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THE LIGHT PRINCES

EDUCATIONAL RESOURCE GUIDE
AGES 6-16





Dear Reader,

We are so excited to share our comic series, *The Light Princess*, with you!

This incredible fairy tale was originally written by Scottish author, George MacDonald in 1864. The story is full of allegory and metaphors, and loved by many regardless of age and gender. While it was originally written for children, both C.S. Lewis and J.R.R. Tolkien loved this story, and considered MacDonald the inspiration for their well-known works, *Narnia* and *The Lord of the Rings*.

In light of this, this study guide has been designed to enrich the story for ages 6-16, and has been broken up into three levels of activities: beginner, intermediate and advanced. We hope that this educational guide is something that your whole family can go through together, and help draw out just some of the richness that MacDonald infused throughout this beautiful story.

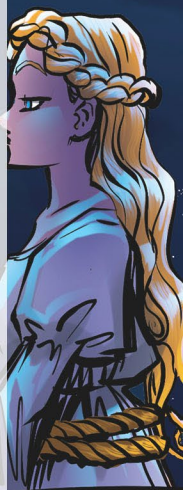
How to Get the Comic Series

If you do not already have the series, you can find it digitally on [ComiXology](#), read it for free on [Webtoon](#), or buy a physical series on [Amazon](#).

If you have younger children, you can download the [edited version of Issue 1](#) that has removed pages 7-13 to make it more appropriate for children. The free webtoons version has also been edited, and the rest of the series is appropriate for all ages.

About Cave Pictures Publishing

Our projects include wholly original works by acclaimed artists in the comics industry as well as original adaptations of existing works. We work in many genres, including: supernatural fiction, historic fiction, fantasy, and science fiction. To learn more about us, check out our website at www.cavepicturespublishing.com or find us @cavepublishing on [Facebook](#), [Twitter](#) and [Instagram](#)!



SCIENCE

BEGINNER

The Light Princess lived with no gravity. While it is impossible to have zero gravity on earth, astronauts who travel into outer space have to figure out how to navigate what it is like to live in a place with no gravity!

Research what it would be like to live with no gravity, and write one paragraph describing some of the things that astronauts have to do in order to function in outer space. Here are some helpful links to get you started:

- a. [How do astronauts wash their hair in space?](#)
- b. [How do astronauts brush their teeth in space?](#)
- c. [How do astronauts sleep in space?](#)

INTERMEDIATE

Gravity is essential to our life on earth! Watch this short video about gravity, and then write a down three new things you learned about gravity.

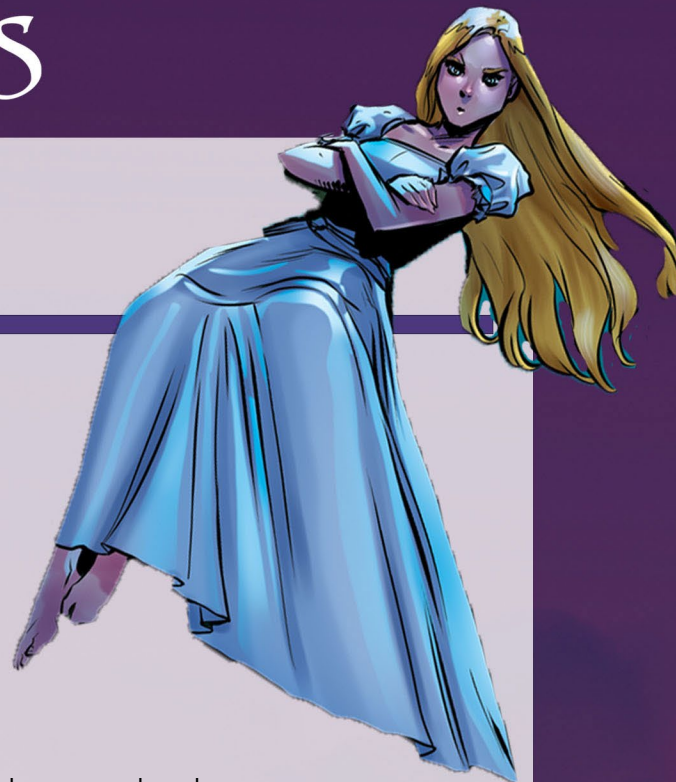
- a. [Gravity Compilation from Crash Course Kids](#)

ADVANCED

In the Light Princess, she is only able to feel weight when she is in the water. This is the opposite for humans, as we feel lighter when we are in the water! Research more about Archimedes Principle and Buoyancy, and write a paraph explaining in your own words why we feel lighter when we are in the water. Here are some helpful links to get you started:

- a. [How Taking A Bath Led To Archemedes Principle](#)
- b. [The Real Story Behing Archemedes' Eureka](#)
- c. [Why Do We Weigh Less In Water?](#)





ENGLISH

BEGINNER

Imagine what it would be like to live with no gravity. Write and illustrate a short story about what a day in your life would be like if you had no gravity!

INTERMEDIATE

The Light Princess is full of puns, which is when you take a homonym and play off the different meanings. A homonym is a word that is spelled the same but has two or more different meanings. For example, George MacDonald wrote about how the princess doesn't have any physical gravity, which means that she floats, but she also doesn't have any emotional gravity, which means that she cannot feel complex emotions. Here are some other examples of puns:

- Ballet is best learned using proper steps and stages.
- Dyslexic prisoners are not helped by long sentences.
- Websites about wild cats usually have lynx.
- To fix a broken clarinet get an instruction manual and give it a good reed.
- A hot-headed prince needs heir conditioning.
- A harp which sounds to good to be true is probably a lyre.

Choose any 5 of the following words and create 5 puns of your own!

Right
Rose
Type
Net

Leaves
Foil
Engaged
Date

Point
Crane
Gravity
Light

ADVANCED

While many people want to be happy all the time, we see that this is not always a good thing in the Light Princess. Since she can only feel very shallow emotions, she is not able to engage her heart. Write a paragraph explaining why it is important that we be able to feel deeper emotions like sadness, guilt, reflection and compassion.



HISTORY

BEGINNER

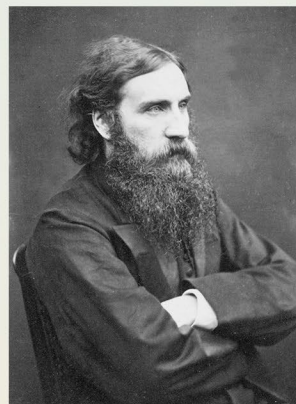
Research the author of the Light Princess, George MacDonald, and make a list of 10 interesting facts that you learned about him.

INTERMEDIATE

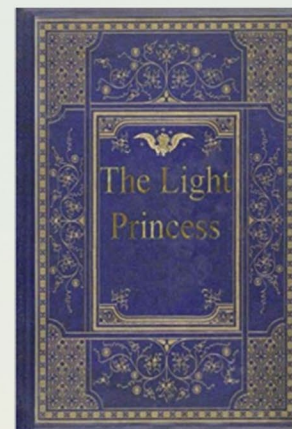
George MacDonald was the author of the book, *The Light Princess*. Some of the people who loved George MacDonald and were inspired by his books were C.S. Lewis, the author of the Narnia books, J.R.R. Tolkien, the author of *The Lord of the Rings*, and Lewis Carroll, the author of *Alice in Wonderland*. Research two of these other authors, and write a paragraph explaining how you can see the influence of George MacDonald in their works.

ADVANCED

George MacDonald is often called with father of Fantasy literature. Do some research on the definition and history of the fantasy genre, and write a persuasive essay about why it is important for children to read fantasy books when they are growing up.



George MacDonald





MATH

**answers are found at the end of this PDF*

BEGINNER

When the prince came to save the light princess, he jumped off the cliff into the water. The princess loved the feeling of falling, as she had never felt this before! If the cliff was 42 feet tall, and when they landed in the water they sank 12 feet down, how many total feet did the princess fall? How many total inches did the princess fall?

INTERMEDIATE

The Evil Princess Makemnoit had to make a potion to make the Light Princess float. Can you help her figure out how much rose water she needs?

Recipe:

The Evil Makemnoit wants to make 2 cups of potion. $\frac{1}{4}$ of the potion is water distilled directly from a cloud and the rest is perfume. $\frac{1}{3}$ of the perfume is sunflower water and the rest is rose water. How many cups of rose water does she need?

ADVANCED

When the prince and princess jumped off the cliff, they fell for a total of 1.5 seconds before they hit the water. How fast were they falling when they hit the water?

This problem is much easier to figure out than it sounds! If we assume that the prince and princess just stepped off the edge of the cliff and didn't run off the edge, then we can use the formula for a free-falling object. The formula is:

$$\text{Velocity} = (\text{the force of gravity}) \times (\text{time falling})$$

This formula can be abbreviated as:

$$v = gt$$

We know that gravity pulls an object towards earth at a speed of 9.8 m/s^2 , and so we can use this value for the force of gravity. We also know that velocity is the same as speed, but just has a direction. In this case, the direction is downwards since they are falling.

- How fast were the prince and princess moving in meters per second when they hit the surface of the water?
- Convert their speed to miles per hour.



ART

BEGINNER

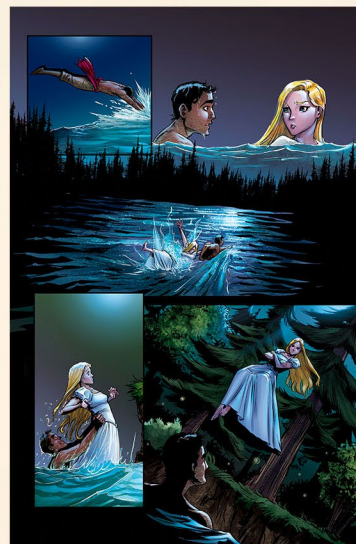
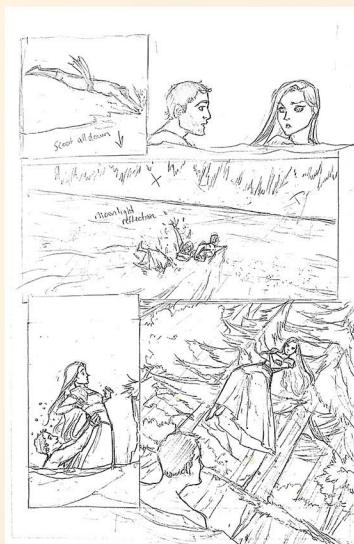
When people create comic books, the illustrator is different than the person who colors in the drawings! In the Light Princess Comic Series, Renae DeLiz was the illustrator and Ray Dillon was the colorist. Look through your series and try to find the panel of art that we are giving you, and practice coloring it as if you were Ray Dillon! (Resource 1 at the end of this PDF)

INTERMEDIATE

Follow along with this [video of Renae DeLiz](#) drawing the Light Princess, and try to draw her yourself!

ADVANCED

In the Light Princess, George MacDonald tells a few funny stories about what it was like for the Light Princess to grow up without gravity, however we can be sure that there were many other funny things that would have happened that he did not include in the story. Imagine a funny scene that could have happened during the Light Princess' childhood, and practice drawing and coloring a 4-panel comic book page to tell this story. (Resource 2 at the end of the PDF)



RESOURCE 1



RESOURCE 2

MATH ANSWERS

MATH ANSWER KEY:

1. The answers are:

a. ***They fell a total of 54 feet.***

42 feet + 12 feet = 54 feet.

b. ***This is the same as 648 inches.***

We know that there are 12 inches in a foot, and so in order to convert 54 feet to inches, we multiply 54 by 12 and get 648 inches.

2. ***The recipe calls for 1 cup of rose water.***

First, you have to find how much of the potion is water from a cloud, which we are told is $\frac{1}{4}$ of 2 cups, which is $\frac{1}{2}$ cup. When you subtract this from the total 2 cups, this leaves $1\frac{1}{2}$ cups, which is the perfume. Now, you need to find how much of the perfume is sunflower water. We know that $\frac{1}{3}$ of the perfume is sunflower water, and so $\frac{1}{3}$ of $1\frac{1}{2}$ cups is $\frac{1}{2}$ cup. Thus, $1\frac{1}{2}$ cups minus $\frac{1}{2}$ cup leaves you with one cup, which is the rose water.

3. The answers are:

a. ***Their velocity at impact was 14.7 meters per second.***

Using the equation $v = gt$, we can plug in $g = 9.8 \text{ m/s}^2$. We will also plug in $t = 1.5 \text{ s}$. Therefore, $v = (9.8 \text{ m/s}^2)(1.5 \text{ s})$. When you multiply these two together, you get $v = 14.7 \text{ m/s}$.

b. ***This converts to 32.8 miles per hour.***

In order to convert 14.7 m/s to mi/h, you have to know how many meters are in a mile, and how many seconds are in an hour. A quick internet search will tell you that there are 3600 seconds in an hour, and 1609.344 meters in a mile. In order to convert, you can just multiply the following:

$$\frac{14.7 \text{ meters}}{\text{second}} \bullet \frac{1 \text{ mile}}{1609.344 \text{ meters}} \bullet \frac{3600 \text{ seconds}}{1 \text{ hour}} = 32.8 \text{ miles/hour}$$

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PRINCES

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