



# Firework Science

Summer Break Programming  
2023



**Kids 'N' Stuff**  
children's museum

# Francis Scott Key

“Bombs bursting in air”



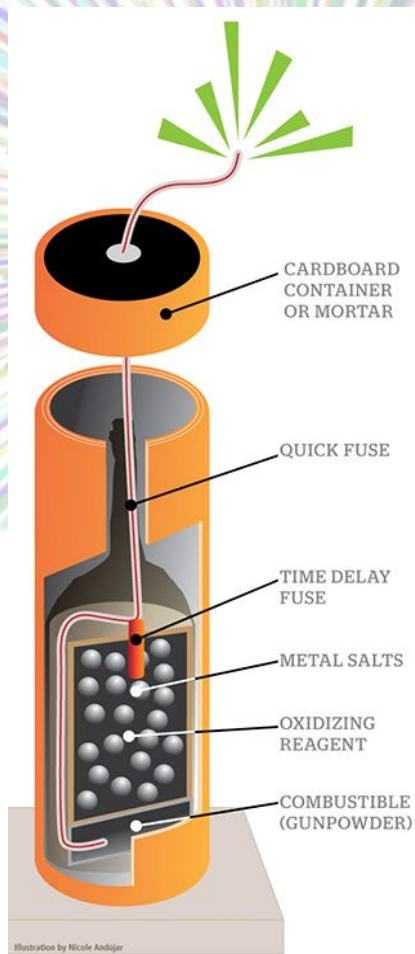


# Are Firework Bombs?



**vs**





**The color:** pure salts and metals, and chlorine donors to enhance color.

**The vehicle:** paper wrapper, cardboard container, and binders and barriers to hold the chemical in place.

**The propellant:** quick fuse, time delay fuse, oxidizers, and black powder.

The image features four stylized fireworks exploding against a white background. One large, multi-colored firework is on the left, a smaller pink and yellow one is at the top center, a large gold one is on the right, and a blue and yellow one is at the bottom center. The text 'Let's make a firework!' is centered in a bold, black, sans-serif font.

**Let's make a  
firework!**







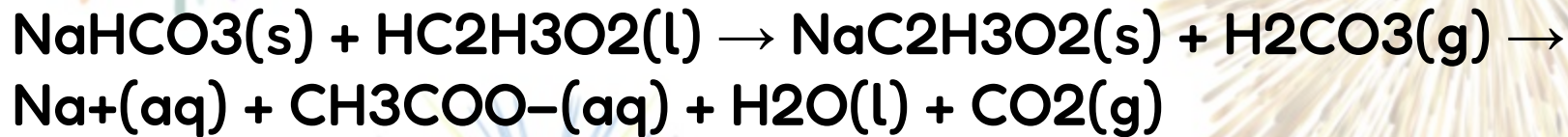
The background features four stylized fireworks exploding. One large, multi-colored firework is in the top-left corner. A smaller, pink and yellow firework is in the top-right. A large, golden-yellow firework is in the bottom-right. A smaller, blue and yellow firework is in the bottom-left. The text 'Chemical Reactions' is centered over the fireworks.

# Chemical Reactions

The background features several colorful fireworks exploding against a white background. The fireworks are in various colors including purple, green, blue, yellow, and orange, creating a festive and celebratory atmosphere.

# Chemical Reactions

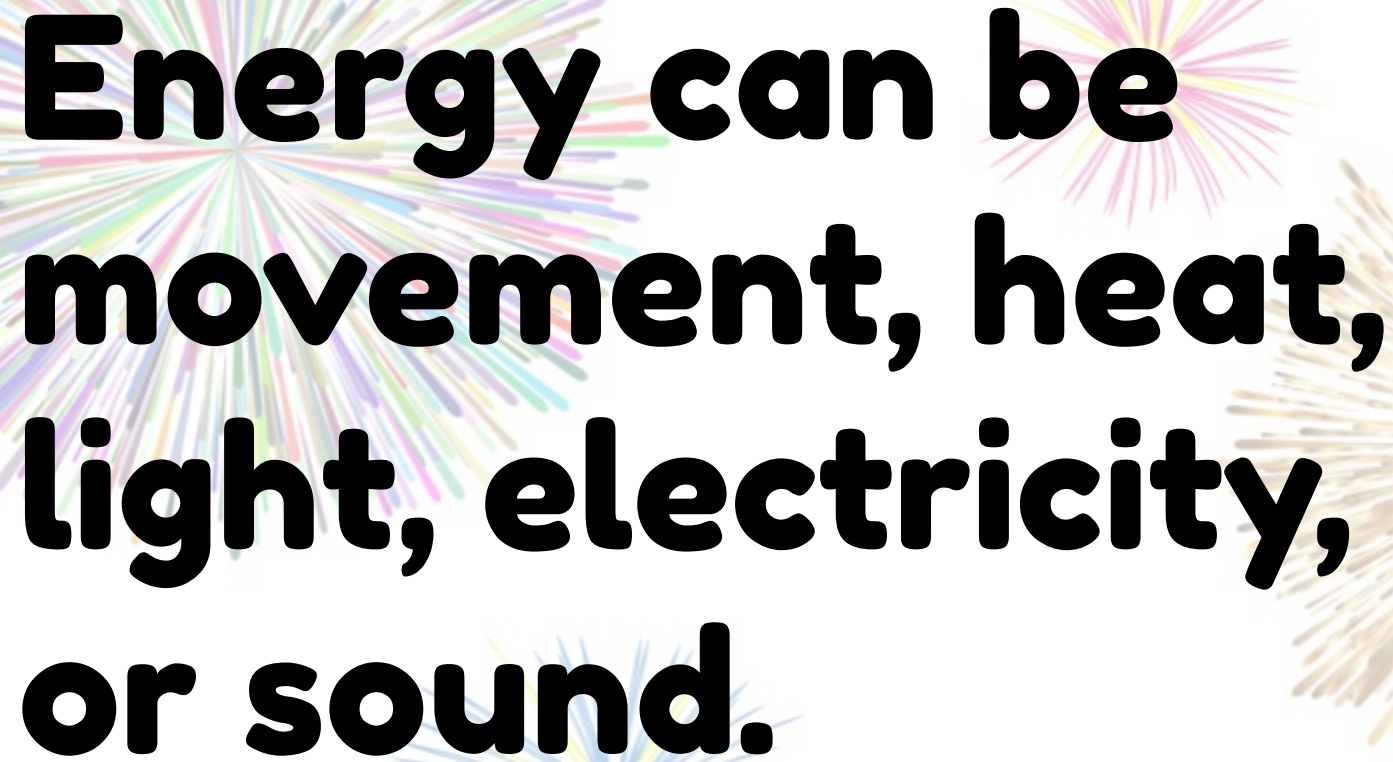
**Baking Soda & Vinegar become water & CO<sub>2</sub>**





# Too Much Stuff and Too Much Energy



The background features four distinct firework bursts. One large, multi-colored burst is on the left. A smaller purple and yellow burst is in the upper right. A large, golden-yellow burst is on the right side. A smaller blue and yellow burst is at the bottom center. The text is centered over these fireworks.

**Energy can be  
movement, heat,  
light, electricity,  
or sound.**





Sodium

Lithium

Barium

Iron filings

Strontium

Copper

Calcium

Magnesium