP

- How far will the ball go when you release it at different points on the ramp???



Ball and Ramp

- As you **release** the **ball** from a **higher point** on the ramp, the ball will travel _____ **(more or less)** distance.
- If you **use** a **heavier ball**, the **ball will travel** _____ **(farther, not as far)**
- What is the scientific explanation for this???
(what force/motion vocabulary will you use?)

Ball and Ramp

- Which of the following words below best explain any changes in the distance traveled by the ball?

Momentum

Speed

Acceleration

Height of Release

Gravity

Friction

Rolling

Faster

Slower

Heavier

Lighter

Mass

Force

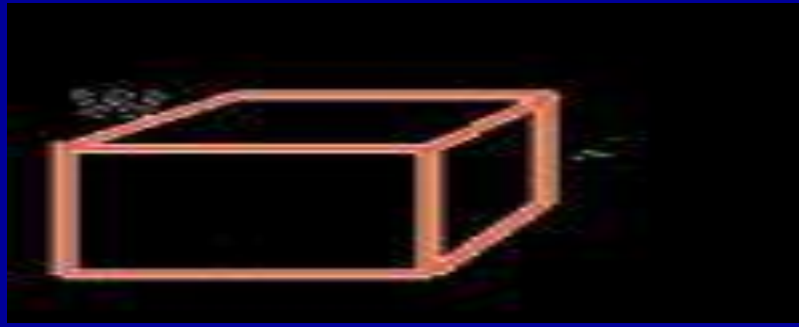
DENSITY, MASS, & VOLUME

- Can you accurately measure BOTH the MASS and the VOLUME of a wooden block so that you can calculate the density of it?
- You sure CAN! We did that many times in class. If you are not confident, stay after for more practice!



Volume

- For volume we use the metric side of the ruler (cm)
- Measure all three dimensions (length, width, height)



- Use the volume formula (length X width X height)
- Remember the “pick a corner” trick...huh?

Mass

- We use the Triple Beam Balance
- Make sure the “arrow” points to the number (the rider is in the notch)



Density

- Use the **density formula (mass divided by volume)** and a calculator to find the correct density value.
- Use the correct units!!!
- Enter the mass # in, then the divide sign, enter the volume # in, then the equal sign.



Changes in Density

- Does the density of the wooden block (or anything) change when we cut it in half?
- **NO. NO. NO. NO. NO.**
- **Density is constant at a constant temp!!!!**