

Heavy Metals impacts on our Communities Activity

The Chicago plant that sparked a hunger strike amid environmental racism claims



© A marcher attends the Block the Permit block party in front of Mayor Lori Lightfoot's house in Logan Square, Chicago, in November 2020. Photograph: Oscar Sanchez

In the Guardian Article, you learned that residents are against the relocation of scrap metal company General Iron because high concentrations of industry overburden the “south and west sides of Chicago” (Moore, 2021), polluting the communities with heavy metals such as lead, manganese, and arsenic. Heavy metals can be found in your soil, air, and water from sources you might not know. This activity is to learn about heavy metals and how they impact communities.

Procedure

Use the websites and the video to learn how heavy metals impact our communities.

Part I-Heavy Metals [Heavy Metals - Lenntech](#)

1. Define Heavy Metals
2. How do heavy metals impact the human body?
3. Why are heavy metals dangerous?

Heavy Metals impacts on our Communities Activity

Part II-Heavy Metal-[Lead \(Pb\) - Chemical properties, Health, and Environmental effects](#)

1. What are four applications (uses) for lead (Pb) in our society?

2. How does lead (Pb) enter our environment?

3. Explain two health effects of lead (Pb) on the human body.

4. Explain two environmental effects of lead (Pb) on living things.

Heavy Metals impacts on our Communities Activity

Part III-Galena Ore to Lead Watch the Metallurgy of Lead video to create your macroscopic, symbolic, and submicroscopic models. [Chemistry Teacher | Metallurgy of Lead | Ores, Extraction, Concentration and Smelting](#)

1. Macroscopic model

Create a labeled drawing of how lead is retrieved from the Galena Ore.

Describe how the Galena ore is used to retrieve lead.

Heavy Metals impacts on our Communities Activity

2. Symbolic models-Chemical Formulas and Chemical Equations.

Write the two **chemical equations** from the video on the metallurgy of lead below.

a. Lead (Pb) smelting **chemical equation one:**

b. Lead (Pb) smelting **chemical equation two:**

Label one chemical equation, a or b, with **six** vocabulary words from the word wall.

3. Submicroscopic models

Use the **chemical equations (a and b)** to create submicroscopic models for lead smelting.

Submicroscopic model 1:

Key:

Submicroscopic model 2:

Key:

Heavy Metals impacts on our Communities Activity

Explanation: Use the website, video, and the models you created to explain how lead becomes a pollutant that impacts communities.

Reference List

- (1) Moore, T. (2021, February 3). The Chicago plant that sparked a hunger strike amid environmental racism claims. *The Guardian*. Retrieved September 11, 2024, from: <https://www.theguardian.com/us-news/2021/feb/14/toxic-plant-chicago-minority-neighborhood-hunger-strike>.
- (2) Lenntech B.V. . (2024). *Heavy Metals*. Lenntech Water treatment & purification. <https://www.lenntech.com/processes/heavy/heavy-metals/heavy-metals.htm#ixzz72lMunsB>
- (3) Easy. (2018). Chemistry Teacher | Metallurgy of Lead | Ores, Extraction, Concentration and Smelting. In *YouTube*. <https://www.youtube.com/watch?v=18BpwFBnqcc>