Hair Lab

Purpose: The purpose of this lab is to become familiar with hair from different species and the conditions of hairs which may occur.

Materials:
- Water
- Multiple Hairs
- Microscope
- Slides
- Cover Slips
- Tweezers
- Clear Nail Polish
- Prepared Hair Sample Slides

Part 1: Origin of Hairs

1. Obtain a hair sample from me and create a wet mount slide. Use 2-3 hairs from the same sample.
2. Place the slide under the microscope on the lowest objective and focus the slide. Then, rotate the nosepiece to the 10X objective lens and focus your specimen.
3. Move the hair up and down the shaft of the hair to get an overall idea of the characteristics of the hair. Vary the microscope’s focus and light to get the best view of the characteristics. Fill in the following table about the characteristics of your hair sample.

<table>
<thead>
<tr>
<th>Sample Name</th>
<th>Cortex</th>
<th>Type of Medulla</th>
<th>Medullary Index</th>
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4. Draw a sketch of your hair below.

5. Locate the slides of known animal hairs and compare your sample. See if you can identify the species your hair came from. Use specific examples to tell me what you looked at to identify the species.
Part 2: Shape of the Cuticle

1. Paint a microscope slide with a layer of clear nail polish.
2. Place a few hairs in the polish.
3. Allow the polish to dry completely.
4. Remove the hairs.
5. Examine the hair molds under a microscope at 10X.
6. Sketch the mold below.

7. What is the shape of the cuticle in your sample?

Part 3: Condition of Hairs

1. Run your hands through your scalp hair and collect any loose hairs.
2. Cut the strands of hair so that you get a cut end and the root on one slide. Create a wet mount slide.
3. Observe the hairs under the microscope. Note the characteristics of the hair in the table below.
4. Pull several hairs from the scalp of a single individual.
5. Break the hair so that you get a broken end and root on one slide. Create a wet mount slide.
6. Observe the hairs under the microscope. Note the characteristics of the hair in the table below.

<table>
<thead>
<tr>
<th>Type of Hair</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Root of Hair Fallen Out Naturally</td>
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<tr>
<td>Root of Hair Pulled Out</td>
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<tr>
<td>End of Cut Hair</td>
<td></td>
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<tr>
<td>End of Broken Hair</td>
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7. How were the root tips different between a pulled out hair and a hair that naturally fell out?
8. How were the ends of the hair different when you cut the hair or broke the hair?

Conclusion:
1. Briefly explain what you did in the lab.
2. What did you learn about hairs in the lab?
3. How are you going to use this new knowledge in the future OR what questions do you still have about hairs?