

	Description	Action	Visual Input	Verbal Input	Fast Learner	Slow Learner
Topic	Fate and effects of nanomaterials in the environment					
Title	"Balancing the risks and benefits of nanotechnology"					
Aim	To help the students understand that nanotechnology offers huge benefits, but may also involve risks, and that minimizing such risks is an essential part of developing safe and effective nanotechnologies.					
Ice Breaker	Find nanosilver in everyday products	Guess which items may contain nanosilver and why	Examples of everyday objects for students to handle	Students discuss with each other.	Challenge the fast learner with why questions.	Engage the slow learners in casual discussion.
Objectives	<ol style="list-style-type: none"> 1. Understand that the small size of nanoparticles makes them behave in surprising ways. 2. Understand that nanotechnology can have huge benefits for human health and the environment. 3. Understand that assessing and preventing potential risks of nanomaterials is very important. 					
Instruction	Explain concepts	Introduction to how nanoparticles get into the environment and why this could be of concern. Answer questions	Powerpoint slides	<i>How is it that the same nanomaterials can be both good and bad for the environment?</i>	Challenge the fast learner with more difficult questions	Provide slow learners with more help
Activity	Students are divided into 3 groups to explore: nanosunblock, nanofilters, and nanosand	Students work in groups and teachers supervise; groups rotate to new station after 10 minutes.	Kits for nanosunblock, nanofilters, and nanosand for students to work with	Provide some hints and help when necessary	Challenge the fast learner with more difficult questions	Provide slow learners with more help
Output	<ol style="list-style-type: none"> 1. Students' can explain how the example nanotechnologies can solve important problems. 2. Students appreciate why it is important to study and prevent unwanted risks as part of technology development. 					
Assessment	Students' presentations	Each group discusses advantages of the example nanotechnologies and possible risks	Kits for nano	<i>Whether nanoparticles solve or create environmental problems is important to find out</i>		
Outcome	Students appreciate the need to consider risks and benefits when developing new technologies.					