

## Creating an Essay to Describe a Safety Tool

This text describes how to research and write an essay about a tool that helps people stay safe. It is not exactly like this month's challenge but shows the steps on how you can answer this month's challenge.

**Prompt for this Essay:** Describe a safety tool that people use to stay safe from dangers you identify. In your essay, **describe the risks that your tool addresses**, and **describe how your tool addresses the risks**.

This is a **problem** and **solution** essay. We know that we need to have two parts to our essay:

- 1) **Describe the problem.**
- 2) **Describe the solution.**

First, we can identify the problem. For example, let's look at the issue of radioactivity. Some elements are radioactive, and they can cause cancer and burns to people. There are some places on Earth that are very radioactive. We could do some research and **summarize the problem** as:



- 1) **Radioactivity is dangerous to people in places like Chernobyl, Russia.**

We use research to expand the main idea with key details about the problem:

- 1) Radioactivity is dangerous to people in places like Chernobyl, Russia.
  - a. People need to know where radioactivity is.
  - b. Radioactivity can be harmful over time and very quickly.
  - c. It is invisible to our senses.

Write a paragraph that overviews your **problem**. This could be your introductory paragraph.

Radioactive poisoning happens when **people are exposed to harmful radiation from radioactive materials**. This radiation can damage cells in the body, making people very sick. It can come from **natural sources, nuclear accidents, or unsafe handling of radioactive materials**. Because radiation is invisible and cannot be smelled or touched, it is hard to know when it is present. This makes radioactive poisoning dangerous.

Then, research possible **solutions**. After doing some research, we find that there are three common solutions to radioactivity: **avoid the place, use a Geiger counter, study where people get radioactive poisoning**. These details start to

help us understand possible solutions. We can research more about how people avoid the places that are radioactive. Our notes can flesh out the solution:

### **A. Avoid the place.**

- a. Disasters are known and we can avoid them.
- b. Other issues are not known and would be hard to avoid.

After looking at these notes, it does not seem like this solution solves the problem. It's a good idea for some people. It is not a good idea for designing tools to solve this problem. People can't always avoid radioactivity. So, we move to the next possibility to design a new solution.

These notes summarize research about how a Geiger counter works.

### **B. Use a Geiger counter.**

- a. Tool is designed to detect radiation at low levels.
- b. It can be used to find radioactivity anywhere.
- c. It is an expensive tool.
- d. Professionals that study this problem use Geiger counters.

Now, we have our big ideas. We know the problem is the **dangers of radiation**. The solution that sounds best is **using a Geiger counter**. These will be the two big parts of the essay.

#### **1) Describe the problem: dangers of radiation**

#### **2) Describe the solution: using a Geiger counter**

Then, build paragraphs that give more details about the problem and the solution. This paragraph introduces the **problem** and **solution**, so it is a good introductory paragraph.

The **problem with radiation is that it can cause serious health issues. If someone is exposed to high levels of radiation, they might experience burns, sickness, or even long-term problems like cancer.** People need **a way to detect radiation to stay safe and avoid dangerous exposure. Without the right tools, it is impossible to know if radiation is in the air, water, or objects nearby.**

Write more paragraphs for the essay that describe this problem and solution. Paragraphs can end with summary sentences or transition sentences. The transition sentences help the reader connect the ideas. The summary sentences and final paragraph help tie together the ideas. The final step is important! Edit your writing then it is a final essay.

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**Radioactive poisoning happens when people are exposed to harmful radiation from radioactive materials. This radiation can damage cells in the body, making people very sick. It can come from natural sources, nuclear accidents, or unsafe handling of radioactive materials. Because radiation is invisible and cannot be smelled or touched, it is hard to know when it is present. This makes radioactive poisoning dangerous.**

**A Geiger counter provides a solution to this problem. It is a small, handheld device that detects radiation. When the device finds radiation, it makes a clicking sound or shows a reading on its screen. The stronger the radiation, the faster the clicks or the higher the reading. This tool helps people measure radiation levels quickly and accurately.**

**Using a Geiger counter, people can find and avoid dangerous areas with high radiation. Scientists, doctors, and workers at nuclear power plants often use these devices. They also help during emergencies, like nuclear accidents, to check if areas are safe for people to enter. The Geiger counter is a key tool for protecting people from radioactive poisoning.**

In conclusion, **radiation is a serious problem because it is invisible and harmful to health. A Geiger counter helps by detecting radiation and keeping people safe. This tool makes it possible to measure radiation levels and avoid exposure, solving an important safety problem.**