



Chem!stry Class:

Name: (

Date: / /

Naming Branched-chain and Cyclic Alkanes - Macroconcept: Systems

Study the structures and names of the branched chain and cyclic alkanes shown below and then determine the rules for naming these types of compounds. **Note**: The straight chain alkane *propane* has been included for reference.

H H H H-C-C-C-H H H H	H H H H C H H C -C - C - H H H H	H H H H H-C-C-C-C-H H H C H H H H	
Propane	2-methylpropane	2-methylbutane	
H H H H C H H H H-C-C-C-C-C-H H H C H H H H H H	H H	H H H H C H H H C C C C C C C H H H H H	
2,3-dimethylpentane	Cyclobutane	1,3-dimethylcyclopentane	

Rules for naming branched chain alkanes:						
 Rules for namir 	ng cyclic alkanes:					

• For Class Discussion: In what different ways does a naming *system* for organic compounds aid Chemists in their work? In which other areas of science are *systems* for naming objects or phenomena of value? How could science possibly evolve in the absence of conventional naming *systems*?

• Now apply the rules that you have constructed to name the following branched chain and cyclic alkanes:

H H H H H H H H H H H H H H H H H H H	H H H H H C H H H C C C C C C C C C C C	H H H H H H H H H H H H H H H H H H H
a)	b)	c)
H H H H H C H H C H H C H H C H H C H H C H H H C H	T T O T T T T T T T T T T T T T T T T T	H H H H H C H C H H C - C - C - H H - C - C - H H H H H
d)	e)	f)
H H H H H H H H C H C H C H C H C H C H	H H H H H H H H H H H H H H H H H H H	H H H H H H H H H H H H H H H H H H H
g)	h)	i)
H H C H H H	H H H H H C C C H H H H C C C C H H H H H	H H H H H H H H H H H H H H H H H H H
j)	k)	1)

• Scan the QR code given below to view the answers to this assignment.



http://www.chemist.sg/organic_chem/worksheets/nomenclature/name_branched_cyclic_alkanes_ans.pdf