

## DISTRIBUTE PROPERTIES

- Physical

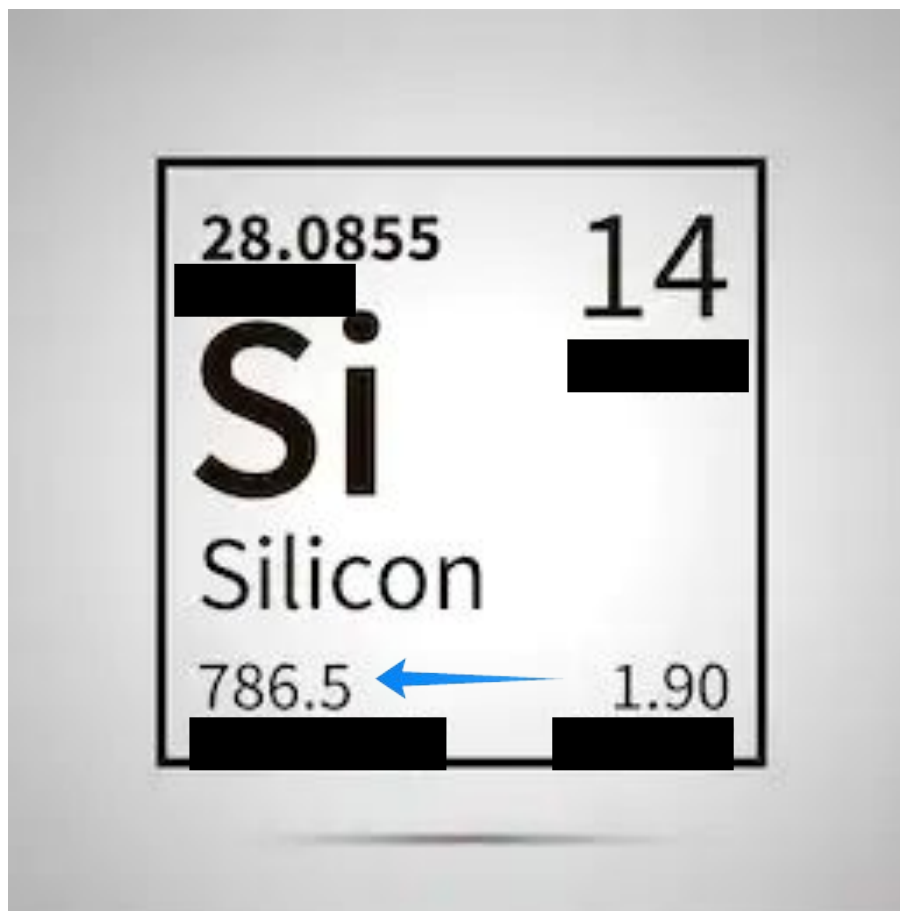
- Chemical

- **Wordcloud:** **volatility**, melting and boiling points, electroconductivity, heat conductivity, electronegativity, metallic luster, density, electron affinity, ionization energy, atomic radius, reactivity, formation, **solidity**, **fragility**, **plasticity**, **viscosity**, **ductility**, **malleability**, oxidation state, stability, oxidizing / reducing properties

## IDENTIFY PROPERTIES



## IDENTIFY PROPERTIES



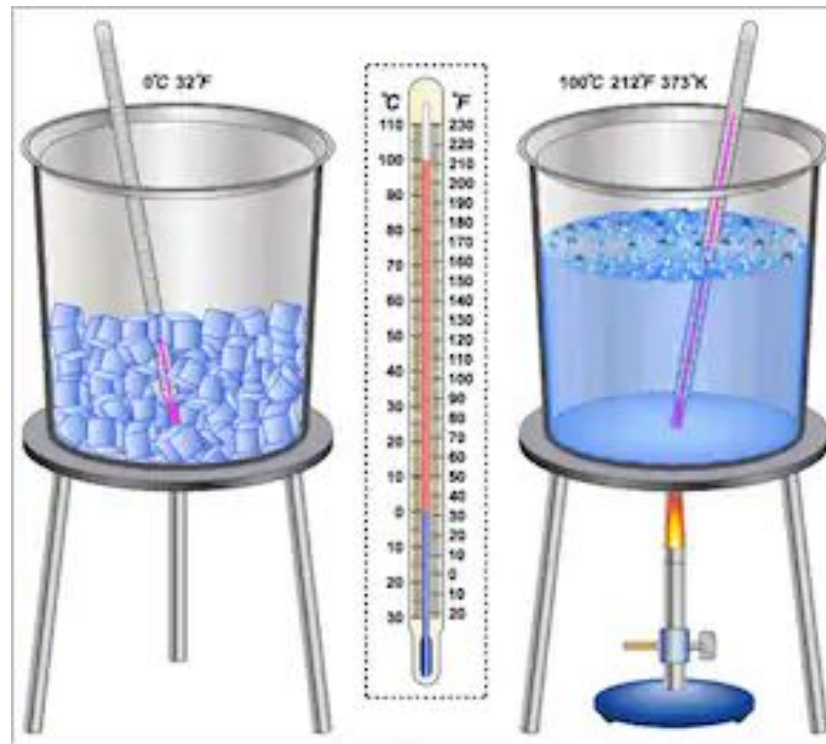
## IDENTIFY PROPERTIES



## IDENTIFY PROPERTIES



# IDENTIFY PROPERTIES



shutterstock.com • 303198758

## IDENTIFY PROPERTIES



shutterstock.com • 151295591

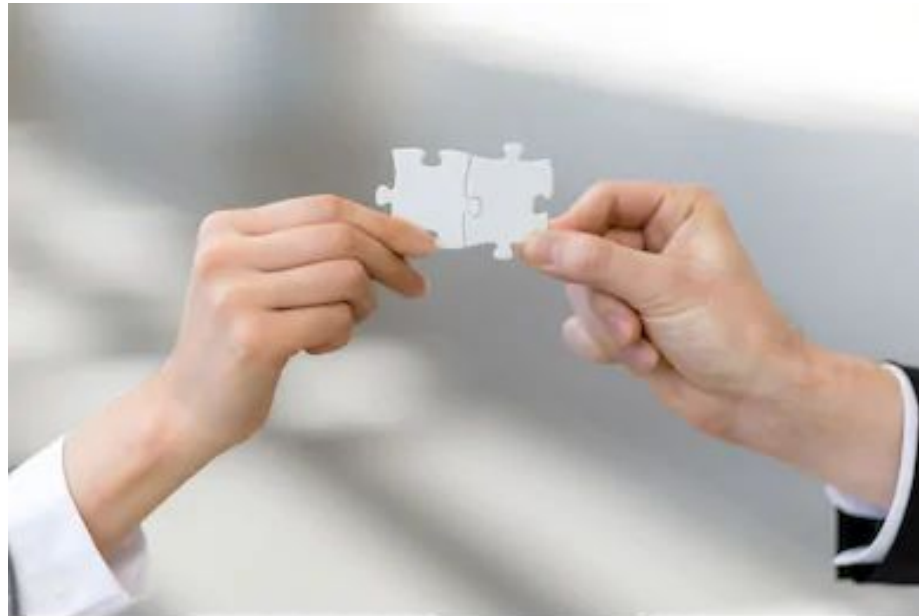
## IDENTIFY PROPERTIES



shutterstock.com • 1094479934



# IDENTIFY PROPERTIES



shutterstock.com • 584912152

# IDENTIFY PROPERTIES

	Ethanol	Acetic acid
a)	$  \begin{array}{ccccccc}  & +1 & & +1 & & & \\  & \text{H} & & \text{H} & & & \\  &   & &   & & & \\  +1 & -3 & - & -1 & -2 & +1 \\  \text{H} & -\text{C} & - & \text{C} & -\ddot{\text{O}} & -\text{H} \\  &   & &   & & \\  & +1 & & +1 & & \\  & \text{H} & & \text{H} & &   \end{array}  $	$  \begin{array}{ccccccc}  & +1 & & -2 & & & \\  & \text{H} & & :\ddot{\text{O}}: & & & \\  &   & &    & & & \\  +1 & -3 & - & +3 & -2 & +1 \\  \text{H} & -\text{C} & - & \text{C} & -\ddot{\text{O}} & -\text{H} \\  &   & & & & \\  & +1 & & & & \\  & \text{H} & & & &   \end{array}  $
b)	$  \begin{array}{cccc}  -3 & +1 & -1 & +1 & -2 & +1 \\  \text{CH}_3 & - & \text{CH}_2 & \text{OH}  \end{array}  $	$  \begin{array}{cccc}  -3 & +1 & +3 & -2 & -2 & +1 \\  \text{CH}_3 & - & \text{COOH}  \end{array}  $
c)	$  \begin{array}{cccc}  0 & -1 & +1 & -2 & +1 \\  \text{R} & - & \text{CH}_2 & \text{OH}  \end{array}  $	$  \begin{array}{cccc}  0 & +3 & -2 & -2 & +1 \\  \text{R} & - & \text{COOH}  \end{array}  $
d)	$  \begin{array}{ccc}  -2 & +1 & -2 \\  \text{C}_2 & \text{H}_6 & \text{O}  \end{array}  $	$  \begin{array}{ccc}  0 & +1 & -2 \\  \text{C}_2 & \text{H}_4 & \text{O}_2  \end{array}  $

## PROPERTIES: CONTEXT

**Translate from English into Russian. Pay attention to the constructions / collocations / words underlined.**

1. Demonstrate the electron affinity for these elements.
2. Tungsten does have the highest melting point compared with any other element.
3. All three elements form various inorganic compounds, generally in the oxidation state of +5.
4. Elements in the same group tend to show patterns in atomic radius, ionization energy, and electronegativity.
5. The invention is to modify oxidizing and reducing properties.

## GROUPS OF ELEMENTS

Alkali metals

Alkaline earth metals

Metals

Transition metals

Nonmetals

Halogens

Noble gases

## GROUPS OF ELEMENTS ASSIGNMENT

Alkali metals

Alkaline earth metals

Metals

Transition metals

Nonmetals

Halogens

Noble gases

## SAFETY QUIZ

- Dilution = разбавление
- **Hazard** / **hazardous** = опасность / опасный
- To remove = удалять
- To dispose of = утилизировать
- Waste = отходы
- Sink = раковина
- Violation = нарушение
- **Wordcloud:** to burn, to hurt, to react violently, to catch fire, to panic, to occur