

Observing Radiation: Student Guide

Lesson Questions: Initial Ideas

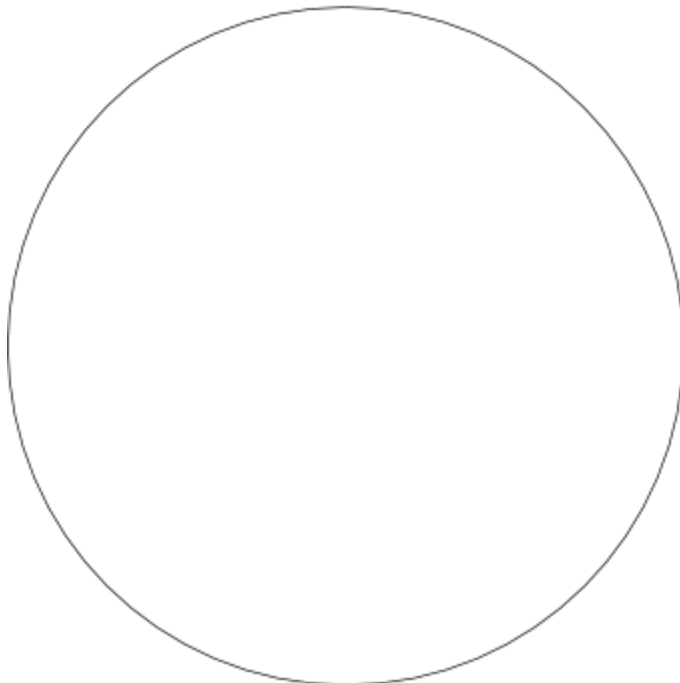
Write down your thoughts, ideas, and initial answers to the lesson questions. Remember, at this stage, it is not expected to *know* the answers. The only *wrong* answer at this point is no answer.

What is background radiation? Where does it come from?

How much background radiation do we experience?

Activity: Cloud Chamber

Now that you have a working cloud chamber, use the space below to record your data. Spend 3 minutes observing the cloud chamber and recording tracks. Work with your groupmates to ensure the location, direction, length and thickness of the particle track is accurate. Count the total number of observed particles and record. Also jot down any qualitative observations of things you noticed during the trial. Repeat two more times, for a total of three trials. Use a different color each time, so that you can differentiate between trials on one observation pad.



Trial 1: ___ particles / 3 minutes
Notes/Observations:

Trial 2: ___ particles / 3 minutes
Notes/Observations:

Trial 3: ___ particles / 3 minutes
Notes/Observations:

Discussion: Whole-Class Data

After viewing the whole-class data, silently reflect on the following questions. Jot down some thoughts or responses so that you are prepared to take part in a whole-class discussion about these questions.

How does your group's data compare to the whole-class data?

What trends or patterns do you notice in the whole-class data?

From the whole-class data, what would you conclude is the natural background radiation rate?

Lesson Questions: Revisited

Write down your explanations to the following questions. Be sure to include evidence and reasoning gained from the activities and discussions from class.

What is background radiation? Where does it come from?

How much background radiation do we experience?