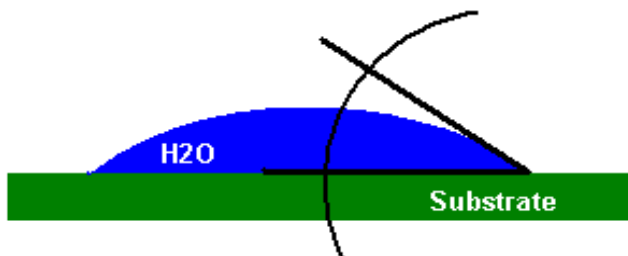


# NNCI—Nanoscale Science and Engineering

## Exploring Hydrophobic Materials

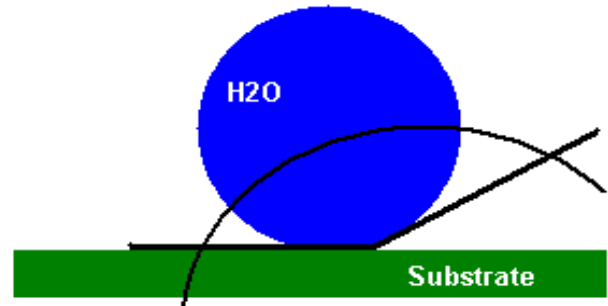
Hydrophobic and hydrophilic are determined by surface contact geometry or angle as shown below:

### Hydrophilic



Contact Angle < 90 Degrees

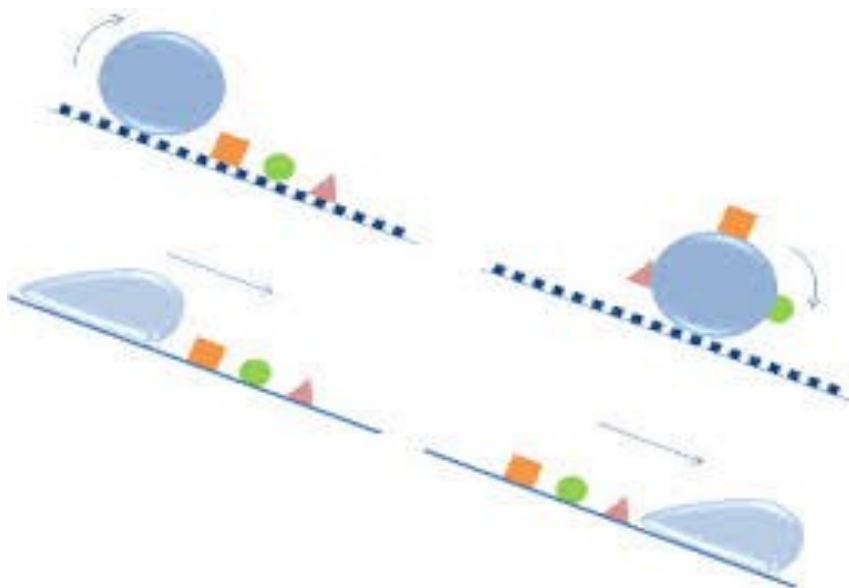
### Hydrophobic



Contact Angle > 90 Degrees

Hydrophobicity is used to prevent water from collecting on a surface

- ♦ The water is attracted more to itself than the surface because the surface tension force is greater than the gravitational force.



Superhydrophobic  
- dirt adheres loosely to surface and is picked up.

Hydrophilic—  
water partly wets the surface and spreads out leaving most dirt on.

Image at: [http://nanoyou.eu/attachments/188\\_Module-1-chapter-2-proofread.pdf](http://nanoyou.eu/attachments/188_Module-1-chapter-2-proofread.pdf)  
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