Unit 12
Class Work

NAME
5/21/14

12.2 Isomers

SPARK (submit your green book assignment in the bin)

Complete your SPARK on your guided notes!

Objective

SWBAT define and draw isomers

Document Camera – SPARK review

Objective: SWBAT define and draw isomers

SPARK

Blast From the Past!

31 Compared to the atoms of nonmeta
the atoms of metals in Period 3 hav

(1) fewer valence electrons
(2) more valence electrons
(3) fewer electron shells
(4) more electron shells

37 Given the balanced equation representing a reaction:

$$2H_2 + O_2 \rightarrow 2H_2O$$

What is the mass of H_2O produced when 10.0 grams of H_2 reacts completely with 80.0 grams of O_2?

(3) 180. g
(4) 800. g

38 Given two formulas representing the same compound:

Formula A	Formula B
CH_3	C_2H_6

Which statement describes these fo

(1) Formulas *A* and *B* are both em
(2) Formulas *A* and *B* are both mol
(3) Formula *A* is empirical, and f molecular.
(4) Formula *A* is molecular, and formula *B* is empirical.

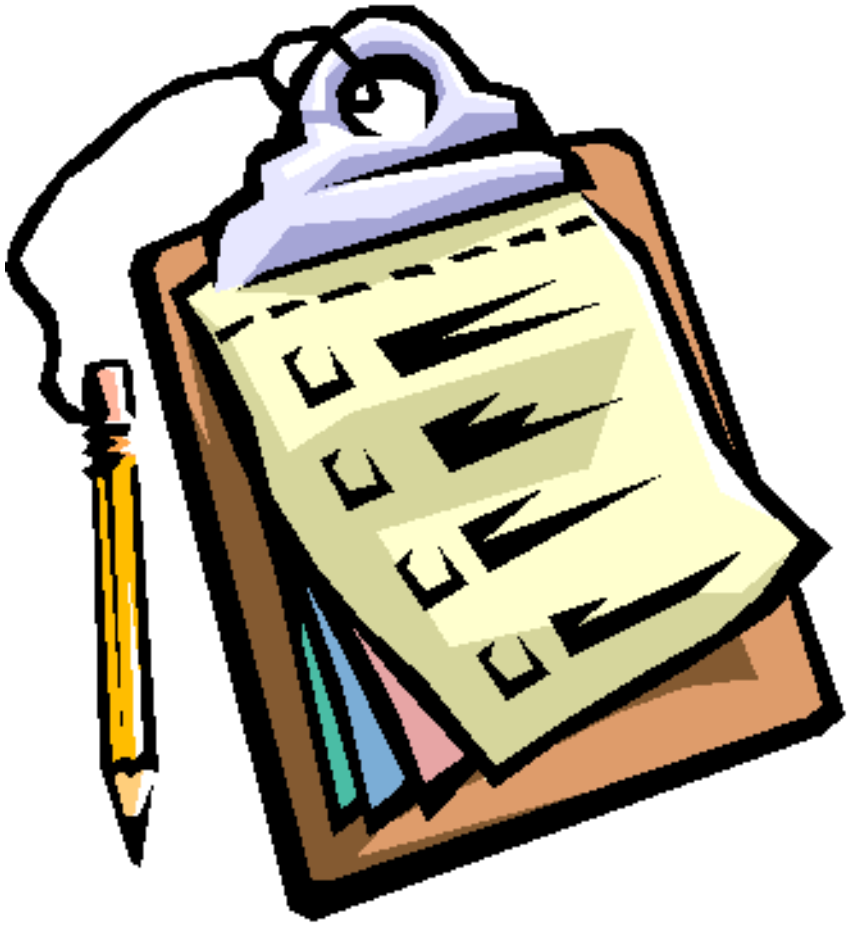
33 Which atom in the ground state requires the *least* amount of energy to remove its valence electron?

(1) lithium atom
(2) potassium atom
(3) rubidium atom
(4) sodium atom

Objective: SWBAT define and draw isomers

Agenda:

- Do Now/Objective
- Review of Organic Chemistry
- Mini-Lesson
- Practice Time!
- Exit Ticket



Objective: SWBAT define and draw isomers

Organic Chemistry

- The Study of compounds containing Carbon

- How many valence electrons does an atom of carbon have?
- Carbon can form up to how many bonds?

Objective: SWBAT define and draw isomers

Catalyzing Thoughts!

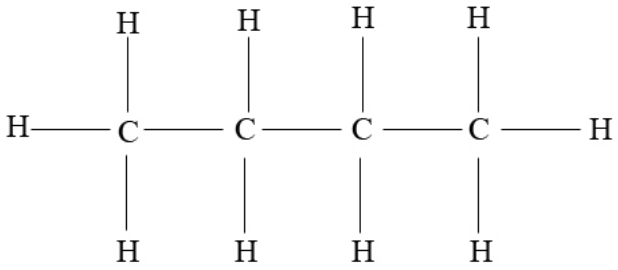
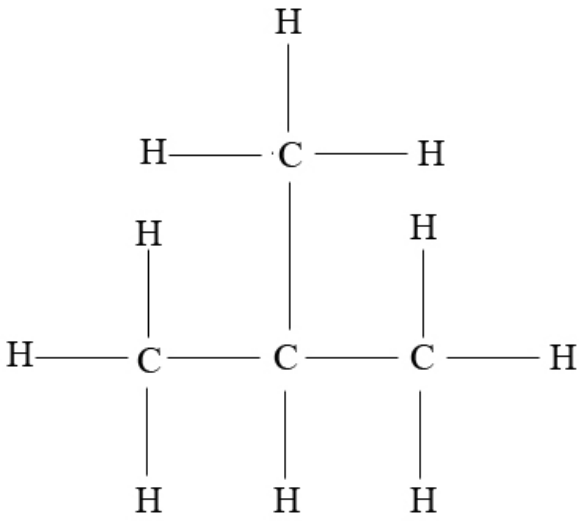
Draw the molecule $\mathbf{C_4H_{10}}$ below:

- **Did everyone's models look the same? Explain:**

Objective: SWBAT define and draw isomers

Isomers

Compounds with the same molecular formula, but different structural formula:

Butane	2-methylpropane
	

Objective: SWBAT define and draw isomers

Isomer questions

- The compounds $CH_3CH_2OCH_2CH_3$ and $CH_3CH_2CH_2CH_2OH$

  (1) Hydrocarbons (3) allotropes

  (2) isomers (4) carbohydrates

- The compound C_4H_9OH is an isomer of

  (1) $C_3H_7COCH_3$ (3) $C_2H_5OC_2H_5$

  (2) $CH_3COOC_2H_5$ (4) CH_3COOH

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Isomer questions

- If a compound has a molecular formula of CH_2O_2, then its structural formula must be
- (1) H—O—C—O—H

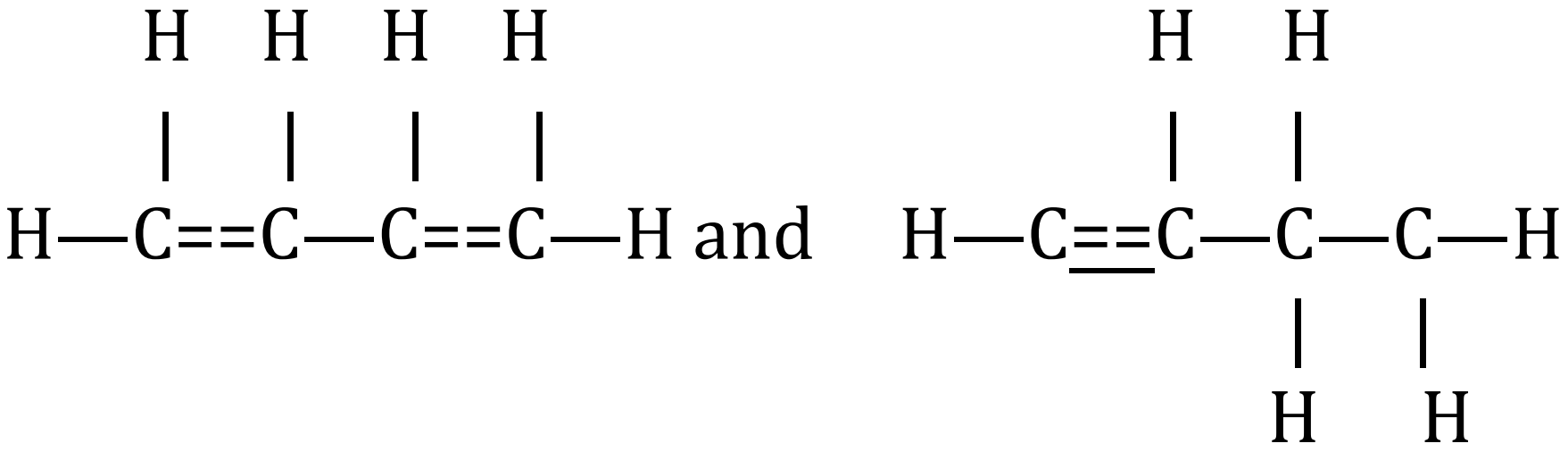
(2)
```
   O—H
  /
 C
  \
   O—H
```

(3)
```
H—C—O—H
  |
  O
```

(4)
```
  O
  ||
H—C—O—H
```

Isomer questions

- The structural formulas



- Represent molecules which both are

(1) halogen addition

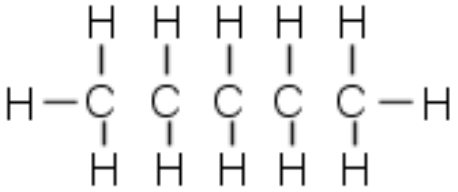
(2) unsaturated hydrocarbons

(3) members of alkynes

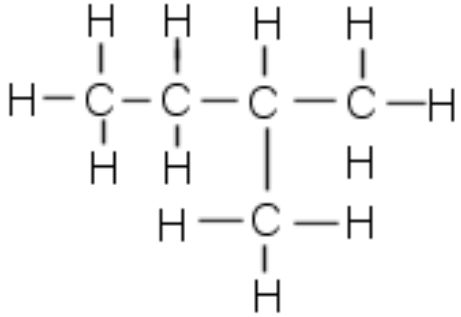
(4) isomers of butane

Side Chains

- are one way to create isomers of hydrocarbons.

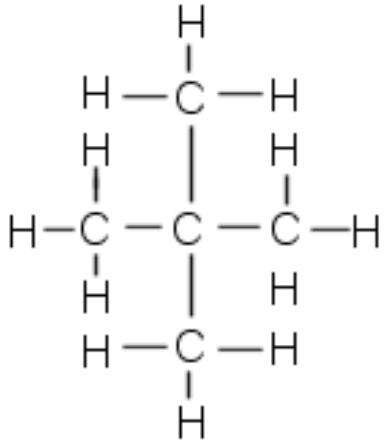


Pentane



2 methyl butane

- methyl group hangs off 2nd C atom
- longest chain is 4 C's long = butane



2,2 dimethyl propane

- 2 methyl groups both hang off 2nd C atom
- longest unbroken chain is 3 C's = propane

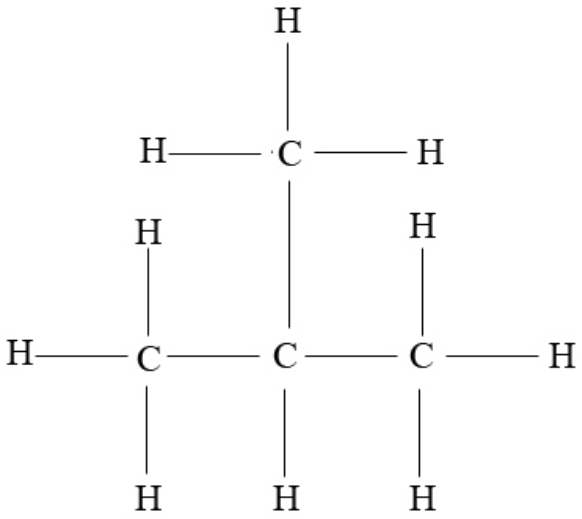
Objective: SWBAT define and draw isomers

Naming Steps: Doc Camera

Objective: SWBAT define and draw isomers

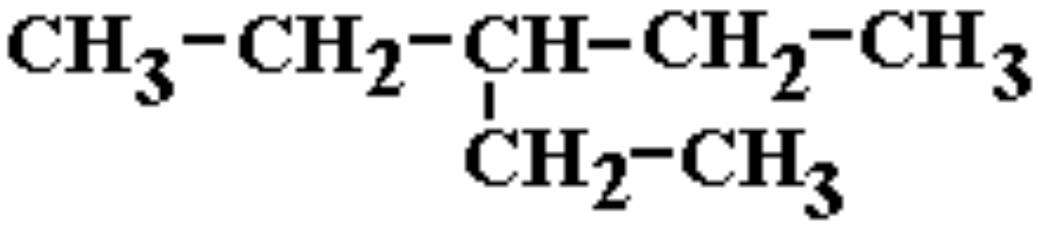
Naming Practice

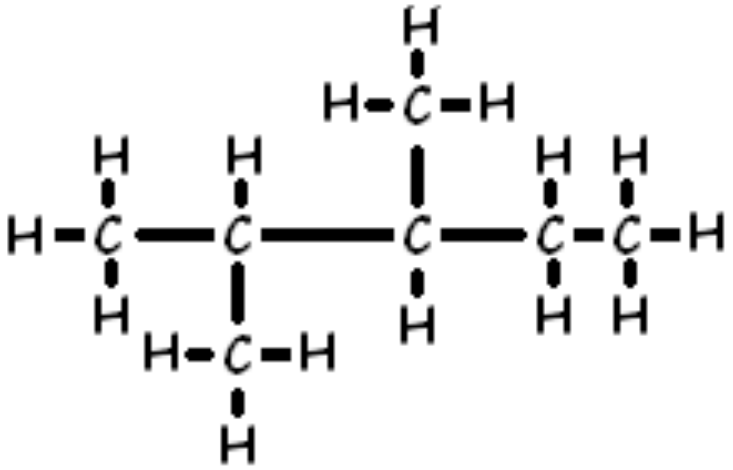
- Longest chain: _____ carbons; second part of name:
- Number carbons in longest chain: _____ number that side chain is attached: _____
- Name of side chain:
- Full name:



Objective: SWBAT define and draw isomers

More practice!





Objective: SWBAT define and draw isomers

From naming to drawing

- 2-methylbutane
- 3-ethyl,2-methylpentane
- 2,2-dimethylpropane

Objective: SWBAT define and draw isomers

Exit Ticket

- Complete your 12.2 Exit Ticket
- When you are finished resume working on your homework!

Objective: SWBAT define and draw isomers

Homework

- Complete the rest of the 12.2 HW

Objective: SWBAT define and draw isomers