

| Topic |
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| Matter |
| Goals/Objectives |
| <p>SOL 5.4 The student will investigate and understand that matter is anything that has mass and takes up space; and occurs as a solid, liquid, or gas. Key concepts include</p> <ul style="list-style-type: none"> a) distinguishing properties of each phase of matter; b) the effect of temperature on the phases of matter; c) atoms and elements; d) molecules and compounds; and e) mixtures including solutions. |
| Theme |
| Providing Drinkable Water |
| Scenario |
| <p>Due to an increased demand on the local reservoir, Richmond needs to find a new source of water for its citizens. Fortunately, we have a large source of water in the James River running right through our neighborhood. Unfortunately, the water in the river needs to be cleaned up before we can use it.</p> <p>They city is currently accepting designs for new filters to be developed for local households in order for them to get clean water directly from the river.</p> |
| Culminating Activity |
| The students will design and present a filter prototype. |
| Problem Question |
| How can we purify water and make it drinkable? |
| Student Role |
| Water Filter Engineers |