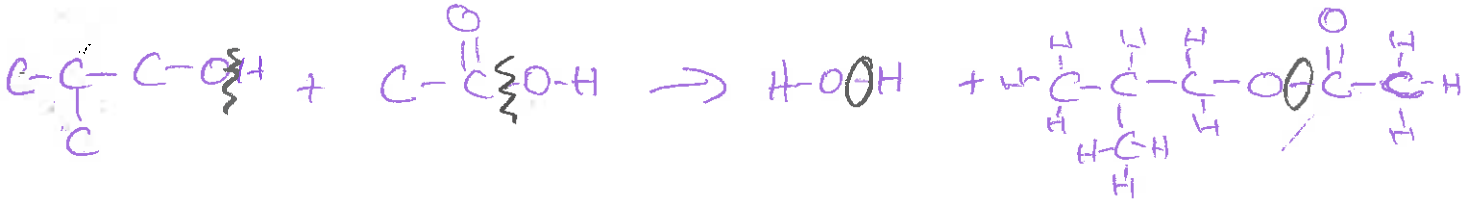
Chem 1 Smells section 2 Quiz (w/ ester synthesis) Name KEY per___

	ALT 5: I can describe how and why atoms form bonds.

1) Draw the structural formula of the products of the following ester synthesis.

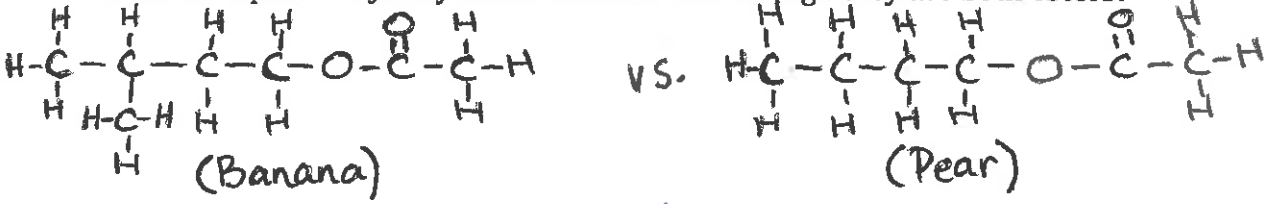


2) Briefly describe what happens to the above reactant and product molecules during this reaction.

a. Reactants bonds broke [C-O & O-H]

b. Products bonds formed [O-H & C-O]

3) One particular ester has a pear smell and another has a banana smell, how do their structural formulas explain why they smell different even though they are both esters?



Answer: they have a different shape/size

4) Fill in the following chart:

Molecular formula	Lewis Dot Structure	Structural formula with loan pairs	Number of electron domains	Number of loan pairs of electrons	Shape of molecule
CH_4			4	0	tetrahedral
CO_2			2	4	linear
H_2O			4	2	bent
NH_3			4	1	trigonal pyramidal

5) What determines the shape of a molecule?

the number of electron domains, the bonds & non-bonding e⁻