

Cell Investigation

Awesome Student

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6TH GRADE SCIENCE

Microscope procedure, notes, and conclusion.- 6th Grade, Period 1, Budrow

OBJECTIVE

To provide evidence and collect data that will prove that living things are made up of one or many cells that may or may not be different from each other.

MATERIALS

1. Slides:
 - a. Carnation Stem
 - b. Pumpkin Ovary
 - c. Bamboo Cane
 - d. Aspirin
 - e. Coffee
 - f. Vitamin D
2. Black microscope

PROCEDURE

1. Make a table. Name the columns in the table, slide, texture, pattern, shape, color and cell.
2. Get a black microscope and get the slides from the material list above
3. Plug the microscope in to the nearest outlet.
4. Pick up the carnation stem. With your free hand, gently lift the right stage clip (metal clips on the black box) about half an inch. While holding the clip, slip the slide under the clip so that the clip is pinching the right edge of the slide. Make sure the slide is also horizontal.

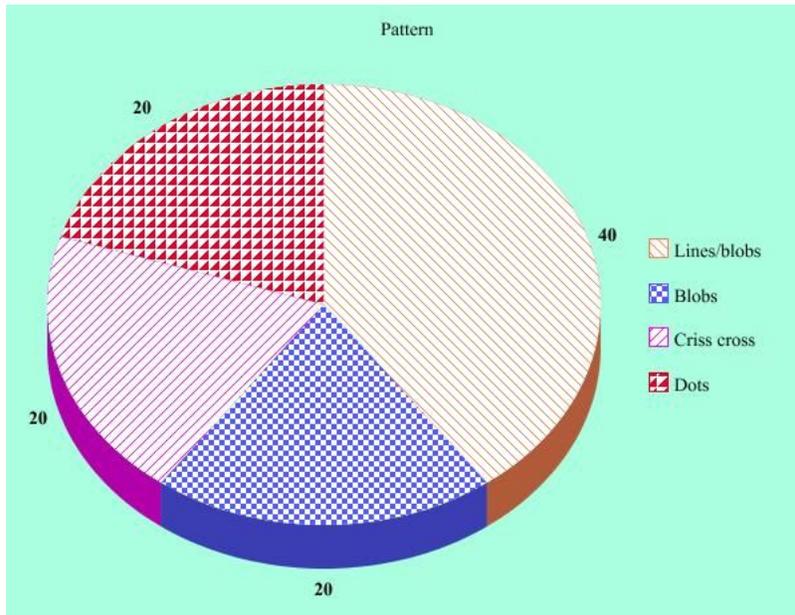
5. Lift the other stage clip and slide the other end underneath it using the same instructions. One other thing to make sure of is that the stem must be directly under the smallest lens (tube).
6. Turn on the power knob. The power knob should be the knob closest to the stage. It is also the smallest knob. Turn the knob towards you until you see light coming from the light source, (the circle under the stage).
7. Turn the nose piece, (the spinner that holds the lenses) so that the smallest lens is above the hole in the stage. It should say, 4x 0.10N.A.
8. Then, turn the fine focus away from you until it will not turn anymore.
9. Look through the eyepiece and try to find the stem. Move the slide around if you have to. It should look like a faint red circle. Inside the stem is more red circles which are the cells.
10. Once you have it, study it very closely. What do you see?
11. Take notes on your data table about what you think it looks like.
12. Then pick up your pumpkin ovary and repeat the process from steps 4-10.
13. Then, repeat this with both of the non living slides.

DATA

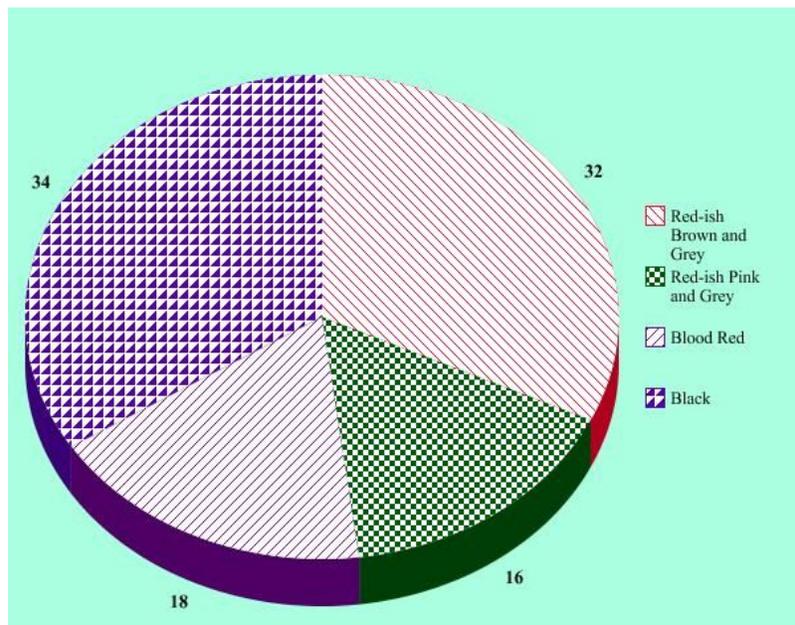
Slide	Pattern	Color	Shape	Texture	Cell
Carnation stem	lines/ blobs	Reddish brown and grey	circle	rough	yes
Pumpkin ovary	lines/ blobs	Reddish brown and grey	blob	Smooth	yes
coffee	Criss cross	Blood red	splatter	Smooth	no
Bamboo cane	Tiny random blobs	Pinkish Red and grey	blob	rough	yes
Asprin	specs/dots	black	Tiny circles	bumpy	no
Vitamin D	Dots	Black	Tiny circles	Rough	no

GRAPHS

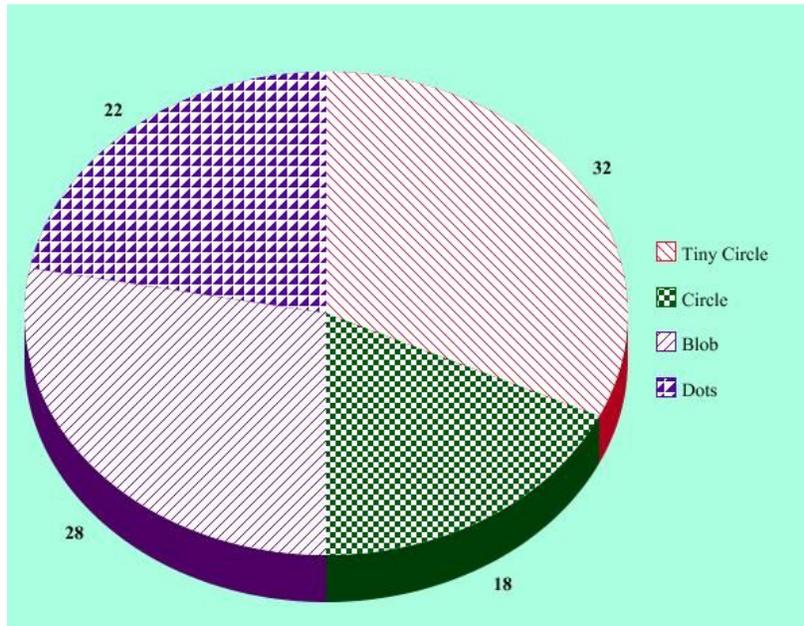
Pattern



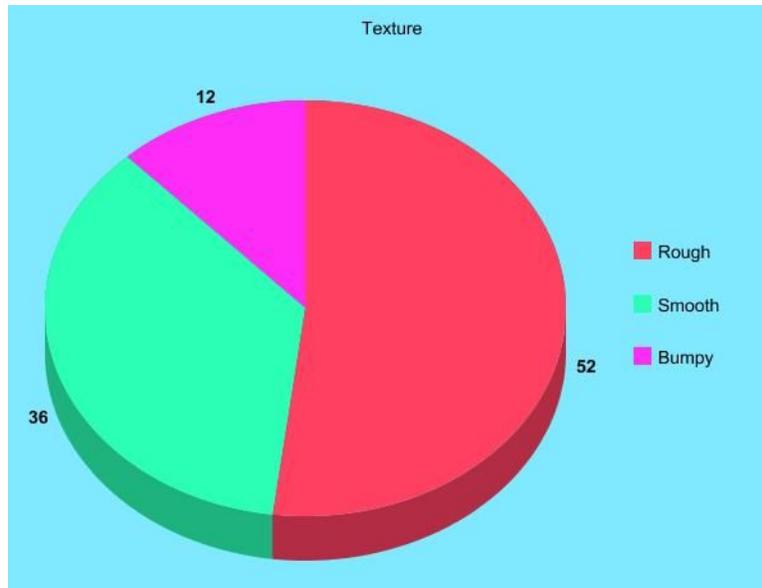
Color



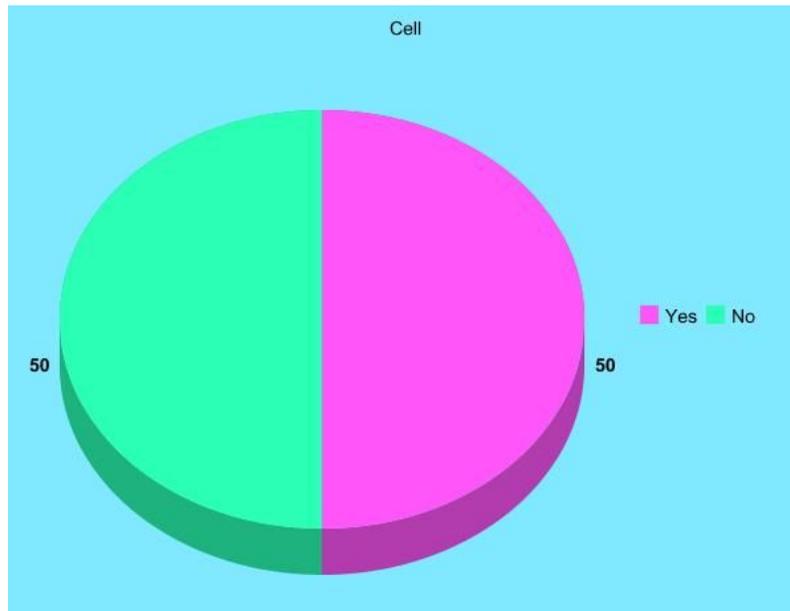
Shape



Texture



Cells



RESULTS

All of the living slides seemed to have a similar pattern. They all had weird lines with a hint of red throughout the object. They all had cells also. They all seemed a little different and they were tricky to find. They also didn't look like what they actually look like in real life. For example, the bamboo slide looked nothing like an actual bamboo cane. It was just a part of it. But the coffee, which is non living, looked like real coffee.

CONCLUSION

All the slides were different in their own way. But some, were more similar than others. The living things looked more alike than the nonliving, but all the living things had cells. For the non living slides, what you could see, was unpredictable. Sometimes the cells looked alike, and sometimes they didn't. Most of the time they were different sizes, colors, shapes, and in different places. Sometimes, they were the same color and maybe size. Also, like all living things, humans have cells. The cells work together to keep us alive and well. Cells convert and produce energy, digest food, destroy waste, reproduce, and take in oxygen that you need to live. The cells in other living things do similar tasks. Plant cells make energy and food. There is also a system that plants and humans share. The cells make up what is called a tissue. The tissue makes organs and the organ makes an organ system that makes up the human body. A similar system goes for plants. Therefore, cells make up all living things.

Sources

<https://docs.google.com/document/d/1gNBb1Cxn4wxJGizGUQ8f5VLVEsNMriy37wAh50rSZk/edit>

<https://discoveringmonsters.wikispaces.com/1-+Cells%2C+Tissues%2C+Organs%2C+Organ+Systems>

https://www.google.com/search?q=plant+cell+tissue+and+organ+culture&rlz=1CASMAI_enUS707US708&espv=2&biw=1242&bih=573&site=webhp&source=lnms&tbm=isch&sa=X&ved=0ahUKEwi-3oX7xbXSAhVjF8AKHXtIBiQQ_AUIBigB&dpr=1.1&safe=active&ssui=on#safe=active&tbm=isch&q=plant+cell-tissue-organ-organ+systeme+&*>