

It's the Humidity



QUESTION: What is humidity and how is it measured?

MATERIALS:

- | | |
|-----------------------------------|---------------------------|
| cardboard (corrugated) - 9" x 12" | push pin |
| cardboard (thin) - 1" x 6" | scissors |
| dime | straight pin |
| hot glue gun | strand of hair - 12" long |
| knife | |

PROCEDURE:

1. On the top edge of the corrugated cardboard, use a sharp knife to cut two slits about 1/4 inch apart and 1 inch from the left side. **ADULT SUPERVISION NEEDED FOR THIS STEP OF THE LAB.**
2. Use scissors to cut a piece from the thin cardboard to make a triangular pointer about 6 inches long.
3. Use the knife to cut two slits along the bottom of the pointer about 1 inch from the left edge. **ADULT SUPERVISION NEEDED FOR THIS STEP OF THE LAB.**
4. Use the pushpin to attach the pointer to the base, 1/2 inch from the left edge in the center. Then take the hair strand and slide it through the top two and bottom two slits.
5. Hot-glue the hair in place in both sets of slits, then hot-glue a dime 1 1/2 inches from the left edge of the pointer base.
6. Push a pin through the hole in the pointer so that the hair is slightly stretched when the pointer is horizontal.
7. Calibrate your hair hygrometer at 100 percent humidity by bringing it into the bathroom when you shower. Make a mark where the pointer stops. Mark this point "100%" humidity. Then use a hair dryer to dry the hair. Make a mark where the point stops and mark this point "0%" humidity. Mark the midpoint between the "0%" humidity and "100%" humidity as "50%" humidity.
8. Once you have made your hygrometer, measure the changes in humidity over 5-7 days. Record the changes in humidity in the data table.



ES – Activity #14

DATA:

DAY	APPROXIMATE % HUMIDITY	HUMIDITY INCREASING	HUMIDITY DECREASING	HUMIDITY UNCHANGED
1				
2				
3				
4				
5				
6				
7				

QUESTIONS:

1. What causes the hair to shorten and lengthen?
2. What weather conditions cause an increase in humidity? Which would cause a decrease in humidity?
3. On what day did you record the highest humidity? What was the approximate percent humidity on that day?
4. On what day did you record the lowest humidity? What was the approximate percent humidity on that day?
5. On what day did you experience the greatest change in humidity? On that day, did the humidity increase or decrease from the previous day?