

Name____

	56	7 8 9	10 11 12 13	14 15
Intermolecular Forces Worksheet				
G	Wate lass	er Polyethylene	Ethyl Ald Glass	cohol Polyethylene
Microscope Slide Steps 3 and 4	1455	Torychrytelie	Glass	Torychiylene
1. Drop width (mm)				
Drop height (mm)				
Step 8 2. Force to separate slides				
Microspatula Steps 9 and 10				
3. Number of drops to fill microspatula		mm		mm
Capillary Tube Steps 13 and 14				
4. Capillary rise (mm)		mm		mm
Buret Steps 19 and 23				
5. Unmixed liquid volume		mL		
Mixed solution volume		mL		
Volume change		mL		
Volume change-%		%		
Dry Erase Board Steps 24 and 25				
6. Pattern of water on dry erase board _				
Pattern of ethyl alcohol on dry erase l	board			
7. Evaporation time (sec)	Water		Ethyl Alcohol	1

Post-Lab Questions

1. Which liquid was least attracted to each of the surfaces? How could you tell that this was true?

© 2018, Flinn Scientific, Inc. All Rights Reserved. Reproduction permission is granted from Flinn Scientific, Inc. Batavia, Illinois, U.S.A. No part of this material may be reproduced or transmitted in any form or by any means, electronic or mechanical, including, but not limited to photocopy, recording, or any information storage and retrieval system, without permission in writing from Flinn Scientific, Inc.

- 2. In step 3, which of the water drops was the flattest and widest? What does this mean about the attraction of the molecule to the surface?
- 3. Can you determine whether the polyethylene is made of polar or nonpolar molecules?
- 4. When you compressed the slides in step 4, which slide seemed the most difficult to separate?
- 5. Which liquid took the most drops to fill the microspatula in steps 9 and 10? What does this indicate about the size of the drops? How does the size of the drop relate to the attraction of the molecules to each other?
- 6. When you compare the size of the molecules of water and ethyl alcohol, which is bigger? How does this compare to the size of the drops?
- 7. The glass capillary tube contains encapsulated ions at the surface; based on this fact, which molecules shows the greatest ion–dipole attraction?
- 8. In step 24 when the drops run down the dry erase board, which liquid seemed to spread out on the surface?
- 9. Which liquid took longer to evaporate? What does this imply about the attraction of the molecules to each other?
- 10. Which liquid has weaker intermolecular attraction and which has the stronger intermolecular attractions?
- 11. (Optional) Speculate on the cause of the observed results when water and ethyl alcohol were mixed in step 21.