Progression toolkit: Electromagnetic spectrum

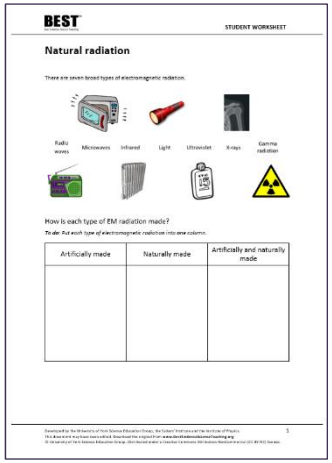
Learning focus	Electromagnetic radiation transfers energy and interacts with matter in different ways, depending on the frequency and matter. Each radiation type can be both helpful and harmful.				
As students' conceptual understanding progresses they can:	CONCEPTUAL PROGRESSION				
	Identify types of electromagnetic radiation that can be naturally occurring.	Describe a range of sources of harmful electromagnetic radiation.	Describe some ways in which electromagnetic radiation can interact with matter.	Explain why some types of electromagnetic radiation are more ionising than others.	Apply understanding of ionising radiation to explain how radiotherapy works.
Diagnostic questions	Natural radiation	Bad radiation	Electromagnetic interactions	Most ionising	
Response activities			Pulling electrons		Radiotherapy
	Ready, steady, poster				

Key:

P Prior understanding from earlier stages of learning

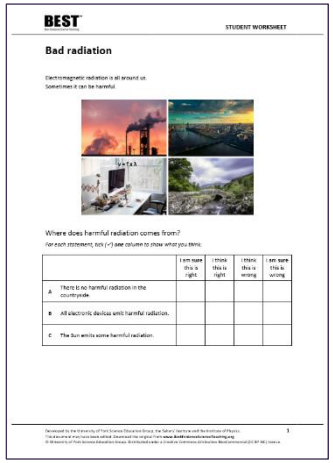
B Bridge to later stages of learning

Natural radiation



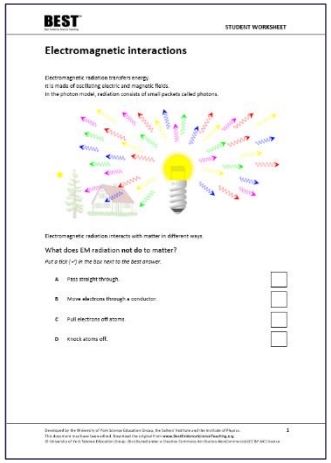
Linking ideas

Bad radiation



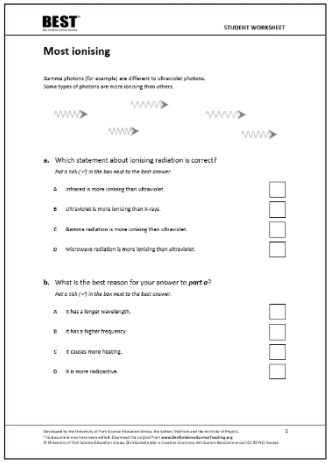
Confidence grid

EM interactions



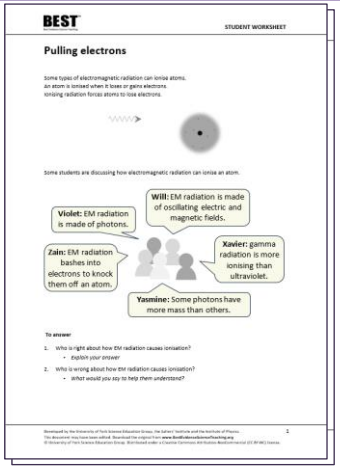
Simple multiple choice

Most ionising



Two-tier multiple choice

Pulling electrons

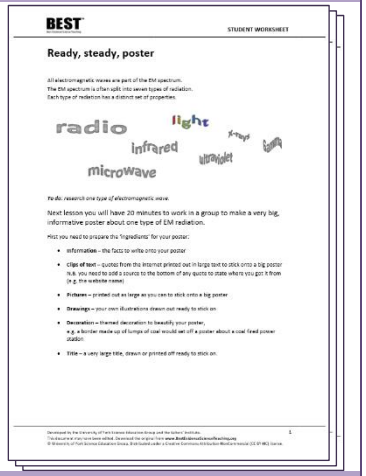


Talking heads

Radiotherapy

Sequencing

Ready, steady, poster



Application and practice