

Sparklers

by Liam O'Donnell



Nothing says summer fun like a sparkler fizzing in a shower of colourful sparks. Under all that flash is some smart science.

A sparkler is a thin metal stick dipped or rolled in a wet mush of chemicals and metals. When the mush dries, it clings to the metal stick. Mixed into the mush is the secret to the sparkler's flash — the fuel. Charcoal or sulphur make good sparkler fuels because they burn easily.

All fuels need oxygen to burn. Special chemicals, called oxidizers, are added to the mush to keep the sparkler burning brightly. Cornmeal, a grain you might find in your kitchen, is often mixed in to stop the sparkler from burning too quickly. A type of sugar, called dextrin, holds the mush together when it dries.

Tiny flakes of powdered metals, such as aluminum, iron, steel, or zinc, give sparklers their spark. When the metals catch fire, the tiny flakes get so hot they burst away from the metal stick. The flakes of burning metal fly into the air as small bright sparks.

As the sparks burn up, the metal stick gets very hot — so don't touch it. This summer, if you see a sparkler in action, follow the safety tips below and stay safe while watching the sparks fly!

Sparkler Safety

- * Have an adult light your sparkler.
- * Use sparklers outdoors.
- * Hold the sparkler away from your body.
- * When the sparkler has finished burning, put the metal stick into a bucket of water.



Your Freckles

KNOW YOU

by Diane Swanson

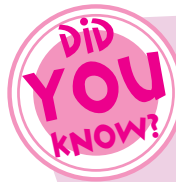
Summer is a great time for playing outdoors. It's also the season for getting freckles. They're the flat, light brown spots that may appear on your skin after you've been in the sunshine. Most freckles are very small, but two or three of them sometimes overlap, making one bigger freckle.

You may already have a few freckles, probably on your nose, cheeks, or shoulders. Most people do. If you have fair skin, red or blonde hair, and blue eyes, you are especially likely to have freckles. Take a look and see.

Compared to darker skin, fair skin contains less melanin (MEL-uh-nin), a chemical that helps protect skin from the Sun's strong rays. In sunshine, some skin cells in fair-skinned people make extra melanin. This results in scattered freckles instead of even suntans.

Freckles often come and go with the seasons. They can darken in the summer Sun, then fade over winter. But on some people, freckles don't seem to change much throughout the year.

If you have freckles, don't worry. They're not harmful. You probably even had a few freckles when you were only two or three years old. You'll have the greatest number of freckles when you are a teenager. Then they'll likely disappear as you get older, no matter what the season is.



Boys get just as many freckles as girls. Scientists call freckles ephelides (i-FEE-le-deez).



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