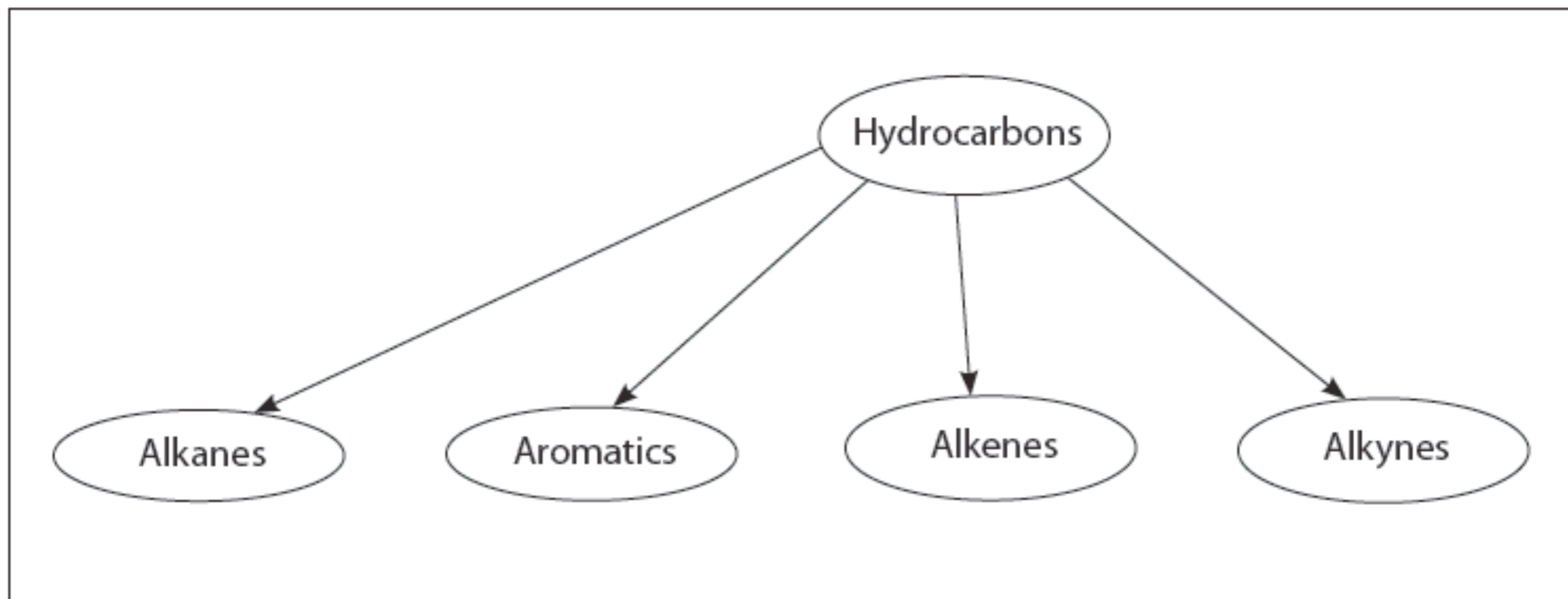


Hydrocarbons

Hydrocarbons

- * Hydrocarbons contain only two elements, carbon and hydrogen.
- * Make up the vast majority of all organic chemicals.
- * Many are used as fuels or raw materials.



Alkanes

Foldable Instructions

* Cut Here

1) Identify the number of carbons.

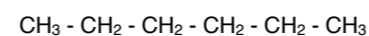
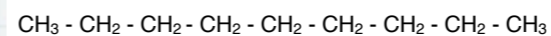
2) Use the appropriate IUPAC prefix with the ending _____.

1) Draw the number of _____ identified by the IUPAC prefix. Attach them each by a _____ bond.

2) _____ each carbon using a _____.

EXAMPLES

Name:



EXAMPLES

Draw:

pentane

octane

- Alkanes are characterized by a _____ carbon-carbon bond.
- Alkanes are _____ and contained no double or triple bonds.
- Alkanes always end with '_____'

Foldable Instructions

* Fill in the
Blanks
Here

1) Identify the number of carbons.

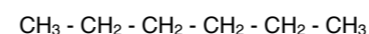
2) Use the appropriate IUPAC prefix
with the ending _____.

1) Draw the number of _____
identified by the IUPAC prefix. Attach
them each by a _____ bond.

2) _____ each carbon using
a _____.

EXAMPLES

Name:



EXAMPLES

Draw:

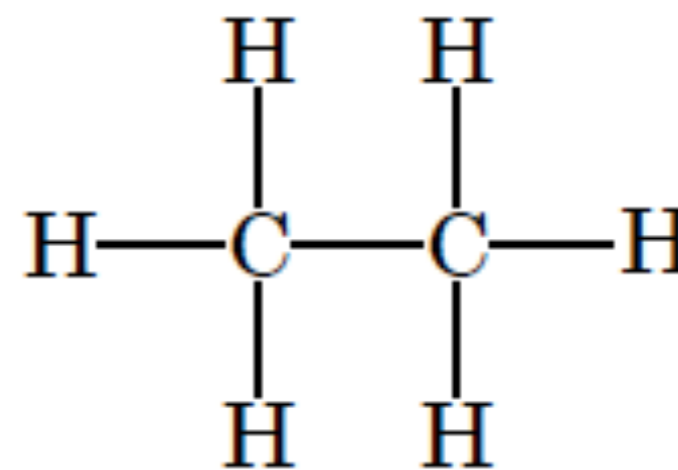
pentane

octane

- Alkanes are characterized by a _____ carbon-carbon bond.
- Alkanes are _____ and contained no double or triple bonds.
- Alkanes always end with '_____'

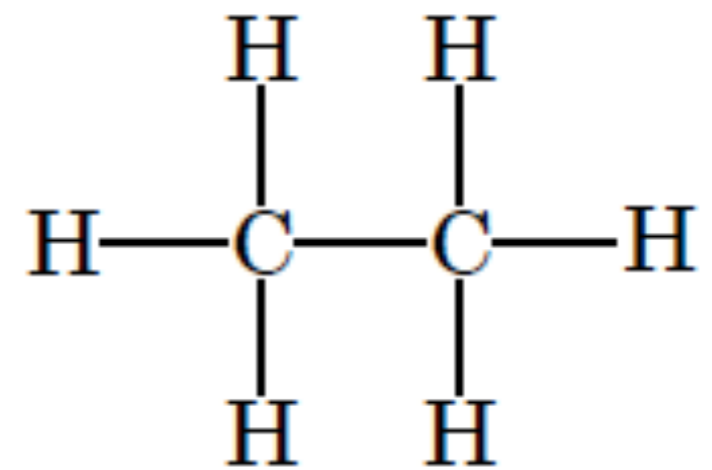
Straight Chain Alkanes

- * Alkanes are characterized by a single carbon-carbon bond.
- * Alkanes are saturated and contained no double or triple bonds.



Straight Chain Alkanes

- * Alkanes always end with 'ANE'



Foldable Instructions

* Fill in the
Blanks
Here

1) Identify the number of carbons.

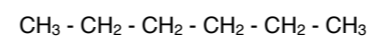
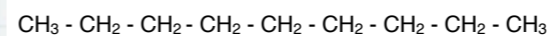
2) Use the appropriate IUPAC prefix
with the ending _____.

1) Draw the number of _____
identified by the IUPAC prefix. Attach
them each by a _____ bond.

2) _____ each carbon using
a _____.

EXAMPLES

Name:



EXAMPLES

Draw:

pentane

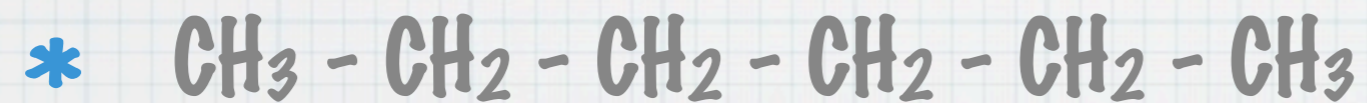
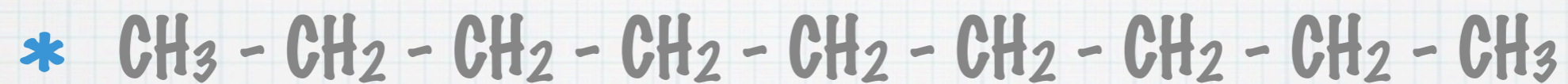
octane

- Alkanes are characterized by a _____ carbon-carbon bond.
- Alkanes are _____ and contained no double or triple bonds.
- Alkanes always end with '_____'

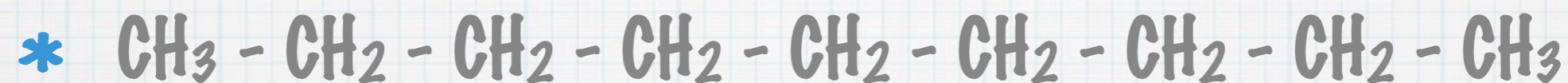
Naming Alkanes

- * Identify the number of carbons.
- * Use the appropriate IUPAC prefix with the ending ANE.

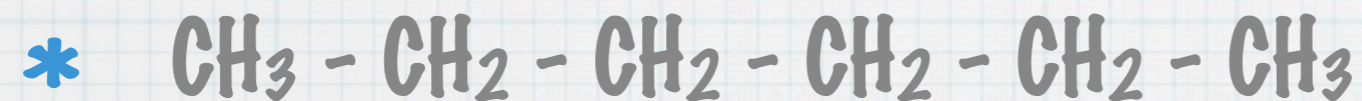
Examples



Examples



nonane



hexane

Foldable Instructions

* Fill in the
Blanks
Here

1) Identify the number of carbons.

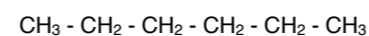
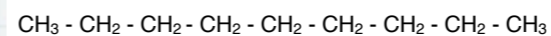
2) Use the appropriate IUPAC prefix
with the ending _____.

1) Draw the number of _____
identified by the IUPAC prefix. Attach
them each by a _____ bond.

2) _____ each carbon using
a _____.

EXAMPLES

Name:



EXAMPLES

Draw:

pentane

octane

- Alkanes are characterized by a _____ carbon-carbon bond.
- Alkanes are _____ and contained no double or triple bonds.
- Alkanes always end with '_____'

Drawing Alkanes

- * Draw the number of carbons identified by the IUPAC prefix. Attach them each by a single bond.
- * Saturate each carbon using a hydrogen.

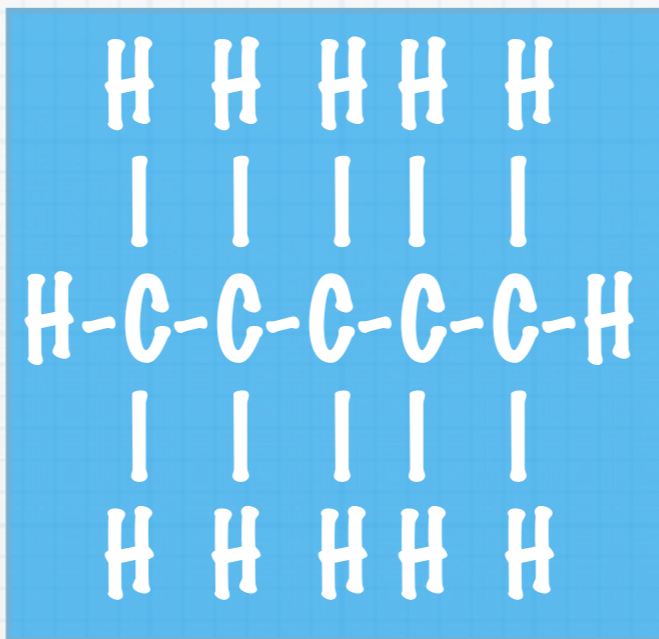
Examples

pentane

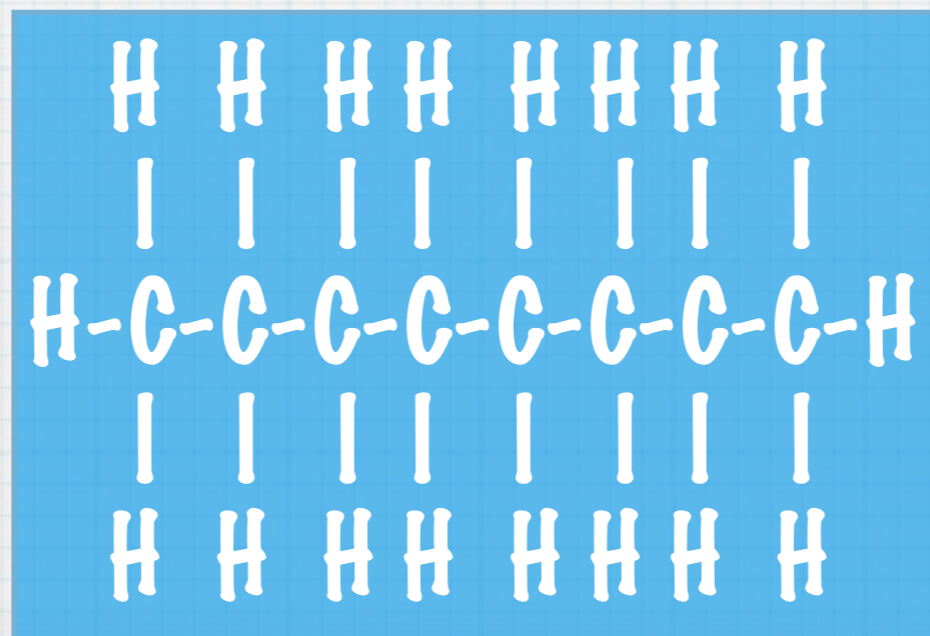
octane

Examples

pentane



octane



Examples

pentane



octane



Branched Alkanes

Foldable Instructions

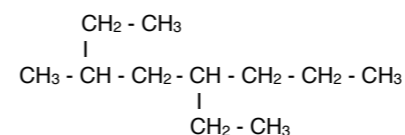
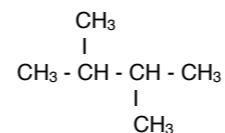
* Fill in the
Blanks
Here

- 1) Identify the longest continuous chain.
- 2) Use ANE ending.
- 3) Name the side chains according to number of carbons with an YL ending. Place them in alphabetical order.
- 4) Use di(2), tri(3), tetra(4) to identify more than one of the same type of side chain.
- 5) Number side chains using the lowest numbering system.

- 1) Start by drawing the base chain using the prefix in front of 'ane'
- 2) Add any side chains based on the location indicated by the number preceding it.
- 3) For each side chain, draw the number of carbons identified in by the prefix in front of the YL ending.
- 4) Saturate each carbon with the appropriate number of hydrogens.

EXAMPLES

Name:



EXAMPLES

Draw:

2-methylhexane

3, 4 - dimethylheptane

- These are alkanes that contain branches or _____.
- _____: Compounds with the same molecular _____ but a different _____ formula.

Branched Alkanes

- * These are alkanes that contain branches or side chains.
- * Structural Isomers: Compounds with the same molecular formula but a different structural formula.

Foldable Instructions

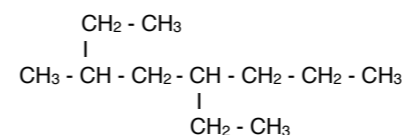
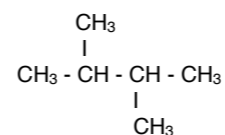
* Fill in the
Blanks
Here

- 1) Identify the longest continuous chain.
- 2) Use ANE ending.
- 3) Name the side chains according to number of carbons with an YL ending. Place them in alphabetical order.
- 4) Use di(2), tri(3), tetra(4) to identify more than one of the same type of side chain.
- 5) Number side chains using the lowest numbering system.

- 1) Start by drawing the base chain using the prefix in front of 'ane'
- 2) Add any side chains based on the location indicated by the number preceding it.
- 3) For each side chain, draw the number of carbons identified in by the prefix in front of the YL ending.
- 4) Saturate each carbon with the appropriate number of hydrogens.

EXAMPLES

Name:



EXAMPLES

Draw:

2-methylhexane

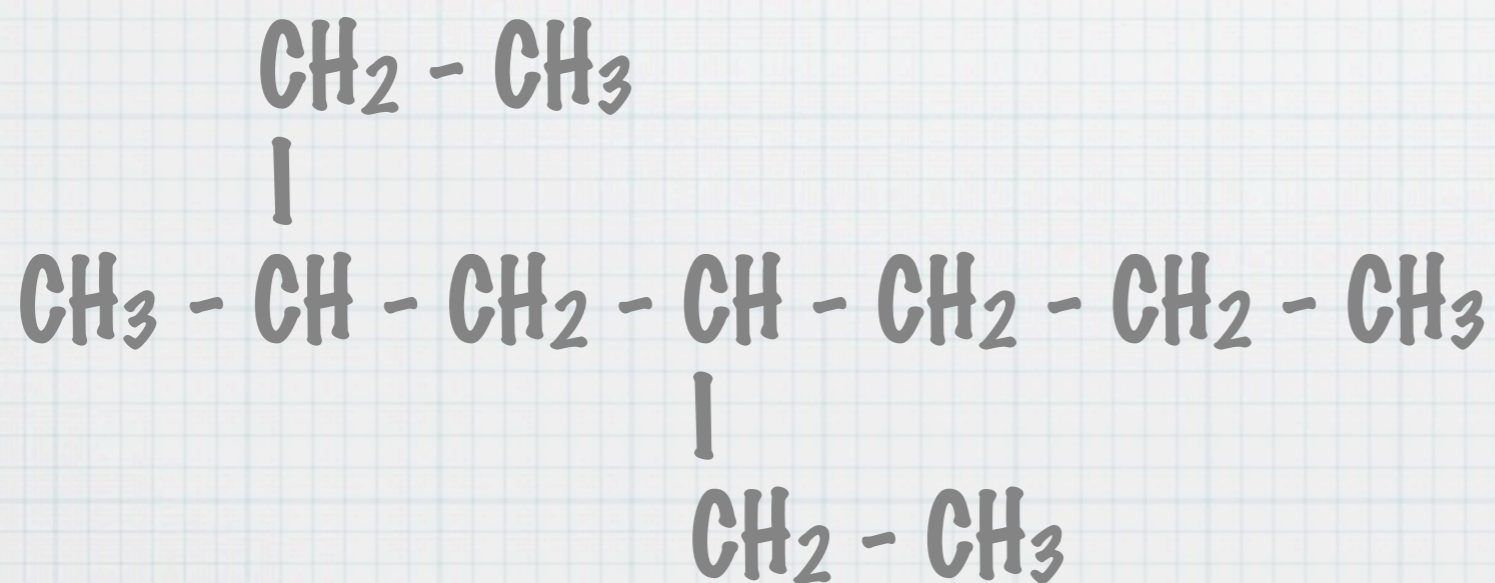
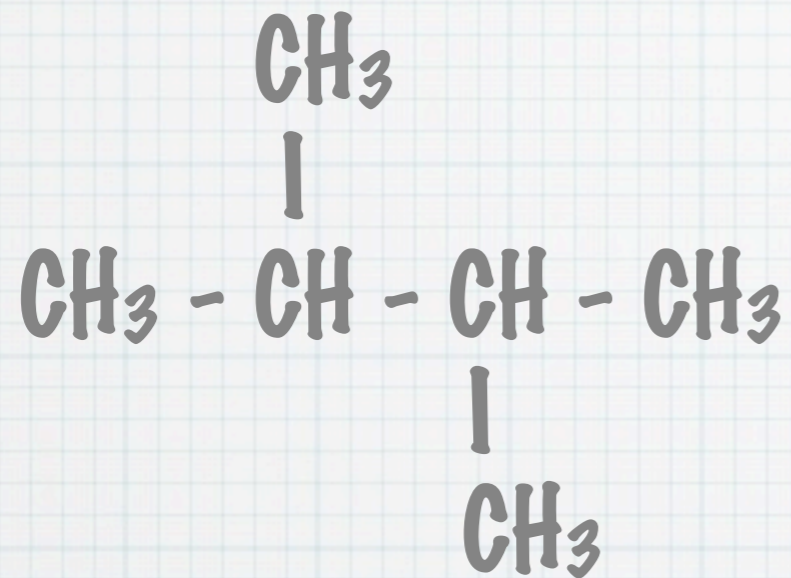
3, 4 - dimethylheptane

- These are alkanes that contain branches or _____.
- _____: Compounds with the same molecular _____ but a different _____ formula.

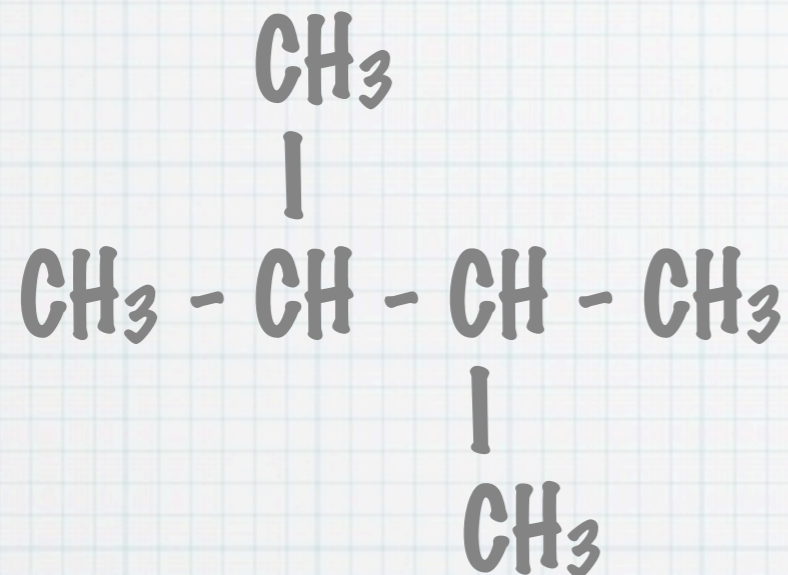
Naming Branched Alkanes

- * 1) Identify the longest continuous chain.
- * 2) Use ANE ending.
- * 3) Name the side chains according to number of carbons with an YL ending. Place them in alphabetical order.
- * 4) Use di(2), tri(3), tetra(4) to identify more than one of the same type of side chain.
- * 5) Number side chains using the lowest numbering system.

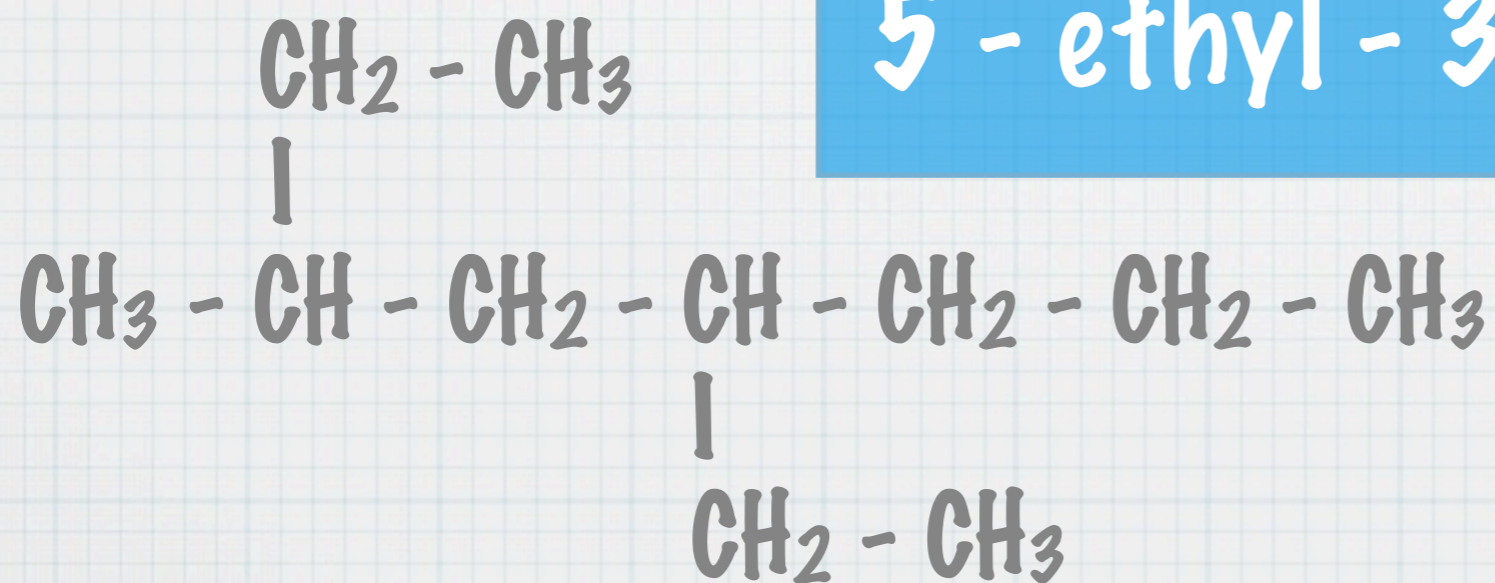
Examples



Examples



2,3-dimethylbutane



5-ethyl-3-methyloctane

Foldable Instructions

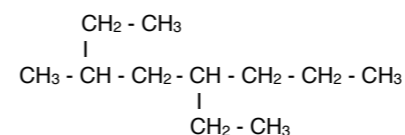
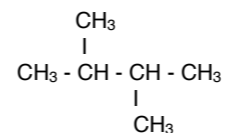
* Fill in the
Blanks
Here

- 1) Identify the longest continuous chain.
- 2) Use ANE ending.
- 3) Name the side chains according to number of carbons with an YL ending. Place them in alphabetical order.
- 4) Use di(2), tri(3), tetra(4) to identify more than one of the same type of side chain.
- 5) Number side chains using the lowest numbering system.

- 1) Start by drawing the base chain using the prefix in front of 'ane'
- 2) Add any side chains based on the location indicated by the number preceding it.
- 3) For each side chain, draw the number of carbons identified in by the prefix in front of the YL ending.
- 4) Saturate each carbon with the appropriate number of hydrogens.

EXAMPLES

Name:



EXAMPLES

Draw:

2-methylhexane

3, 4 - dimethylheptane

- These are alkanes that contain branches or _____.
- _____: Compounds with the same molecular _____ but a different _____ formula.

Drawing Branched Alkanes

- * 1) Start by drawing the base chain using the prefix in front of 'ane'
- * 2) Add any side chains based on the location indicated by the number preceding it.
- * 3) For each side chain, draw the number of carbons identified in by the prefix in front of the YL ending.
- * 4) Saturate each carbon with the appropriate number of hydrogens.

Examples

2-methylhexane

3, 4 - dimethylheptane

Examples

2-methylhexane



3, 4 - dimethylheptane

