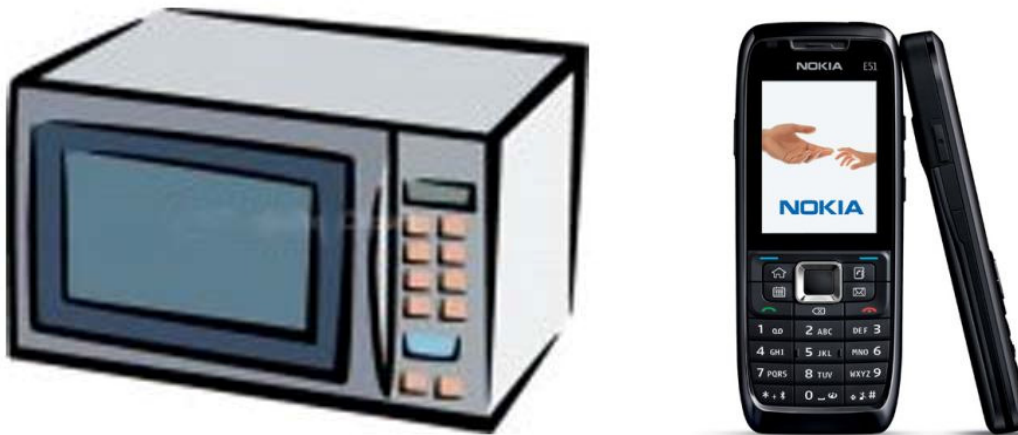


## What are the benefits and risks of using electromagnetic radiation?

This task gives you an opportunity to explain in detail about electromagnetic radiation. When researching you will find lots of information, but to achieve the highest marks you need to adapt and explain the information, rather than just copy it. You may be asked by your teacher to present this information instead of writing about it, so do make sure you fully understand everything you include. Your teacher may pretend to be the 'elderly gentleman' and ask you further questions, so be prepared!



Remember to include a labelled diagram of the electromagnetic spectrum, information about the possible dangers of the types of radiation, and how these can be avoided.

You could use the internet or textbooks to research for detailed information.

### **Task**

An elderly gentleman living on your street hears about your physics work and asks what electromagnetic radiation is. He is very worried that it may be something that could harm his young grandchildren. Find out as much information as you can about electromagnetic radiation so that can confidently inform him of the following:

- What electromagnetic radiation is, some of the dangers, and some of the uses, so that he understands why and how it is used.

To achieve grade	You should have:
E	<p>Demonstrated a basic knowledge and understanding of parts of the electromagnetic spectrum.</p> <p>Described simply some uses and dangers of electromagnetic radiation.</p> <p>Labelled some of parts of an electromagnetic spectrum diagram.</p> <p>Stated at a basic level some of the benefits and risks of electromagnetic waves, and given ways to reduce risks for one danger mentioned.</p> <p>Included some simple calculations and given the correct units (help may have been given to do these).</p> <p>Used simple key words correctly.</p> <p>Written your ideas in simple sentences.</p> <p>Only one source used to collect information on electromagnetic spectrum.</p>
C	<p>Demonstrated a good knowledge and understanding of electromagnetic waves.</p> <p>Using a diagram of a slinky, explained simply why electromagnetism is a wave.</p> <p>Included labelled diagrams to explain parts of the electromagnetic spectrum.</p> <p>Used most key words correctly, and used correct units (when necessary).</p> <p>All work has been written in your own words, using complete sentences.</p> <p>Used at least two sources of information to find out about the dangers and uses of the electromagnetic spectrum.</p>
A	<p>Demonstrated a detailed knowledge and understanding of the electromagnetic spectrum.</p> <p>Explained why electromagnetic radiation is described as a transverse wave.</p> <p>Included detailed labelled diagrams to explain the uses and dangers of the electromagnetic spectrum.</p> <p>Used all key words correctly and fluently; and used correct units when necessary.</p> <p>All work has been written in your own words, using complete sentences and paragraphs.</p> <p>Used at least two sources of information to describe the dangers and uses of the electromagnetic spectrum and how this relates to the gentleman and his grandchildren.</p>