#### **EXPERIMENTS**

### Sparks in the Dark!

In this experiment, we can see how easy it is to make bioluminescent sparks with a common candy: LifeSavers!

#### Materials:

- Wint-O-Green LifeSavers
  - key ingredient is methyl salicylate, or wintergreen oil!
- A dark room
- A friend, or mirror, so you can watch the sparks fly

### Procedure:

- Enter a pitch dark room, and pop a LifeSaver in your mouth.
- Chew with your mouth open, and watch the candy spark, either via a mirror, or by watching someone else!
- Record your observations.

#### Follow the Shadow

How do shadows change throughout the day? This sunny day experiment shows you exactly how!

#### Materials:

- Tall, free-standing object
- Chalk
- Lab notebook and pencil (optional)

#### Procedure:

- On a sunny day, place your object on the ground.
- With chalk, outline its shadow. Mark the time of the drawing down, either on the ground next to the drawing, or in your lab notebook.
- Repeat throughout the day. How does the shadow change?

#### **CRAFTS**

### **Shadow Art**

There are many different ways to create art from shadows! You can use a flashlight to trace yourself, your surroundings, and even your toys! Here's a more colorful idea that requires a little bit of help from a grown-up.

#### Materials:

- X-acto knife (adult use only)
- Cardboard
- Colored cellophane
- Tape or gluestick

#### Procedure:

- Draw a design of your choice on your piece of cardboard.
- Have an adult use an X-acto knife to cut out your design.
  Place a cutting board underneath to avoid damaging your table!
- Cut out matching shapes from cellophane and tape or glue to the back of your cardboard.
- Take your creations outside and watch your shadow art come to life!

#### **SNACKS**

## **Glowing Shirley**

This sweet, shining drink is guaranteed to brighten up any gloomy day! (requires black light to see the effect)

Ingredients (makes 2):

1 & ¼ cups ginger ale

½ cup grenadine

1 Tbsp tonic water (quinine is the secret, glowing ingredient!) Maraschino cherries to garnish

Directions: Mix ingredients together. Garnish with cherries. Serve under black light!

### **Bright Krispie Treats**

A black light can also reveal the naturally luminescent properties of both Rice Krispies and marshmallows!

Ingredients (12 servings):

- 3 Tbsp butter
- 4 cups mini marshmallows
- 6 cups Rice Krispies cereal
- Glow in the dark sprinkles (optional)

#### Directions:

- Melt butter in a large pan over low heat.
- Add marshmallows and stir until melted.
- Remove from heat, add Rice Krispies cereal, and sprinkles, if desired.
- Coat a baking dish with butter, and evenly press mixture into the pan.
- Cool and serve!

#### **BOOKS**

### Orthodox

Title: Goodnight, Child of God

Author: Drew D. Chancey

Summary: A calming night time book, that reveals the

presence of heaven all around us.

Grade Level: Pre-K

Title: Sasha and the Dragon

Author: Laura E. Wolfe

Summary: A modern fairytale following Sasha, his fears, and how intercessions from Archangel Michael aid him, especially

at night.

Grade Level: K & up

### Scientific

Title: The Science of Light: Things that Shine, Flash, and Glow

Author: Margaret Peot

Summary: Beautifully illustrated book about glowing creatures.

Grade Level: Pre-K - 2

Title: Heinemann First Library: All About Science: All About

Light

Author: Angela Royston

Summary: Simple overview of light and its properties. Contains

a few simple experiments.

Grade Level: K and up

#### **BOOKS**

Title: Light (Fun-Damental Experiments)

Author: Ellen Lawrence

Summary: Step-by-step light experiments, using a variety of

everyday items.

Grade Level: Pre-K - 3

Title: Extreme Planet: The Deep

Author: Laura Cowan

Summary: Wonderfully illustrated lift-the-flap book that delves

deep into - the deep! Lots of interesting facts about the

abyssal zone and the creatures that live there.

Grade Level: 2-5

Title: Night Science for Kids: Exploring the World After Dark

Author: Terry Krautwurst

Summary: A book full of fun, nighttime activity ideas, from

shadow puppets to creating a moth garden.

Grade Level: 3-7

Title: The Universe: Black Holes

Author: Marcia Zoppa

Summary: Good introduction to black holes and how they

form.

Grade Level: 3 - 5

Title: The Magnificent Book of Creatures of the Abyss

Author: Bethanie and Josh Hestermann

Summary: Loaded with facts about abyssal creatures,

alongside amazing illustrations.

Grade Level: 3-6

#### SONGS

Title: Translucent, Opaque, and Transparent Song! YouTube Channel/Artist: Abigail Cash (Mrs. Cash)

Link: <a href="https://www.youtube.com/watch?">https://www.youtube.com/watch?</a>

v=ExV5JAhbYUk&list=RDExV5JAhbYUk&start\_radio=1

Title: "Light and Shadows" Song for Kids YouTube Channel/Artist: Mini Einstein

Link: <a href="https://www.youtube.com/watch?">https://www.youtube.com/watch?</a>

v=201Zx3JG9qk&list=RD201Zx3JG9qk&start radio=1

Title: Black Hole Song for Kids | Facts About Black Holes | The

Black Hole Song

YouTube Channel/Artist: Silly School Songs Link: <a href="https://www.youtube.com/watch?">https://www.youtube.com/watch?</a>

v=EMXpF6AECC8&list=RDEMXpF6AECC8&start radio=1

Title: Ocean Layers Song for Kids | Learn Sunlight, Twilight,

Midnight, Abyss, Trenches Zones + Sea Animals

Youtube Channel/Artist: Teacher Patrick Link: <a href="https://www.youtube.com/watch?">https://www.youtube.com/watch?</a>

v=OxcP61zejuE&list=RDOxcP61zejuE&start radio=1

Title: Guardian Angel Polka

YouTube Channel/Artist: Ancient Faith Kids - Rocko's Music

Factory

Link: <a href="https://www.youtube.com/watch?">https://www.youtube.com/watch?</a>

v=qa VruYLzCU&list=RDqa VruYLzCU&start radio=1