

Unit 5

NAME

Class Work

1/10/14

5.13 Oil Spills

SPARK

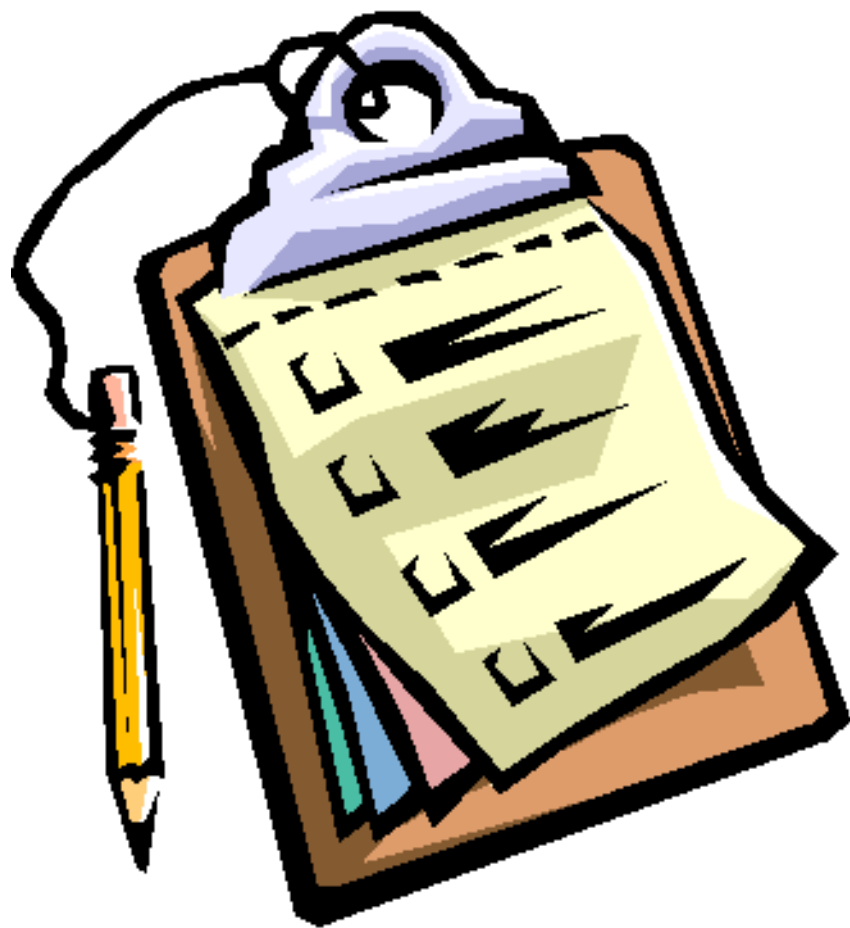
1. What type of IMF is between two nonpolar molecules?
2. What is an example of a nonpolar molecule?
3. What type of IMF is between two polar molecules?
4. What is an example of a polar molecule?

Objective

SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Agenda:

- SPARK/Objective
- How Soap Works
- Milk Demo
- Oil Spills Reading and Argument Writing!
- Homework



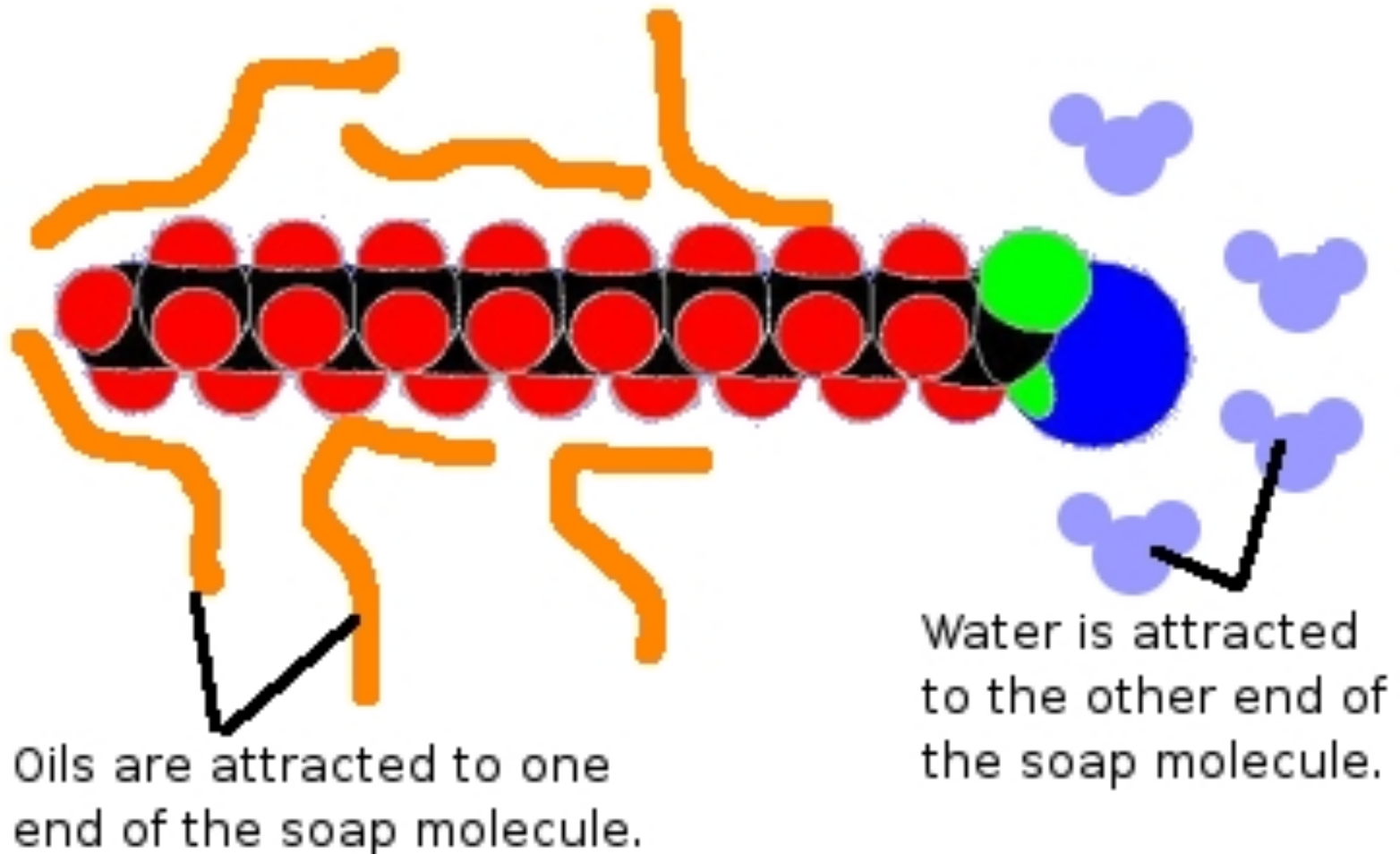
Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Reading about soap

- Before you read... it is important to know that “like dissolves like” or polar molecules are attracted to polar molecules and nonpolar molecules are attracted to nonpolar molecules.

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Reading about Soap!



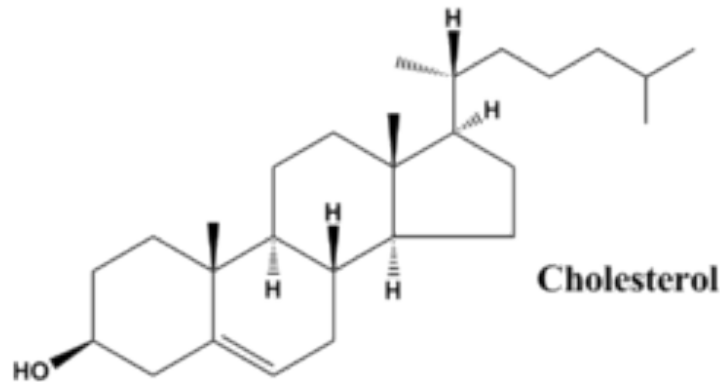
Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Preparing for demonstration

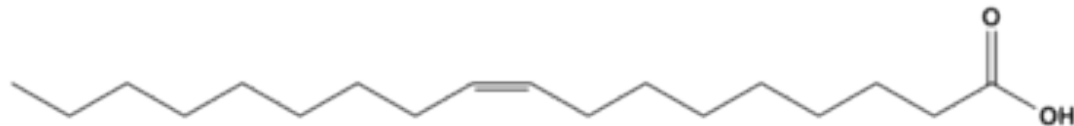
- Milk is a mixture that contains roughly 87% water, 3 % proteins, 5% lipids (fats), and 5% lactose (sugar). Milk is a mixture called a colloid where solids, tiny little fat globules, are suspended in water. Lipids (fats) are non-polar molecules composed of long carbon chains with hydrogen and oxygen.

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

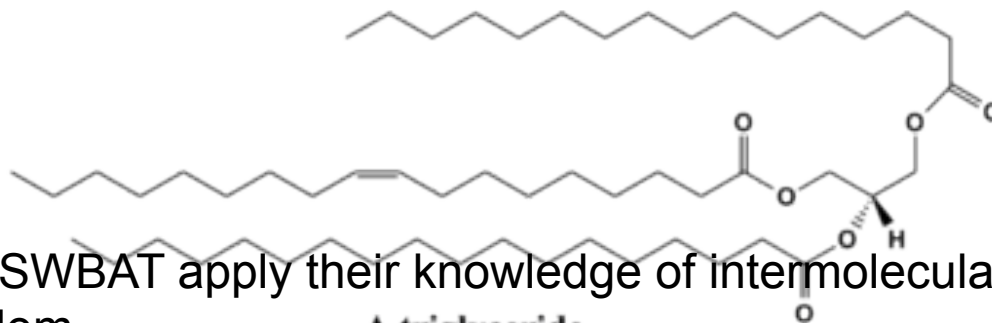
MILK DEMO!



Cholesterol



A free fatty acid



A triglyceride

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Milk Demo – Everybody Writes!

- What do you observe when the stick with soap is placed into the milk?
- What type of molecules is milk made up of (polar, nonpolar or ionic)?
- What type of molecules is the soap made up of?

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Analysis

Based on what you know about the soap, fat, and water molecules, explain what is happening on an intermolecular level by answering the questions below:

- 1) What is happening between the soap and the fat?
- 2) What is happening between the soap and the water?

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Conclusion

- Explain how soap works to clean away dirt, grease, and grime in terms of intermolecular forces.
- Write 3-5 complete sentences and be sure to use your chemistry vocabulary words (e.g. polar, non-polar, molecule, dipole-dipole, London dispersion, etc.)

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Gulf Oil Spill



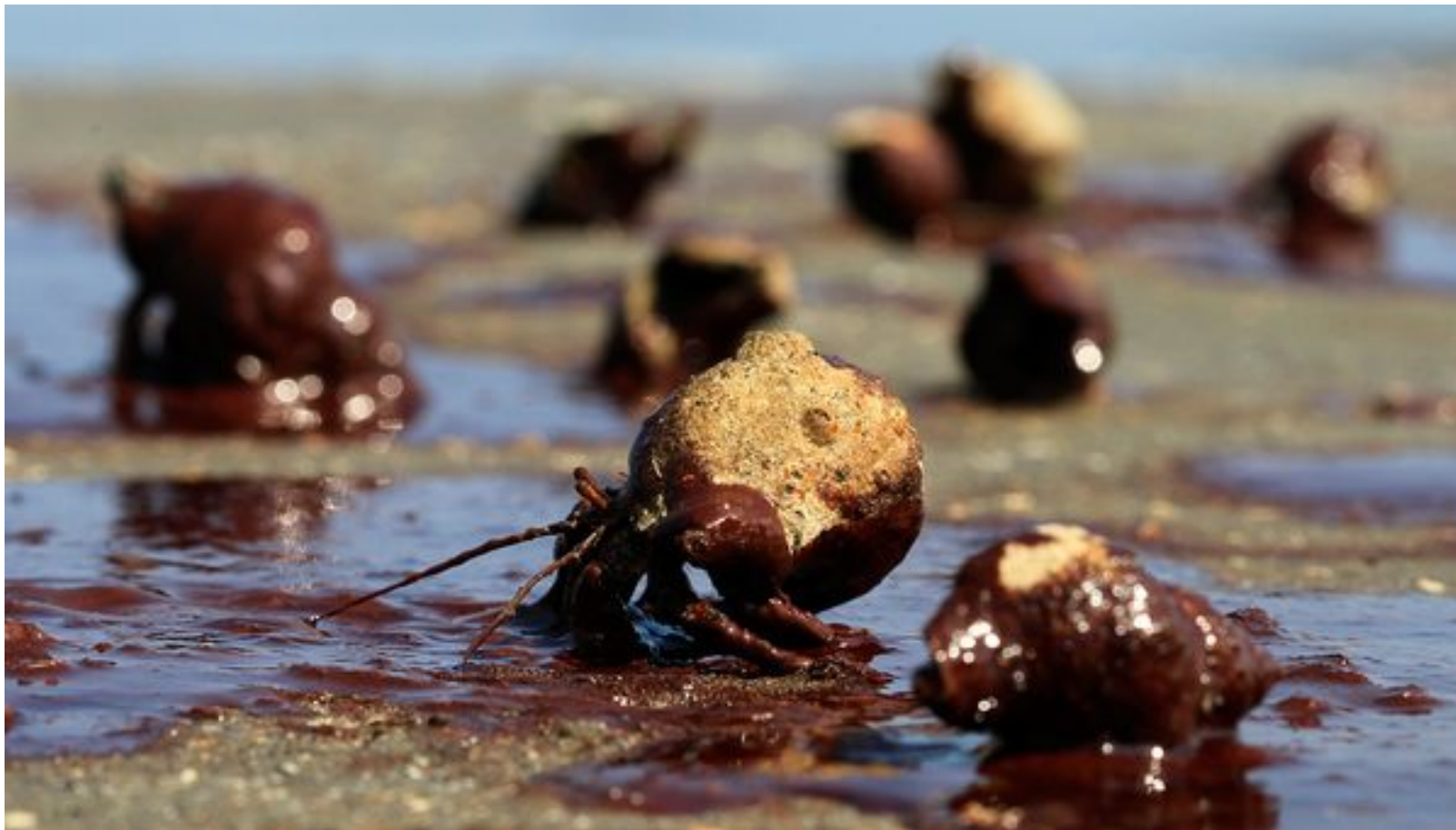
Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Gulf Oil Spill



Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Gulf Oil Spill



Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

Video!

- <http://vimeo.com/78607274>

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.

HOMEWORK

Make a study sheet for Unit 5 test on Tuesday!

STUDY!

Objective: SWBAT apply their knowledge of intermolecular forces to a real-world problem.