

Subject	Grade	Standard	Objective
<b>Science</b>	<b>Second</b>	<b>3. Physical Science</b>	<b>2. Compare and contrast how different materials respond to change.</b>
<b>Content Big Ideas</b>		<b>Standard 1 Big Ideas – Intended Learning Outcomes</b>	
(A) Things can be done to materials to change some of their properties, but not all materials respond the same way to what is done to them.	(P) When science investigation is done the way it was done before, we expect to get a very similar result. (N) Sometimes people aren't sure what will happen because they don't know everything that might have an effect. (C) When doing science activities, it is often helpful to work with a team and to share findings with others. All team members should reach their own individual conclusions, however, about what the findings mean.	(T) People use appropriate tools and models to investigate the world. (A) People working alone or in groups often invent new ways to solve problems and get work done. (S) The tools and ways of doing things that people have invented affect all aspects of life.	Science, Technology, and Society Big Ideas
<b>Indicators: Measureable Outcomes framed by Standard 1 Big Ideas</b>			
<b>Indicator 1. Model physical changes of various materials.</b>			
<b>Indicator 2. Investigate and provide evidence that matter is not destroyed or created through changes.</b>			
<b>Science language students should be able to use correctly: demonstrate, physical, matter, data, conclusions, investigate, mass.</b>			
<b>Guidance for Combining Content and Process</b>			
<b>Guidance for Combining Science, Technology, and Society</b>			
<b>Suggested Strategies</b>			
Students can investigate that materials can be changed by cutting, folding, sanding, tearing, melting, heating and cooling. Products could include T-chart, Venn diagram, before/after pictures, before/during/after journal entries, etc. (L) (M) (FA) (PoS) (CoS)	Students can conduct a simple experiment (make predictions, gather data, draw conclusions) to investigate that making physical changes does not create or destroy matter by measuring mass before and after change. Materials that might be used could include: paper (whole piece/shredded), aluminum foil (sheet/crumpled), crayon (whole/melted/shavings), clay (lump/formed), paper clips (loose/chain), pipe cleaners (straight/formed), etc. Students can communicate observations and justifications of their conclusions. (L) (M) (PoS) (CoS) (NoS)	(T) Students can use age-appropriate tools during investigations (scales, scissors, etc.). (T) Teachers can use necessary tools such as heating devices, cameras, overhead, etc. (A) Students can explain the role of physical changes in the process of recycling. (S) Students can evaluate the positive and negative aspects of recycling.	
<b>Physical Science</b> (A) Atomic/Molecular (F) Force and Motion	<b>Curriculum Connections</b> (M) Mathematics (L) Language Arts	<b>Processes, Communication, and Nature of Science</b> (PoS) Processes of science (CoS) Communication of science (NoS) Nature of science	<b>Applications: Science, Technology, and Society</b> (T) Tools of science (A) Applications of science (S) Implications of science for people