

Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Worksheet: The Gecko's Sticky Secret

1. The Gecko Team has discovered that the gecko's remarkable climbing ability is due to an amazing adaptation that uses \_\_\_\_\_ forces to adhere the gecko's feet to just about anything.
2. Geckos have millions of tiny hairs on their feet called \_\_\_\_\_.
3. Each hair splits into thousands of tiny hairlets, capped with a triangular pads called \_\_\_\_\_. (Because they look like little hamburger flippers!)
4. How do you feel about the scientists' treatment of their experimental geckos?
  
5. The German scientist, \_\_\_\_\_ was the first to speculate that geckos might use intermolecular attractions as their "glue."
6. What ancient philosopher marveled at the geckos' gravity defying feats?
  
6. If all the hairs on a gecko's feet worked at the same time, they could support a \_\_\_\_\_ pound man!
7. Name two possible applications of "gecko glue."
  
8. How do you suppose the gecko turns off his "sticky feet," so he can move around? (This is where you get to make your best wild guess!)

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## Worksheet: Intermolecular Forces

1. Intermolecular forces bind \_\_\_\_\_ to one another.
2. The word, dipole, means \_\_\_\_\_.
3. The separation of charge on a molecule into two distinct areas is called \_\_\_\_\_.
4. What type of molecules has permanent dipoles? \_\_\_\_\_
5. Which type of intermolecular force is the strongest? \_\_\_\_\_  
The weakest? \_\_\_\_\_
6. Hydrogen bonds are created only when hydrogen combines with which three elements? \_\_\_\_\_
7. The strength of the hydrogen bond is due to a large difference in \_\_\_\_\_ between hydrogen and the other atom.
8. Which have higher melting points and boiling points, polar molecules or non-polar molecules? \_\_\_\_\_ Explain why.
9. Why do larger, heavier molecules have stronger dispersion forces than smaller, lighter ones?
10. Explain how one molecule can induce a temporary dipole on another molecule.