

**Master 3-5****Applications**

The following descriptions are parts of the applications from the small companies that have a product to sell ABC Water and Space. Any information that identifies the companies has been removed. These companies have tested their products and have submitted applications in hopes that ABC will choose their product to sell. ABC Water and Space is also interested in selling environmentally friendly products. Each submitted product addresses an environmental concern.

**Company 1**

**Product:** Quieter engine to help lessen noise pollution

**Description:** Noise pollution is unwanted noise that disturbs human or animal lives. Noise pollution is a problem when loud boats go through areas with a lot of houses or businesses. We have tried to create a quieter engine so that it reduces noise pollution in populated areas.

**Test:** Our quieter engine was put on three different boats. These three boats were compared to three boats that had the usual engines on them. To do the test, 10 people were lined up on the side of the river. Each of the six boats drove by one at a time, and the 10 people ranked the boats on how quiet they were. In most cases, the people thought the boats with our engine were quieter.

**Company 2**

**Product:** Filters to reduce exhaust from engines

**Description:** Exhaust is a problem for cars, trucks, and boats. Exhaust contains pollutants that may be harmful to the environment. We have made a filter that can be added to boat engine exhaust systems. The filter lowers the amount of pollutants that are released into the air.

**Test:** A sensor was put on a boat near where the exhaust is released. As the boat was being driven, 10 different samples of air were taken near the exhaust system. For each sample, the air was measured for 20 seconds. Our filter was then put on the engine. The sensor was put in the same location as the first tests. The tests were repeated with 10 different samples of air being taken while the boat was being driven. We then compared the results of the air samples with and without the filter. We found that the filter reduced the amount of pollutants released to the air by 65 percent.

**Company 3**

**Product:** Nontoxic paint for painting boats

**Description:** Many paints contain toxic chemicals. If these paints are used on a boat, the chemicals can come out of the paint and stay in the water. This is one cause of water pollution. We have created a new paint that contains no toxic chemicals.

**Test:** We painted five pieces of wood with the new paint. We put each piece of wood into a separate aquarium filled with water. We also put a piece of unpainted wood into a sixth aquarium. We left each piece of wood in the water for a month. At the end of the month, we took three water samples from each aquarium. We measured each water sample for any toxic chemicals. We did not find any toxic chemicals in any of the water samples, including the water with the unpainted wood.