

Chem!stry

Name: ()

Class:

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.

<p style="text-align: center;"><i>Propane</i></p>	<p style="text-align: center;"><i>2-methylpropane</i></p>	<p style="text-align: center;"><i>2-methylbutane</i></p>
<p style="text-align: center;"><i>2,3-dimethylpentane</i></p>	<p style="text-align: center;"><i>Cyclobutane</i></p>	<p style="text-align: center;"><i>1,3-dimethylcyclopentane</i></p>

- Rules for naming branched chain alkanes:

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- Rules for naming cyclic alkanes:

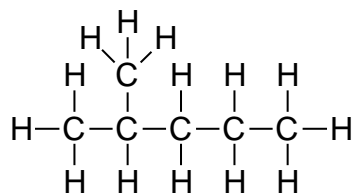
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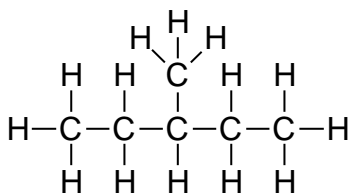
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- **For Class Discussion:** In what different ways does a naming *system* for organic compounds aid Chemists in their work? In which other areas of science are *systems* for naming objects or phenomena of value? How could science possibly evolve in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

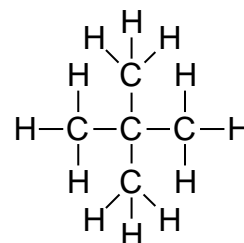
• Now apply the rules that you have constructed to name the following branched chain and cyclic alkanes:



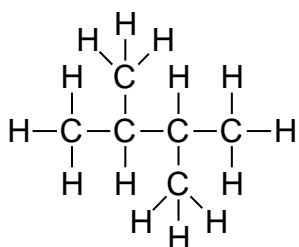
a)



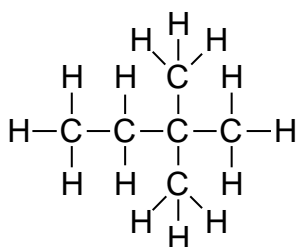
b)



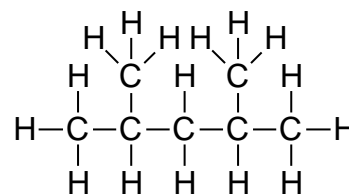
c)



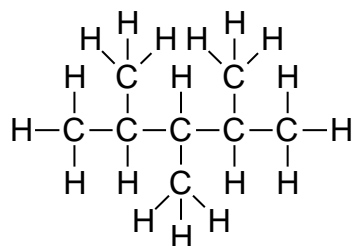
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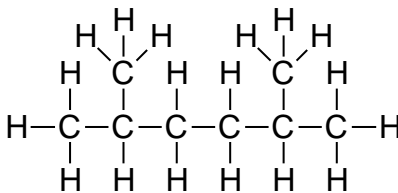
e)



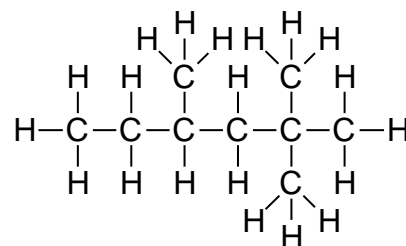
f)



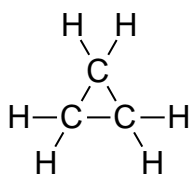
g)



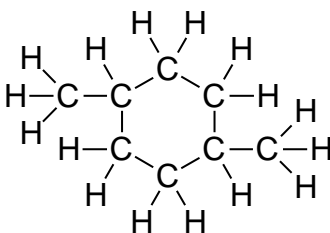
h)



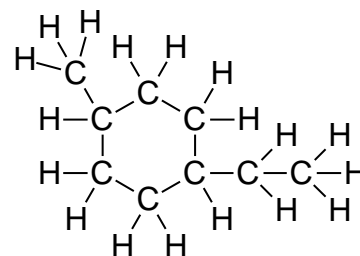
i)



j)



k)



l)

- 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