**Exploring Petroleum**

Teacher Lesson Plan



The Magic Floating “M” Demo

**Procedure:**

1. Fill several clear glasses or bowls half-full with water. Drop three M&M’s into each of the bowls with the “M” side up.
2. Allow the M&M’s to soak in the water for 5 - 10 minutes.
3. What will happen as a result of placing the candy in the water?

* Certain parts of an M&M will dissolve in water, while others won't.
* After a short time of soaking in the water, you begin to see the colored dyes from the M&Ms dissolve and mix together in the bowl, showing they are water soluble.
* However, the outer shell, along with the white "M" float to the surface of the water as they are **not** water soluble.

1. What do you think the floating “M” and the candy coating are made of?

* They are both made of petroleum products.

1. Based on the results, why does an “M&M” melt in your mouth, not in your hand?

* Most of the candy (sugar and dyes) are water soluble. It melts in your mouth because there is more water (in saliva) that water on your hand.

What’s in a Barrel of Oil?

A 42-gallon barrel of oil creates 19.15 gallons of gasoline. Americans consume petroleum products at a rate of three-and-a-half gallons of oil and more than 250 cubic feet of natural gas per day each! Based on percentage, gasoline makes up about ½ of a barrel of oil, but jet and diesel fuels are other transportation fuels made from petroleum. Heating oil is another major petroleum product. 17% (or about 7 gallons of petroleum) is used to make other products.

Would you have guessed that everything on this list is a petroleum by-product?

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| --- | --- | --- | --- |
| Solvents | Toothpaste | Motor Oil | Bearing Grease |
| Ink | Floor Wax | Ballpoint Pens | Football Cleats |
| Upholstery | Sweaters | Boats | Insecticides |
| Bicycle Tires | Sports Car Bodies | Nail Polish | Fishing lures |
| Dresses | Tires | Golf Bags | Perfumes |
| Cassettes | Dishwasher | Tool Boxes | Shoe Polish |
| Motorcycle Helmet | Caulking | Petroleum Jelly | Transparent Tape |
| CD Player | Faucet Washers | Antiseptics | Clothesline |
| Curtains | Food Preservatives | Basketballs | Soap |
| Vitamin Capsules | Antihistamines | Purses | Shoes |
| Dashboards | Cortisone | Deodorant | Footballs |
| Putty | Dyes | Panty Hose | Refrigerant |
| Percolators | Life Jackets | Rubbing Alcohol | Linings |
| Skis | TV Cabinets | Shag Rugs | Electrician's Tape |
| Tool Racks | Car Battery Cases | Epoxy | Paint |
| Mops | Slacks | Insect Repellent | Oil Filters |
| Umbrellas | Yarn | Fertilizers | Hair Coloring |
| Roofing | Toilet Seats | Fishing Rods | Lipstick |
| Denture Adhesive | Linoleum | Ice Cube Trays | Synthetic Rubber |
| Speakers | Plastic Wood | Electric Blankets | Glycerin |
| Tennis Rackets | Rubber Cement | Fishing Boots | Dice |
| Nylon Rope | Candles | Trash Bags | House Paint |
| Water Pipes | Hand Lotion | Roller Skates | Surf Boards |
| Shampoo | Wheels | Paint Rollers | Shower Curtains |
| Guitar Strings | Luggage | Aspirin | Safety Glasses |
| Antifreeze | Football Helmets | Awnings | Eyeglasses |
| Clothes | Toothbrushes | Ice Chests | Footballs |
| Combs | CD's | Paint Brushes | Detergents |
| Vaporizers | Balloons | Sun Glasses | Tents |
| Heart Valves | Crayons | Parachutes | Telephones |
| Enamel | Pillows | Dishes | Cameras |
| Anesthetics | Artificial Turf | Artificial limbs | Bandages |
| Dentures | Model Cars | Folding Doors | Hair Curlers |
| Cold cream | Movie film | Soft Contact lenses | Drinking Cups |
| Fan Belts | Car Enamel | Shaving Cream | Ammonia |