

Top Secret

JAILBREAK!



A jailbreak has occurred at PTCF (Periodic Table Correctional Facility) earlier today and several dangerous elements are now on the loose!

The Periodic Sheriff has instructed you to research one of the fugitive elements and to design a "Wanted Poster" to be published as part of the "Most Wanted List."

Your missions:

- Randomly pick an element: my element is
- Find out about some properties

Chemical elements have properties that make them react in certain ways. You will have to use that to find ideas for your project. Start your research work by learning more about a few properties: electronegativity, bonds (covalent and ionic), crystal structures, boiling and melting points, ionization energy.

- Do your research

Every element is different. Research about your element, use your resources and gather some clues, and fill out the **Fugitive File**!

Use this website for your research: <https://www.webelements.com>

Due date:

- Sketch

Complete the **Suspect Sketch**.

Due date:

- Put it all together

You've done the leg work! Use all the periodic table facts, research, and clues you have gathered to put together your Wanted Poster.

But be careful! You have to fill out the Wanted Poster as if your element was a **real person**. You can use the info and example below to help you.

Due date:

MUG SHOT: You will draw a picture of your element as a person here. Your drawing should reflect the characteristics, uses, etc. of your element. For example: "gold" could be a gold coin person or could be a lump of gold dressed up as a person. Make them look like a criminal (but remember – little old ladies can be criminals!!)

ALIAS: criminal surname. Create it according to its crimes or personality

ASSOCIATED WITH CRIME FAMILY: the name of your element's family

DATE AND PLACE OF BIRTH: fill in the exact date, or nearest date, when your element was discovered and where it was discovered

REWARD: tell the population what you are ready to give to the person who will capture this dangerous element!

DESCRIPTION: give the description of your element (color, luster, solid, liquid, gas, shiny, dull etc.) BUT write it as though you are describing a person (physical and personality description).

"Gold is a bright individual with a shiny, yellow-orange complexion. Gold has a malleable personality and often bends himself to other's directions, however gold should still be considered influential and dangerous – people have killed to be with him."

WANTED FOR: describe what your element does, or is used for, or occurs, but again, write it as though you are talking about a criminal: what could he had done for being on the "most wanted list"?

"Gold has been involved in several bank robberies in the form of coins and gold bars. Has been known to hang around the necks of rich people as necklaces or other jewelry. In extreme cases gold will conduct electricity as a means of escaping the law."

WARNING: put in a "dangerousness" warning (any time of danger will do).

"Although gold has a medium electronegativity he should still be approached with caution. Gold may covalently bond without notice."



FUGITIVE FILE

Name and symbol of Element:

Other names:

Date of discovery:

Origin or place of discovery:

Discoverers:

Origin of its name:

Origin of its symbol:

○ Description:

Atomic number: Relative atomic mass:

Atomic radius (empirical):

Position in the periodic table: group (number and name):

period: block:

Ground state electronic configuration:

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Melting point: K = °C Boiling point: K = °C

State at room temperature:

Density of solid: kg.m⁻³

Pauling electronegativity:

Appearance at room temperature:

- Any special characteristics (anything that makes this element different from the others):

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- Known Hide Out Locations (In which object/place/thing can you find it?):

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- Known Accomplices (Are there other elements that are known to hang around? Which elements does it bond/form molecules/compound with?):

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- Beware! (Is your element dangerous or hazardous? If so, how and why?)

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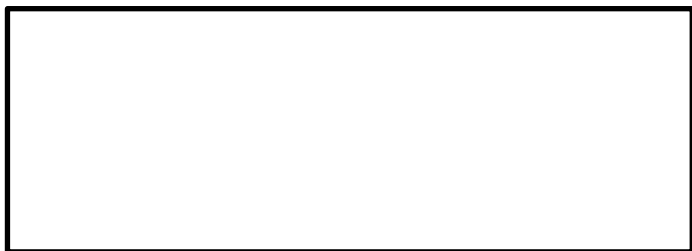
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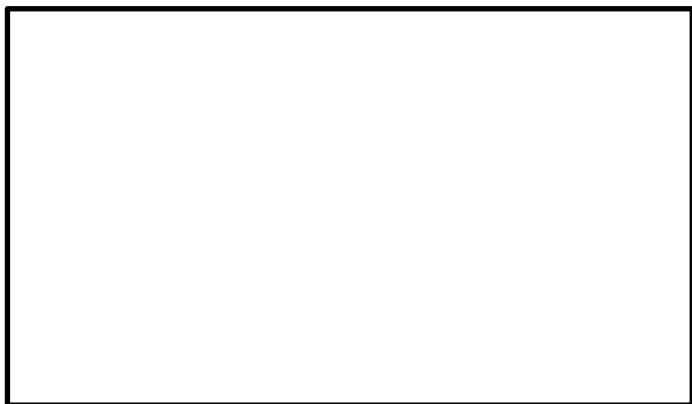
SUSPECT SKETCH

Name of Element:



Periodic Table Picture

Write here the chemical short-hand of the most common isotope of your element using the form:



Planetary Model Sketch

Draw here the atom diagram of your element (showing the different electron shells—not the subshells)

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Atomic Emission Spectrum

Represent here the atomic emission spectrum of your element (showing its pattern of colored radiations)

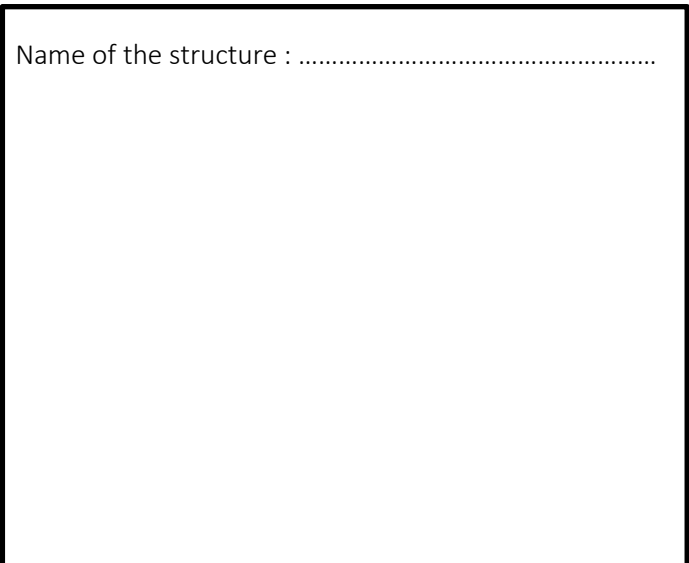
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400 nm

700 nm

Name of the structure :



Find the spectrum of your element here

Crystal structure

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Draw the crystal structure of your element. Don't forget to specify what is the name of such a structure.

(find the name of your structure on webelement then google it to learn how to draw it)

Here are examples of what it must look like:

