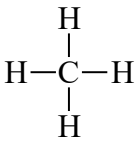
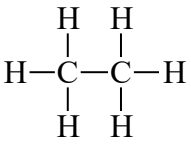
Übung: Nomenklatur der Alkane

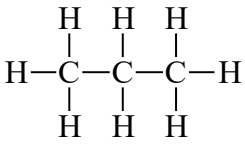
Die auf diesem Übungsblatt aufgeführten Lewis- und Skelettformeln sind mit den jeweils systematischen Namen angeschrieben. Alle dabei wichtigen Regeln zur Benennung von Alkanen kommen in diesen Beispielen vor. Versuchen Sie die Regeln zu finden und bei den Aufgaben anzuwenden. Anschliessend vergleichen Sie ihre Nomenklaturregeln mit denen im Buch.

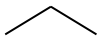


Methan

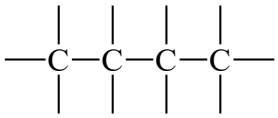


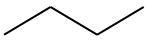
Ethan



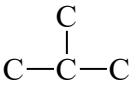


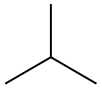
Propan



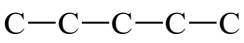


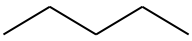
Butan



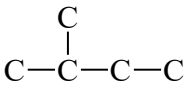


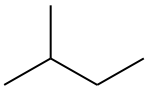
2-Methylpropan



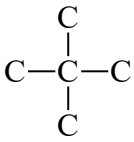


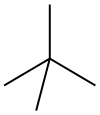
Pentan



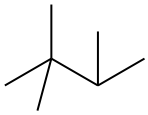


2-Methylbutan

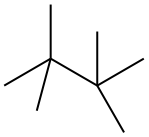




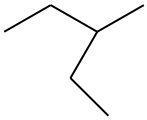
2,2-Dimethylpropan



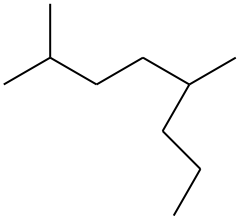
2,2,3-Trimethylbutan



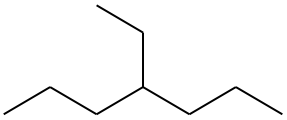
2,2,3,3-Tetramethylbutan



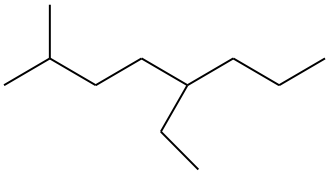
3-Methylpentan



2,5-Dimethyloctan



4-Ethylheptan

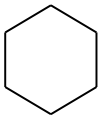


5-Ethyl-2-methyloctan

Cyclopropan

Cyclobutan

Cyclopentan



Cyclohexan

Aufgabe: Zeichnen Sie die Skelettformeln folgender Verbindungen:

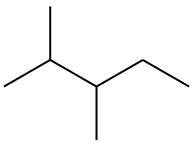
Methylcyclohexan

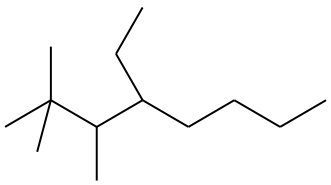
1,3-Dimethylcyclopentan

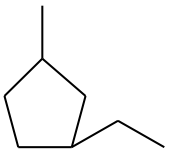
2,4-Dimethylheptan

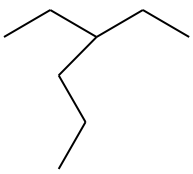
2,3,8-Trimethyloctadecan

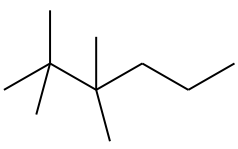
Aufgabe: Gesucht sind die Namen folgender Verbindungen:

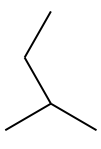




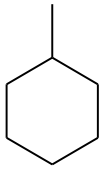




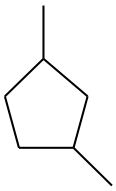




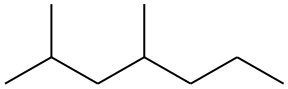
Lösungen zu den Aufgaben:



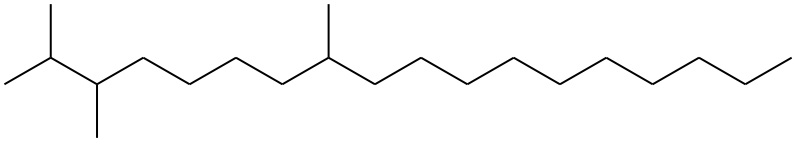
Methylcyclohexan



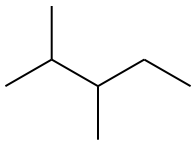
1,3-Dimethylcyclopentan



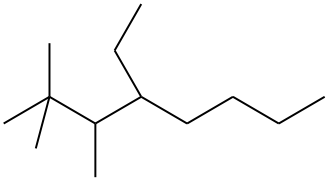
2,4-Dimethylheptan



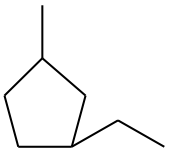
2,3,8-Trimethyloctadecan



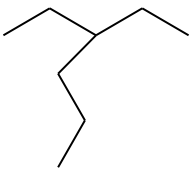
1,3-Dimethylpentan



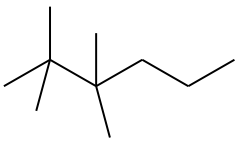
4-Ethyl-2,2,3-trimethyloctan



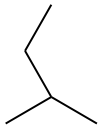
1-Ethyl-3-methylcyclopentan



3-Ethylhexan



2,2,3,3-Tetramethylhexan



2-Methylbutan