EXPERIMENT MANUAL

GROOVY Glowing Candy Lab

THAMES & KOSMOS

WARNING. Only for use by children 6 years of age or older with continuous adult supervision and assistance. Adult supervision required at all times. Use of a microwave or stove is required. Hot mixtures and stove tops can cause severe burns.

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Safety information

Warning! Not suitable for children under 6 years. For use under adult supervision. Read the instructions before use, follow them and keep them for reference.

Keep small children and animals away from experiments. Keep the experimental set out of reach of children under 6 years old.

Warning. Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled.

Keep the packaging and instructions as they contain important information.

The candy pieces should be wrapped in the plastic bags before labeling them with the stickers.

All of the plastic parts should be cleaned by hand before use.

In addition to a certain amount of visible light, the UV lamp primarily emits energy-rich ultraviolet light. Therefore, do not shine it directly in your eyes or into the eyes of another living creature!

Ingredients

Sugar, Gelatin, Citric Acid, Natural and Artificial Flavor, Riboflavin (for color), Artificial Color (Red 40).

First aid information

Advice in case any accidents should happen during experimentation.

1. In case of burns: Wash affected area with plenty of water for at least 10 minutes.

2. In case of doubt or larger burns, seek medical advice without delay.

3. In case of injury (e.g. cuts) always seek medical advice.

Safety rules

Read this before starting any experiments.

1. Read these instructions before use, follow them and keep them for reference.

2. Keep young children and animals away from the work area and stove at all times.

3. Store this kit out of reach of children under 6 years of age.

4. Clean all equipment after use. Clean all pots and utensils with hot water and soap.

5. Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.

6. Never work alone. An adult should always be present. Pay attention to the information provided with each experiment.

7. Pay special attention to the quantity specifications and the sequence of the individual steps. Only perform experiments that are described in this instruction manual.

8. The included plastic mold for the candy shapes is not dishwasher safe. It will be deformed by high temperatures, so wash it by hand.

9. Clean the work surface carefully after you are finished and always wash your hands thoroughly — before and after you work.

10. If you are allergic to certain foods you must avoid sweets that contain such ingredients. Therefore, always begin by checking the list of ingredients. If you are diabetic, you must only eat the amount of sugar allowed by your diet plan.

11. It goes without saying that there can be no smoking in a confectionery shop.

Advice for parents and supervising adults

This experiment kit is not suitable for children under 6 years. **It must be used with an adult at all times.** The kit provides a fun introduction to physical science topics through candy making activities and experiments.

The work of a candy maker is fun and exciting, but it is not always easy. This is why we would like to thoroughly inform you of safety precautions, so that you can guide your child with advice and help. You must supervise and assist him or her with all of the activities in this kit, but especially when using the stove, microwave, and working with hot ingredients. This also applies to the use of sharp knives and other kitchen utensils (e.g. breakable glasses).

Take a look through this instruction manual and pay particular attention to the:

→ Safety information and rules (inside front and back cover),
→ Safety notes that accompany each experiment (marked with an exclamation point symbol ❗), and
→ First aid in case of accidents (inside front cover).

Discuss the experiments and the individual work steps with your child before beginning. Use only the recommended ingredients.

Candy making requires several different talents and skills. It can be affected by the weather, temperature, and the specific equipment used. Don't get discouraged if a particular step does not work out as expected. Having some experiments "fail" is an important part of science.

Select the working steps that appear suitable for your child and supervise him or her during the melting, pouring, packaging, and storage of the candies. Your own homemade candies will not keep as long as commercially available ones, which often contain preservatives. Write the production date on the packaging and store in the refrigerator. Make sure that the candies are consumed within one week after they are made.

Tell your child to read these instructions, safety rules, and first aid information, to follow them, to keep them for reference, and to perform only those experiments that are described in the manual.

Pick an area in the kitchen that can tolerate spills and stains. When working with hot pots, have a trivet and pot holders available, and make your child aware of the danger of burns.

To keep the plastic mold tray in good condition, always wash it by hand and not in the dishwasher. The high temperatures used in a dishwasher might deform the plastic tray.

If your child has to stay away from certain sweets or avoid some ingredients (for example because of an allergy), you will have to alter the recipe or omit the specific ingredient. Always check the contents of purchased ingredients.

Also, please help your child to safely use the UV flashlight. See the instructions on the inside front and back covers of this manual.

Because ultraviolet light is a little more high-energy than visible light, your child should never shine the lamp's light into his or her own eyes or the eyes of anyone else. Of course, ordinary sunlight contains a large amount of ultraviolet light as well.

We hope you and your young glowing candy maker have lots of fun with this kit!

NOTE! The additionally required items are highlighted in italic script in the individual experiments. Before starting the experiments, carefully read through everything that will be required and make sure to have all the materials ready.

KIT CONTENTS

1	Glowing fruit punch flavor-sugar mixture (Net Wt. 76 g/2.68 oz)
2	Glowing tropical pineapple flavor-sugar mixture (Net Wt. 76 g/2.68 oz)
3	Gelatin mixture (Net Wt. 24 g/0.84 oz)
4	Sour mixture (Net Wt. 15 g/0.53 oz)
5	Plastic candy mold
6	UV flashlight
7	Plastic storage bags (4)
8	Sticker sheet for labeling bags

For the ingredient lists, see the inside front cover.

TO MAKE ALL OF THE CANDIES, YOU WILL ALSO NEED: *Scissors, tablespoon, teaspoon, water, small bowl, spoon, vegetable oil, microwave, refrigerator, toothpick or fork, plate, paper towels, drinking glass, soda water (seltzer), granulated sugar, cooking pot, candy thermometer, baking sheet, spatula, knife, powdered sugar, stove*
FOR THE ADDITIONAL EXPERIMENTS, YOU WILL ALSO NEED: *white objects (sheet of paper and t-shirt), banana, tonic water*

Hey Candy Chemists!

Want to make yummy candies that actually glow in the dark? With this kit, you can mold fun, glowing gummies and sweet, glowing ice cubes in groovy shapes. Then make a batch of hard candy and watch it glow. A small amount of a safe, natural ingredient — riboflavin, or vitamin B2 — causes these candies to glow under the included UV flashlight.
Gumbi the Geeker will be your guide!

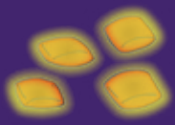
PART 1

MAKE YOUR OWN GLOWING CANDIES

With this kit, you can make:

Experiment 1: Fruit Punch and Tropical Pineapple Glowing Gummies
Page 4

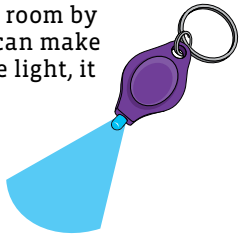
Experiment 2: Glowing Ice Cubes
Page 7



Experiment 3: Glowing Hard Candy
Page 8

Introduction

- We recommend doing the experiments in this kit in order, starting with making one batch of fruit punch gummies and one batch of tropical pineapple gummies in experiment 1 before proceeding to experiment 2.
- These gummies will not turn out exactly the same as commercial store-bought gummies. See pages 14–15 to learn about different gels.
- The hard candy recipe in experiment 3 requires very high temperatures. Only an adult should conduct the steps involving the hot mixtures in this experiment.
- After you have made each candy, you can see it glow in a dark room by shining the light from the UV flashlight on it. This flashlight can make materials glow with fluorescence. In addition to a little visible light, it mainly emits invisible ultraviolet light, or UV light for short.
- Then, you can use the UV flashlight for the additional investigations in experiments 4 and 5.
- Finally, you can learn all about the amazing scientific properties of these glowing candies starting on page 10.



- **Read all of the instructions carefully before starting.**
- **Follow the instructions precisely.**
- **Prepare to work quickly, as the candy mixtures can solidify or harden quickly.**

Safety Note: Caution! The experiments require hot mixtures and high temperatures. Work carefully!

1. Glowing gummies

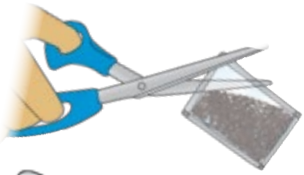
You will need:

- **3 Tablespoon flavor-sugar mixture (either tropical pineapple or fruit punch)**
- **1 Tablespoon gelatin mixture**
- **Plastic gummy molding tray**
- **1 Teaspoon sour mixture**
- **Plastic storage bag**
- **Stickers**
- **UV flashlight**
- *Scissors*
- *Tablespoon*
- *Teaspoon*
- *Water*
- *Small bowl*
- *Spoon*
- *Vegetable oil*
- *Microwave*
- *Toothpick or fork*
- *Plate*
- *Paper towels*

Here's how:

1. It will be easier to remove the gummies perfectly from the molding tray if you oil the molds a little beforehand. Coat the molds with a small amount of vegetable oil. Use a paper towel to spread the oil around evenly and keep it from pooling in any areas.

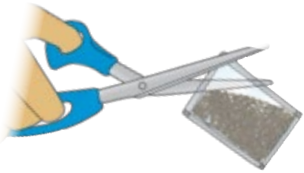
2. Cut open the flavor-sugar mixture packet with scissors.



3. Measure **3 level tablespoons of flavor-sugar mixture** and put it into a small bowl.

3 tablespoons flavor-sugar mixture

4. Cut open the gelatin mixture packet with scissors.



5. Measure **1 level tablespoon of gelatin mixture** and put it into the bowl.

1 tablespoon gelatin mixture

Continued on next page →

Here's how it continues:

6 Stir the dry mixture with a spoon until it is completely blended. Crush any clumps with the spoon.

7 Measure **4 tablespoons of water** and pour it into the bowl.

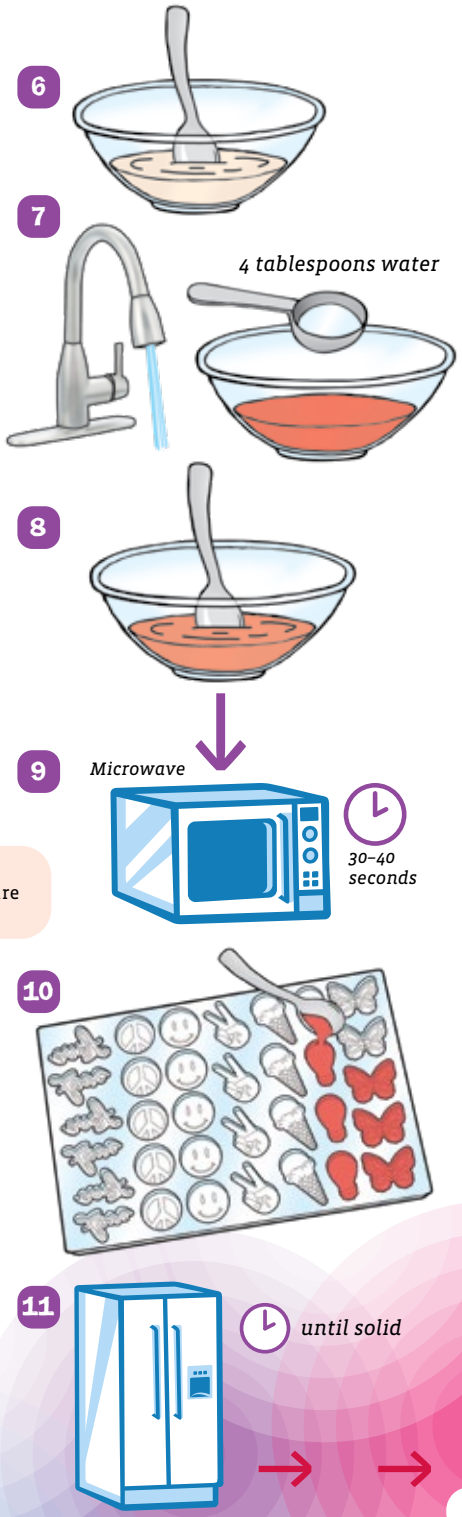
8 Stir the mixture with a spoon until the dry mixture is mostly dissolved and the mixture appears smooth.

9 Place the bowl in the microwave. Heat the mixture in the microwave for 30 to 40 seconds. Watch it carefully; as soon as the mixture bubbles up, stop the microwave and remove the bowl.

Safety Note: Caution! The mixture can be very hot.

10 Let the mixture cool for a minute or so. Then, carefully spoon the mixture into the molds in the plastic tray. It should fill up most of the molds in the tray, depending on how full you fill each cavity.

11 Put the tray into the refrigerator and let the gummies solidify for ten minutes. After ten minutes, check them. If they have not solidified yet, put them back in the refrigerator and check them periodically until they are solid.



12 After the gummies have solidified, remove them from the molds using a toothpick or fork. Do not bend the plastic tray excessively to remove the gummies.

13 Optional: If you want to make sour gummies, cut open the sour mixture packet and place the gummies and one teaspoon of the sour mixture together into a plastic bag. Shake the bag to coat the gummies with the sour mixture.

14 Place the gummies in a plastic bag. Close the bags using a sticker from the sticker sheet. Store the gummies in the plastic bags in the refrigerator. Consume the gummies within one week.

Glowing Experiment:

15 Bring some of the glowing gummies into a very dark room with the UV flashlight. Press the button on the flashlight and shine the light directly onto the gummies. They will glow with a yellow-green light!

Repeat these instructions with the other flavor-sugar mixture to make a second batch of gummies!

12

Finished gummies!

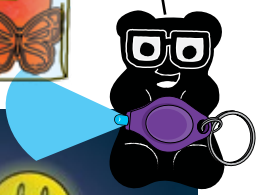
13

1 teaspoon sour mixture

14

Done!

They glow!



15

2. Glowing ice cubes

You will need:

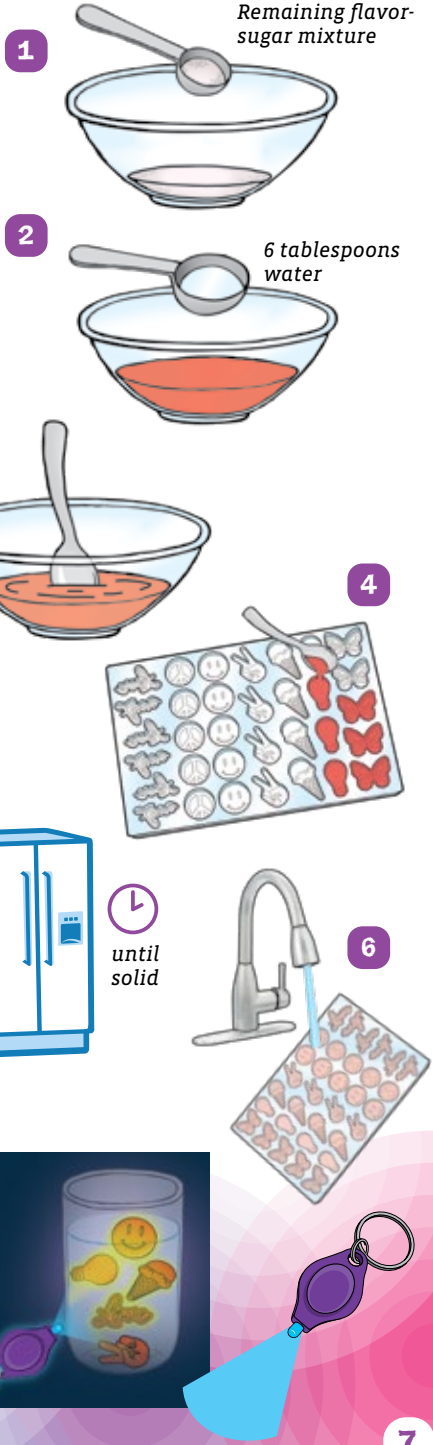
Flavor-sugar mixture, plastic gummy molding tray, UV flashlight, *water, small bowl, spoon, freezer, drinking glass, soda water (seltzer)*

Here's how:

1. Pour the **remainder of one of the flavor-sugar mixture packets after conducting experiments 1 and 2 (about half a packet)** in a small bowl.
2. Add **6 tablespoons of water.**
3. Stir the mixture with the spoon until the flavor-sugar mixture has dissolved completely into the water, and no more sugar crystals can be seen at the bottom of the bowl.
4. Carefully spoon the solution into the molding tray. It should fill the tray completely.
5. Carefully transfer the tray to the freezer. Make sure to keep it level so the solution does not spill out of the tray. Leave the tray in the freezer until the solution has frozen (about an hour or two).
6. Once the ice cubes have frozen, remove them from the tray by running some warm water quickly over the bottom of the tray. Put the ice cubes in a glass of soda water. Voila! Glowing soda!

Glowing Experiment:

7. Observe under the light from the UV flashlight in a dark room!



3. Glowing hard candy

Safety Note: Caution!
This experiment involves very high temperatures. There is a risk of burns. Boiling sugar solutions are extremely hot and can stick to your skin. An adult must perform all operations involving the hot sugar and candy syrups!

You will need:

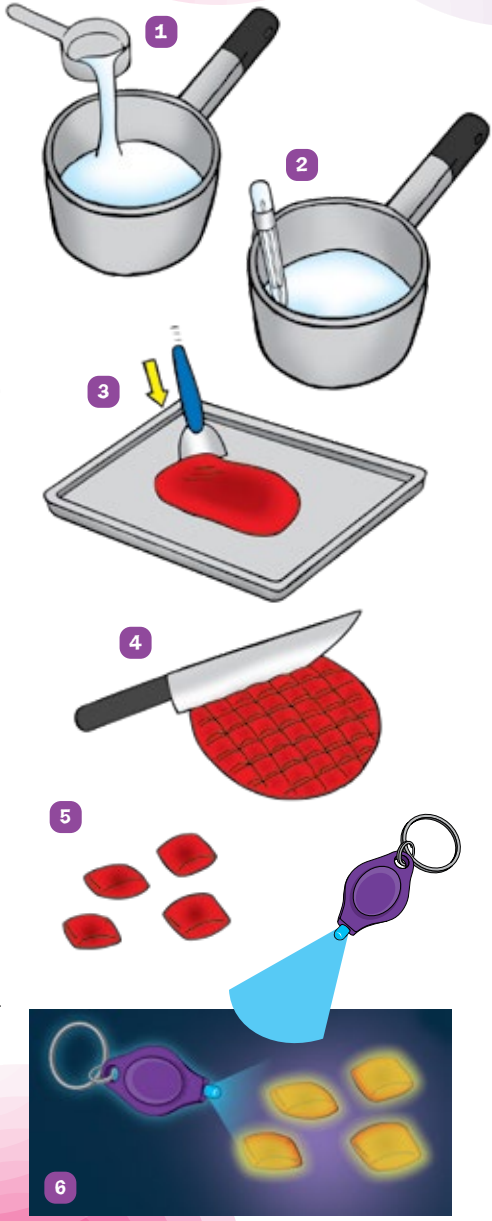
Flavor-sugar mixture, UV flashlight, *water, 1 cup of granulated sugar, spoon, tablespoon, cooking pot, candy thermometer, vegetable oil, baking sheet, spatula, knife, powdered sugar*

Here's how:

1. In a small cooking pot, mix **1/2 cup of water, 1 cup of granulated sugar,** and the **remainder of the second flavor-sugar packet after removing 3 tablespoons for experiment 1 (about half a packet).**
2. Hang the candy thermometer from the edge of the pot into the mixture. Heat the entire mixture on the stove while stirring continuously until it reaches 300 °F. Then immediately take the pot off the heat and let it cool for a couple of minutes. While it cools, coat a flat cooking surface, like a baking sheet, with 1 tablespoon of vegetable oil.
3. Pour the syrup onto the baking sheet. Now you have to be quick, because the syrup will start to harden. Fold the candy mixture a few times with the spatula, forming a flat circular mound.
4. While the mound is still soft, score it with the knife to make a grid pattern.
5. Once the candy has cooled, break it along the scored lines to make small candy drops. Coat them in some powdered sugar to prevent them from sticking.

Glowing Experiment:

6. In the dark, shine the UV flashlight onto the candies. They will glow!



4. White things glow

You will need:

UV flashlight, *sheet of white paper, white t-shirt, or other white objects*

Here's how:

1. In a dark room, turn on the UV flashlight and point its beam at a sheet of white paper or an article of white clothing (shirt, undershirt, t-shirt, blouse, etc.). It glows!

5. What else glows?

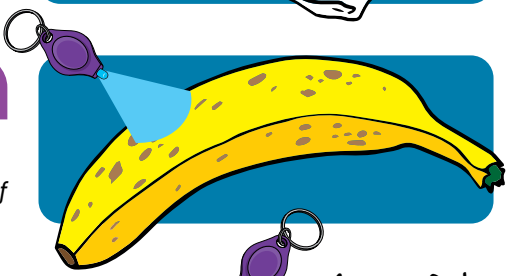
You will need:

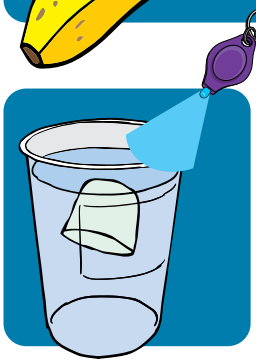
UV flashlight, *a very ripe banana, glass of tonic water*

Here's how:

1. Let a fresh banana sit for a few days, checking it each day under the UV light in the dark. Pay particular attention to the brown spots.

2. Shine the UV light into a glass of tonic water in the dark.





WHAT'S HAPPENING?

The white objects glow with a mysterious blue light. There are chemical substances in the white clothing that absorb the UV light and convert it into visible light. This phenomenon is known as **fluorescence.**

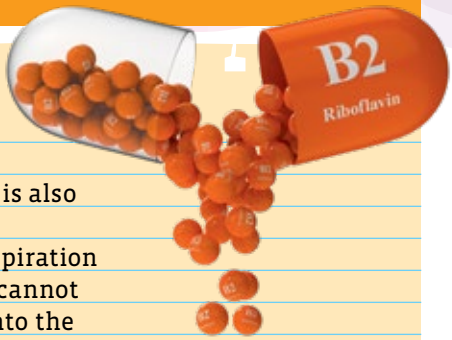
Detergent manufacturers add fluorescent substances (known as **brighteners**) to their products to make laundered whites look more dazzling. Paper manufacturers use the same method to make their white paper look brighter.

On the banana, all around each of the brown spots, you will notice a light blue glowing ring. The glow is caused by a substance produced when the plant pigment known as **chlorophyll** breaks down.

The tonic water also lights up with a bright blue glow under the UV light. This is because it contains **quinine,** a bitter fluorescent substance obtained from the bark of the cinchona tree.

GEEK OUT!

WHAT CAUSES THE CANDIES TO GLOW?



The "secret ingredient" that causes the candies you made with this kit to glow under the UV light is called **riboflavin.** It is also known as **vitamin B2.**

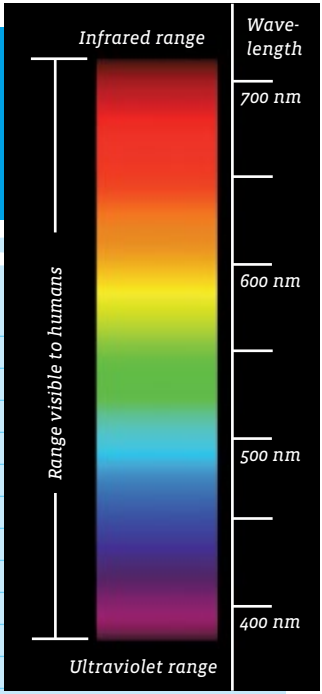
Riboflavin is required for cellular respiration in the human body. Without it, the body cannot properly convert nutrients and oxygen into the energy that cells need to function. It is therefore considered an essential vitamin.

Riboflavin is found in many foods. It is found in milk and other dairy products, spinach and other green vegetables, liver, meat, salmon, eggs, almonds, and mushrooms!

In its refined form, riboflavin is a bright orange powder. A small amount of this powder has been added to the flavor-sugar mixtures in this kit as a colorant. Read the next pages to learn about why this substance glows under UV light.

GEEK OUT!

THE LIGHT SPECTRUM



To understand why riboflavin glows under UV light, first let's explore what UV light is! The sun emits invisible light in addition to visible light. Light moves in waves. Our eyes see light waves of different wavelengths as different colors. In a rainbow, you see the colors that are visible to the naked eye. Each end of the rainbow is bordered by light that our eyes cannot see! There is an **infrared** range that borders red light as well as an **ultraviolet** range that borders violet light.

Ultraviolet light (or UV light for short) displays some astonishing properties. It has a higher energy and a shorter wavelength than visible light, which means it behaves differently than visible light in many ways. For example, it has a much stronger effect on photographic film (which is how it was discovered in the first place), it tans the skin, and it causes some materials to exhibit **fluorescence,** as you saw in your experiments. Humans can't see UV light, but many birds, honeybees, and bumblebees can see it. That is why a lot of flowers (such as dandelions and orchids) have patterns that are only visible to humans under UV light.

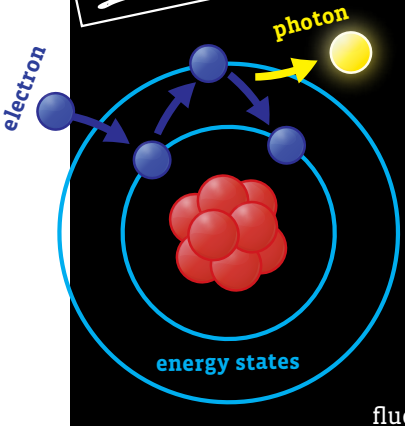
DIFFERENT TYPES OF GLOWING

Luminescent light is emitted without heat, and is also known as **cold light**. There are many types of luminescence. **Chemiluminescence** is light emitted by a chemical reaction, like glow sticks and glowing diatoms in the ocean.

A solid substance that lights up when exposed to energy, like light or electricity, is called a **phosphor**. A phosphor can be **phosphorescent**, which stays glowing after the energy source is removed, or **fluorescent**, which only glows while the energy is present and for a brief moment after. Glow sticks, glow-in-the-dark stars, and riboflavin all contain phosphors. Riboflavin is fluorescent but not phosphorescent — meaning it emits light only while UV light is shining on it.

GEEK OUT!

WHY DO FLUORESCENT MATERIALS GLOW?



All matter is made of small particles called **atoms,** around which there are charged particles called **electrons.** When light hits an object, it can be reflected, transmitted through it, and/or absorbed. When light hits and is reflected by an atom of a regular material, the energy in the light excites the electrons momentarily, causing them to jump up to a higher **energy state** and then immediately move back down to the lower energy state. This releases a **photon** (a particle of light) of the same color (wavelength) as the light that hit it.

When high-energy UV light hits an atom of a fluorescent material, the electrons make a big leap up in energy. Some of the energy is then lost to vibrations (heat) and so when the electron falls back down again, it has less energy to emit. The photon of light emitted is therefore a lower wavelength than the original UV light, so it is now in the visible spectrum — but still relatively high-energy, which is why fluorescent colors are so vibrant.

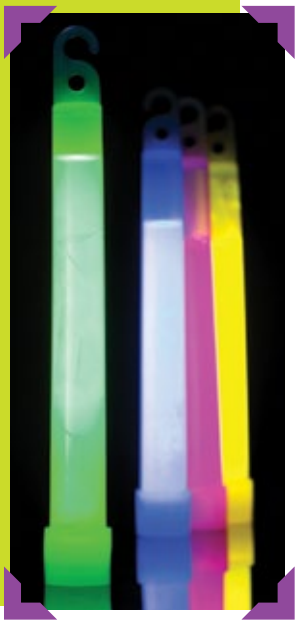
GLOW STICKS

You have probably seen conventional **glow sticks** during Halloween time or at nighttime parties. They are also used during emergencies and rescue operations.

Glow sticks contain chemicals that produce light when they mix together. The chemicals mix when the flexible plastic outer tube holding one chemical is bent enough to break a smaller glass tube inside of it, which holds a different chemical.

The chemicals in the outer tube are diphenyl oxalate and a dye, while the inner tube contains hydrogen peroxide. When the chemicals mix, energy is released, which excites the dye to a higher energy state. When the dye returns back to its normal energy state, it releases photons of light. Depending on the specific dye used, the light will be red, blue, green, pink, or yellow in color. The dyes are called **fluorophores.**

This reaction produces a dangerous byproduct called phenol which is corrosive and toxic. This is why they are completely sealed inside thick plastic. Once the reaction is complete, the glow stick cannot be reused. Obviously, the glowing phenomenon in this kit is produced by a completely different chemical, which is safe.



GEEK OUT!

HOW WE SEE LIGHT

Light mixing

Pigment mixing

COLOR MIXING

Why do the candies you made with this kit look red or yellow under normal (white) light, but glow a greenish-yellow color under the UV light?

We see light consisting of all wavelengths as white light. When you mix red, green, and blue wavelengths of light, you see white light.

The gummy mixes are colored with dyes. Dye and pigments mix differently than light. Each color of dye absorbs some wavelengths of white light, subtracting those out of the color that reflects into your eye. The final color you see is made of whichever wavelengths are reflected and not absorbed by the dye particles.

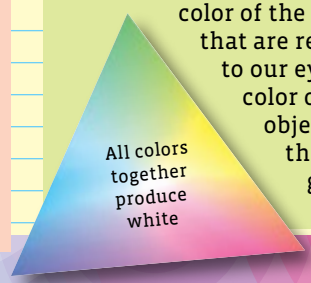
The riboflavin reflects a yellow-orange color when white light hits it, but when UV light hits it, it exhibits the fluorescent properties described on the previous page. The emitted color is a vibrant greenish-yellow.

THE COLOR DETECTORS IN YOUR EYE

We have three different detectors for color in our eyes. One type is best at recognizing red, another type recognizes green, and another type is best at recognizing blue. How is it, then, that we can see so many different colors and color gradations? Our brain creates the colors we see by calculating how strongly the three different types of detector are stimulated. Since these detectors require a certain amount of light in order to become activated, though, we cannot perceive any colors at night.

GRASS IS GREENER

Why do we perceive the grass as green, the sky as blue, and a rose as red? White light is composed of many colors. When this light arrives, for example, at a green tree, most of the light colors are "swallowed up" by the leaves, and only the green rays are reflected back. The color of the rays that are reflected to our eye is the color of the object — in this case, green.



GEEK OUT!

WHAT MAKES GUMMIES *GUMMY?*

How is the gummy candy mix able to form into a squishy candy when mixed with water? An ingredient called **gelatin** makes this possible. This is what makes a gummy candy gummy!

GELATIN

Gelatin is an animal protein made from bones and connective tissues. It has the ability to swell up in cold water and to dissolve when heated. And, when it cools off again, it forms a reversible **gel** — short for **gelatinous substance.** Gels contain mostly liquids, but behave more like solids. When you heat up a gel, the molecules start moving around more which lets them slide past each other more easily. This causes the gel to become more like a liquid. But when you cool the gel back down again, the molecules re-form a web-like structure and become more like a solid. A reversible gel is one that can return to an earlier state.

Gelatin contains long molecules that are made up of many repeating parts, like the links of a chain. Each molecule can also connect to other long molecules, forming a web. The general term for this type of molecule is **"polymer."** Gelatin contains a specific type of polymer called **collagen.**

A molded gelatin dessert

One key property of this big tangled web of molecules is its ability to hold a lot of water! Parts of a collagen molecule are responsible for its firm structure, while other parts bond with water molecules. In warm water, the water molecules can slide in between the collagen molecules and fold their inner structure together. This happens when the gelatin is dissolved. When cooled off, the collagen molecules connect themselves together again and as a result form a network that can make liquids firm.

← *A computer rendering of the long twisted chains of collagen molecules.*

CARRAGEENAN

Red algae seaweed

Carrageenan is another ingredient that is commonly used to make gels. Carrageenan comes from certain types of plants called red algae. Like gelatin, it contains long chains of polymers that can form big tangled webs that can hold a lot of water molecules in them. These molecules are called **polysaccharides.** These are different from the collagen molecules in gelatin, but they also produce gels.

Red algae seaweed

AGAR-AGAR

← *Agar-agar powder*

↓ *A dessert made with agar-agar*

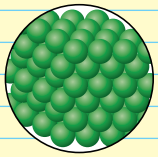
Agar-agar is another gelling agent that comes from polysaccharides in red seaweed. In the seaweed plant cells, agar-agar forms part of the cell wall, or the outer protective layer of the cell. Agar-agar molecules form a spiral shape called a double helix.

GEEK OUT!

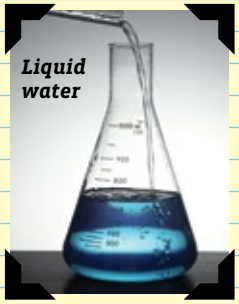
THE PHASES OF MATTER

In the experiment with the glowing ice cubes, you changed liquid water into solid water, known as ice. There are three **phases of matter:** solid, liquid, and gas. This means that pretty much all the stuff you see in the world can be characterized as being in either a solid, liquid, or gas phase.

The atoms of **solids** are packed together densely and have fixed positions in space relative to each other (like bricks in a wall), which makes solids rigid.

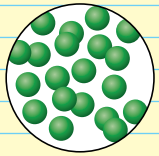


Solid water (ice)

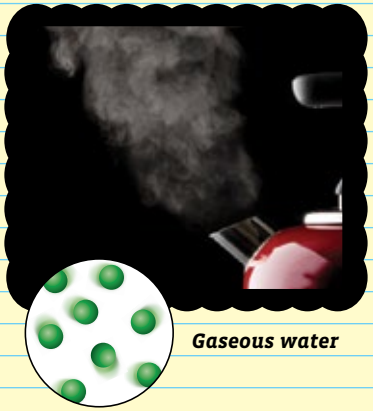


Liquid water

Liquids have atoms that are packed less densely than are those of solids, and while solids form a rigid shape, liquids move freely. But when liquids are poured into a container, they must conform to the shape of the container, except for possibly one surface (like the surface of water in a fish tank).



This is not the case for **gases,** which must conform to the shape of the container entirely (like water vapor in a fish tank, which would have no surface different from the walls of the tank). The atoms of gases are packed the least densely of all three phases, and are in relatively random motion. Gases have no definite shape or volume, can expand and contract greatly with changes in temperature and pressure, and spread easily to distribute themselves evenly throughout a container — hence their total conformity to the shapes of containers.



Gaseous water

Safety for experiments with batteries

⚠ WARNING: This product contains a button cell or coin cell battery. A swallowed button cell or coin cell battery can cause internal chemical burns in as little as two hours and lead to death. Dispose of used batteries immediately. Keep new and used batteries away from children. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

How to insert or replace the battery into the UV flashlight:
Batteries should be installed by an adult or under close adult supervision. Use a small Phillips-head screwdriver to loosen the screws on the battery compartment and lift off the cover. Remove the old battery and install one new 3-volt CR2032 coin cell battery. Pay close attention to the batteries' polarities as indicated on the battery compartment. Close the battery compartment and tighten the screw using the screwdriver.

- An adult should insert and change the battery.
- To operate the UV flashlight, you will need 1 coin cell (3-volt, CR2032) battery, which is included and installed in the flashlight.
- Avoid a short circuit of the battery. A short circuit can cause the wires to overheat and the battery to explode.
- Different types of batteries or new and used batteries are not to be mixed.
- Do not mix old and new batteries.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- The battery is to be inserted with the correct polarity (+ and -). Press it gently into the battery compartment. See above.
- Always close the battery compartment with the lid.
- Non-rechargeable batteries are not to be recharged. They could explode!
- Rechargeable batteries are only to be charged under adult supervision.
- Rechargeable batteries are to be removed from the toy before being charged.
- Exhausted batteries are to be removed from the toy.
- The supply terminals are not to be short-circuited.
- Dispose of used batteries in accordance with environmental provisions, not in the household trash.
- Avoid deforming the battery.

Notes on Disposal of Electrical and Electronic Components:

The electronic components of this product are recyclable. For the sake of the environment, do not throw them into the household trash at the end of their lifespan. They must be delivered to a collection location for electronic waste, as indicated by the following symbol:
Please contact your local authorities for the appropriate disposal location.

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