

**Inquiry into
Radioactivity**

**Activity 1.22
Using the Official Method**

Name:

You just discussed a method of deciding whether two averages of radiation counts can be explained by natural variation, or whether the difference between them is due to something else. You will apply it now.

Equipment: Two types of salt, geiger counter and stand, cups for salts

Measuring radiation from salt

Your instructor will give you a sample of either regular table salt (NaCl), or potassium chloride (KCl) or light salt which is half NaCl and half KCl. Gently put the detector end of the geiger counter into the pile of salt and collect data for 10 minutes (1 minute per sample).

When you have data, read the statistics and copy and paste the graph here:

Write down the average and st.dev. you got for your salt and the average & st.dev. that we have accepted for a room in the science building.

Show how to do the “Official Method” calculations to compare your reading to the average room reading.

Did you find a difference or not? Write down how you compare the readings (just do this for practice and completeness, please).

Once other groups finish, put their data into this table:

	Readings (Ave ± st.dev.)
Regular table salt (NaCl)	<div style="border: 1px solid blue; height: 25px;"></div>
Goshen College SC basement room	<div style="border: 1px solid blue; height: 25px;"></div>
Potassium chloride (KCl)	<div style="border: 1px solid blue; height: 25px;"></div>

5. Is KCl radioactive? What about table salt?