

# Word Find: Chemistry Keeps Us Clean!

from **Celebrating Chemistry**



**Instructions:** Find the **bold** words in the laundry detergent bottle. Circle the words as you find them. The words may be read forward, backward, up, down, or diagonally. Letters may be used in more than one word. Answers are on page 2.

Just washing with **water** does not get us **clean**. Although some dirt does dissolve in water, other dirt is made from **oil** and grease, which do not dissolve in water. Oil and water do not even **mix**. In order to remove oil it is necessary to use a chemical such as **soap** to hook the oil and water together. In pioneer days, the soap was made from **animal fat**, wood ashes, and table **salt**. Unfortunately, soap does not work well in water that contains calcium, **magnesium**, or **iron** compounds. This type of water is called **hard** water. These compounds **react** with soap to form a new compound that does not dissolve in water. This compound is called soap **scum** and causes a **ring** around the bathtub.

In order to get soap to work in hard water, chemists have made a new type of soap called **detergent**.

Detergents are made for different purposes. One type of detergent is the **laundry** detergent that we use to wash our clothes. These often contain **bleach** or an optical brightener that make our clothes look better. There are also dishwashing detergents for either washing dishes by hand or in an automatic **dishwasher**. The special detergent that we use for our hair is called **shampoo**. It usually contains a chemical to **soften** the hard water and keep it from forming soap scum in our hair. Also, most shampoos contain lanolin to keep our scalps from getting too dry. Another special detergent that we use every day is **toothpaste**. It contains a detergent and an **abrasive** material, like very fine **sand**, to clean the **plaque** off of our teeth. Since these ingredients do not taste good, a flavoring or sweetener is added. Most toothpaste contains a **fluoride** compound to make the teeth's enamel stronger to resist tooth decay.

	R	N	P	A	G					
	X	E	L	I	R	O	N			
	I	W	A	T	E	R	E	I		
M	T	Q	C	P	I	T	O	R		
R	U	N	T	A	F	T	A	T		
E	D	I	R	O	U	L	F	L	O	
H	H	C	S	S	H	A	M	P	O	O
S	H	C	E	E	M	S	I	S	I	T
A	T	L	A	U	N	D	R	Y	L	H
W	D	E	T	E	R	G	E	N	T	P
H	S	A	R	A	L	S	A	N	D	A
S	C	N	H	Y	W	B	E	M	E	S
I	U	A	N	I	M	A	L	F	A	T
D	M	K	A	B	R	A	S	I	V	E



American Chemical Society  
Membership Division—Office of Community Activities  
1155 16th Street, NW, Washington, DC 20036  
email [kids@acs.org](mailto:kids@acs.org) or call 800-227-5558, ext. 6187  
[chemistry.org/kids](http://chemistry.org/kids)  
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