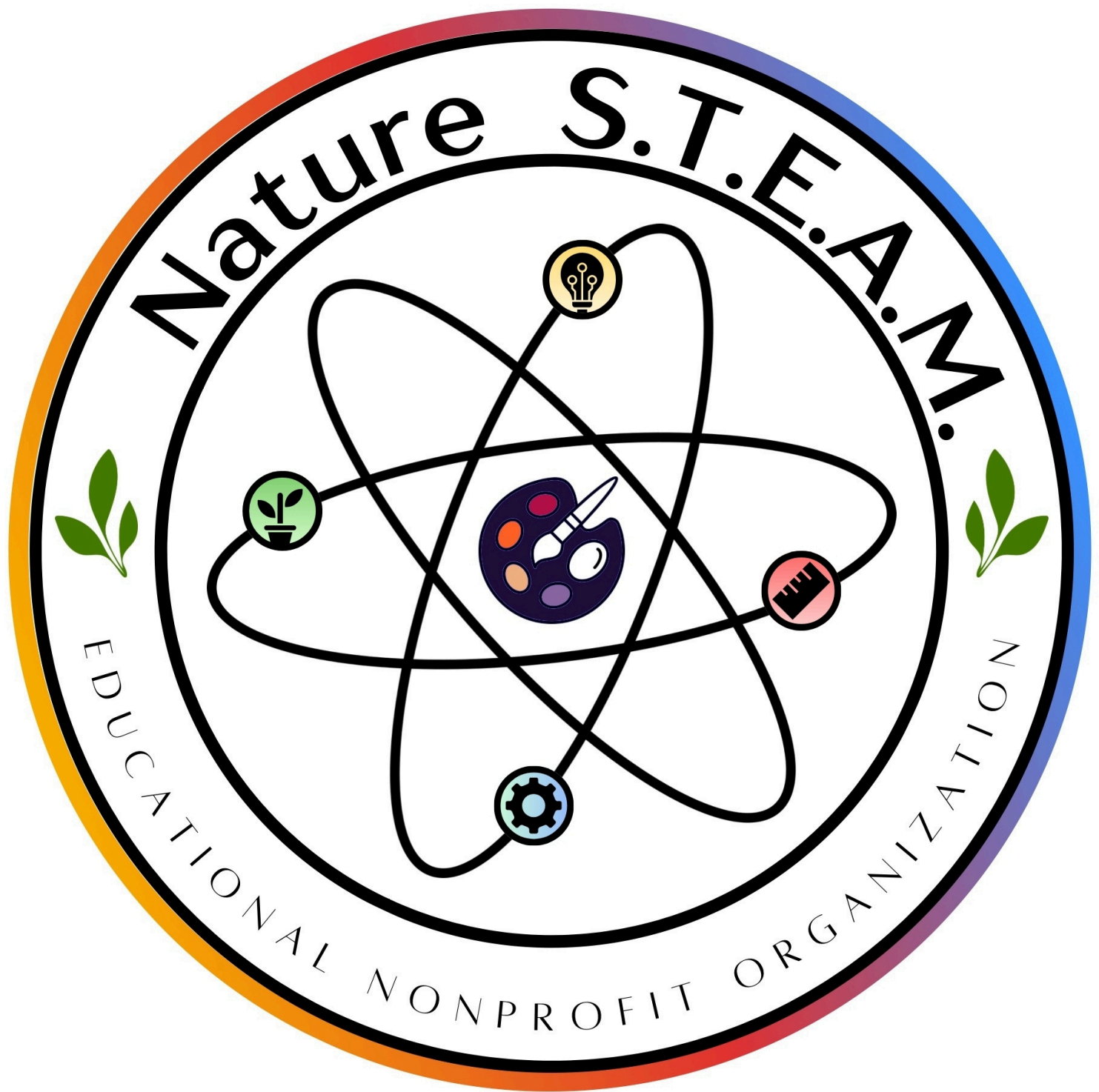
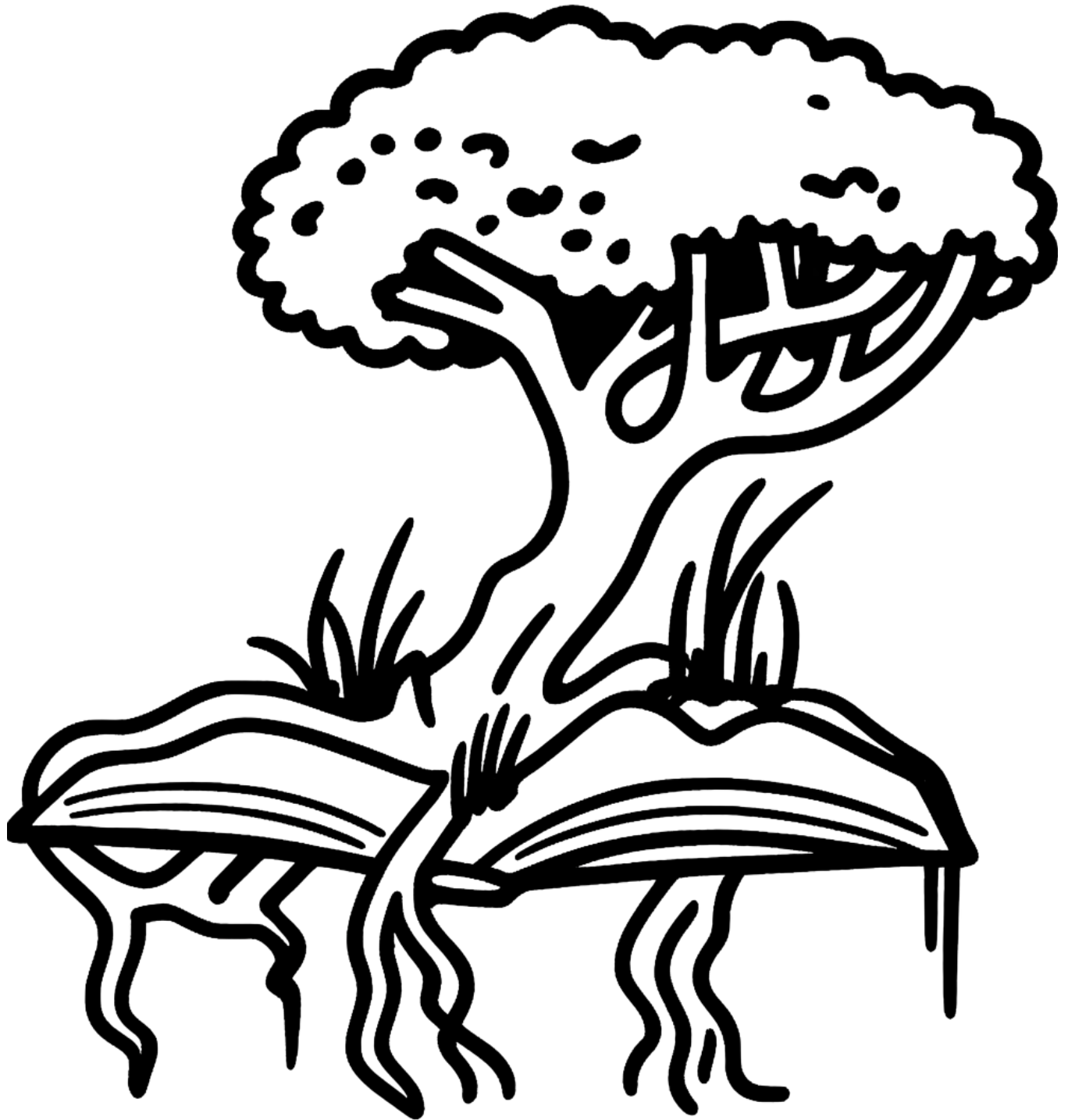


Nature Glows: Rooted in Reading



NatureSTEAM Workbook

Nature Glows: Rooted in Reading



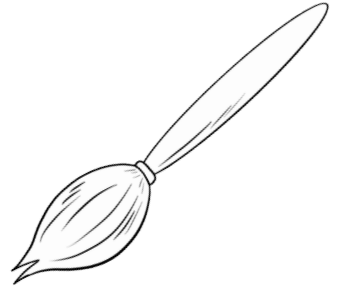
Interactive Learning Workbook

Name:

INTERACTIVE LEARNING WORKBOOK:

INTRODUCTION

2. What is NatureSTEAM?



ROOT SYSTEMS

4. How do plants grow?

5. Tree Root Connection Activity

6. Grow your own plant activity!

7. Coloring Plants Activity

TABLE OF CONTENTS

SCAVENGER HUNT

8. Nature Scavenger Hunt!

NATURE GLOWS

10. What is bioluminescence?

11. Night Sky Glow Activity

12. Glow in the dark paint activity!

13. Coloring Glowing Animals Activity

REFLECTIONS

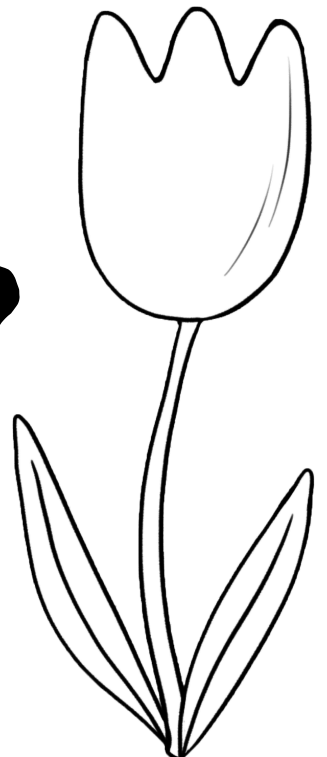
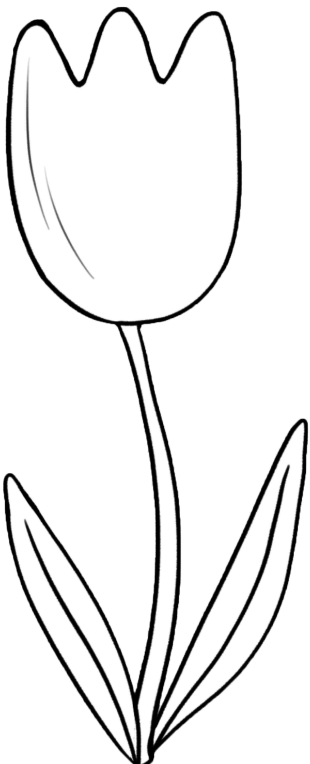
14. Nature Glows: Rooted in Reading Reflection



???



**WHAT IS
NATURESTEAM?**



S.T.E.A.M + ART & NATURE!

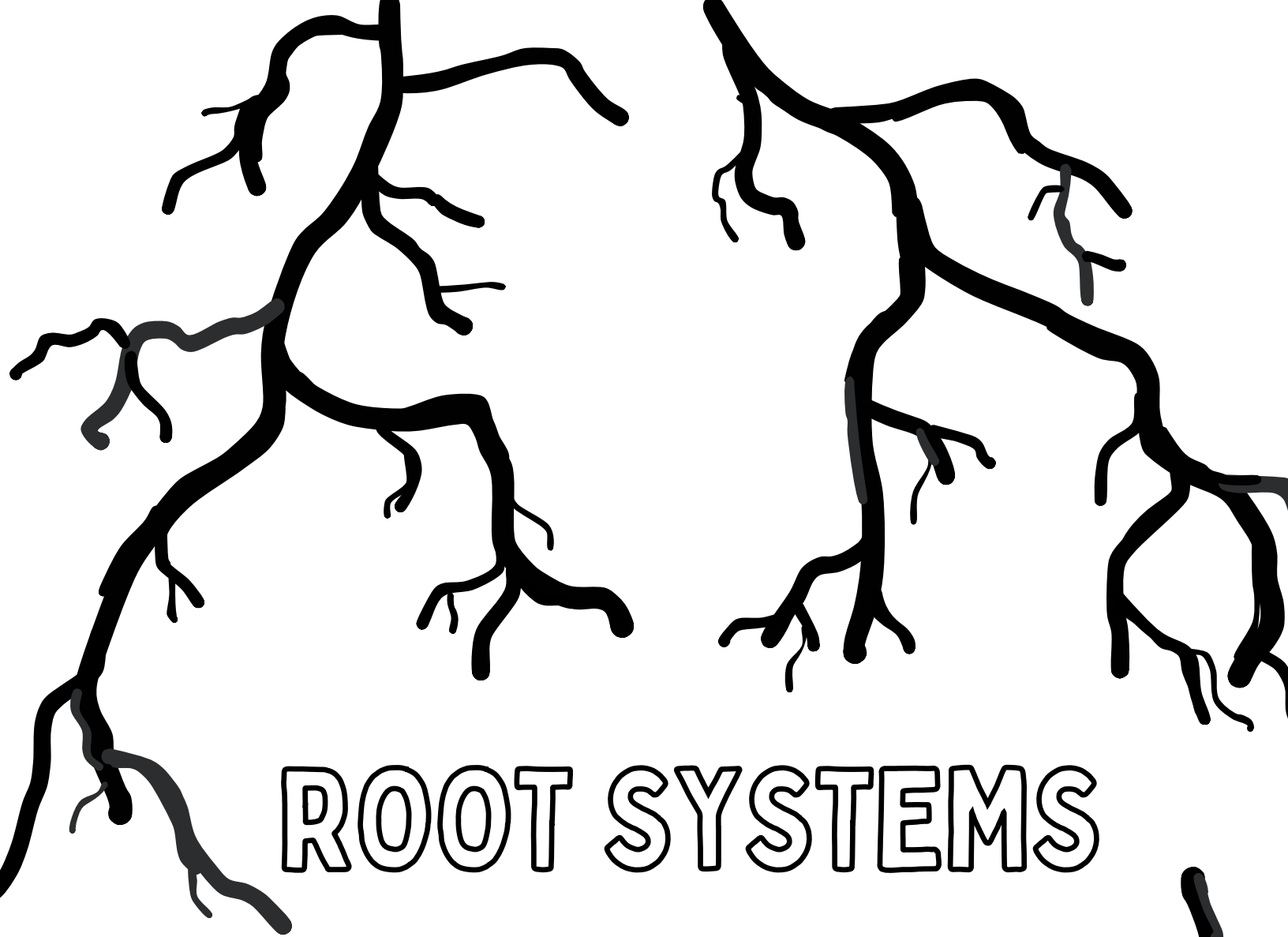
NatureSTEAM is a hands-on education nonprofit dedicated to exploring S.T.E.A.M. education through art and nature. Our program blends science, creativity, and outdoor learning to spark curiosity, confidence, and environmental stewardship.

S.T.E.A.M IS...

- science
- technology
- engineering
- arts
- mathematics

What are things in nature that
glow or follow a system?

DRAW SOME BUGS THAT GLOW OR NATURE SYSTEMS!



ROOT SYSTEMS



HOW DO PLANTS GROW?

How do plants get energy?
How do plants become fruits
and vegetables?

It all begins
with photosynthesis!

Plants grow using photosynthesis!

Photosynthesis is the process where plants
transform light into energy to grow.

Through this process they
convert water, carbon dioxide, and
minerals into oxygen and energy-rich
organic compounds.

Petals:

Petals attract pollinators like
bees and hummingbirds. Their
bright colors and natural
fragrances draw in animals that
support the reproductive process
of flowering plants.

Stems:

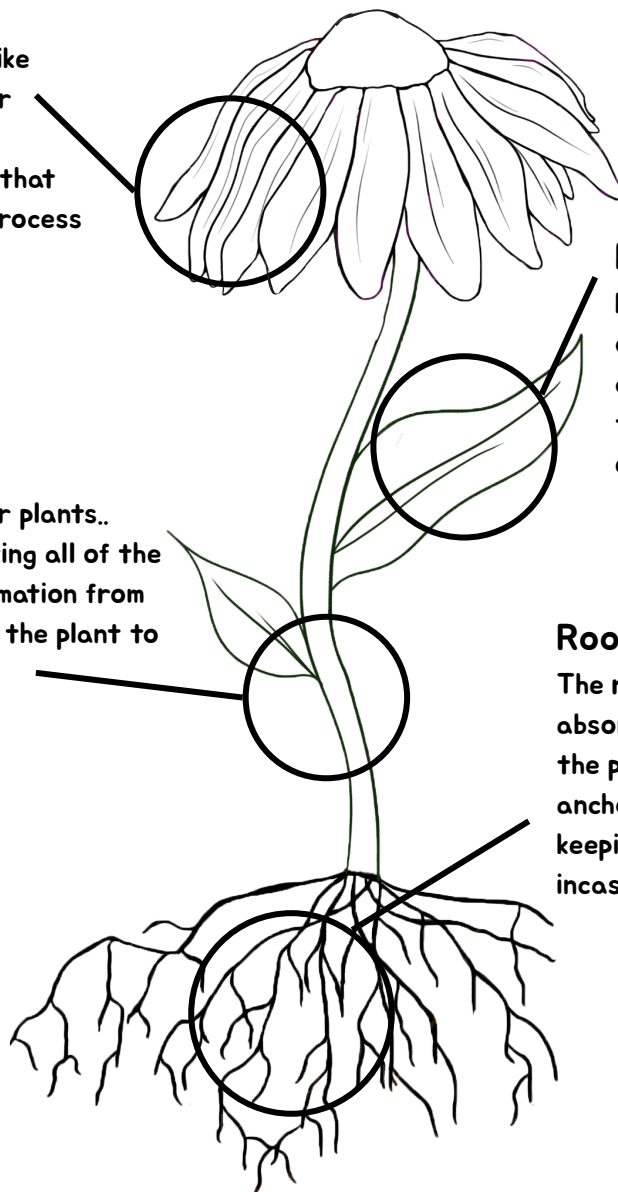
Stems provide structure for plants..
Stems also aid in transporting all of the
nutrients, water, and information from
the roots up to the rest of the plant to
help it grow.

Leaves:

Leaves aid in photosynthesis and growth
of a plant. The leaves captures carbon
dioxide, sunlight, and water and turns
these into Glucose and Oxygen which is
energy for the plant and a gift for us.

Roots:

The roots act as a mouth for the plant,
absorbing all of the water and nutrients that
the plant needs. The roots also act as an
anchor and storage for the plants body,
keeping it in the ground and storing food
incase it become difficult to find any.



TREE ROOT CONNECTION ACTIVITY



Start here!

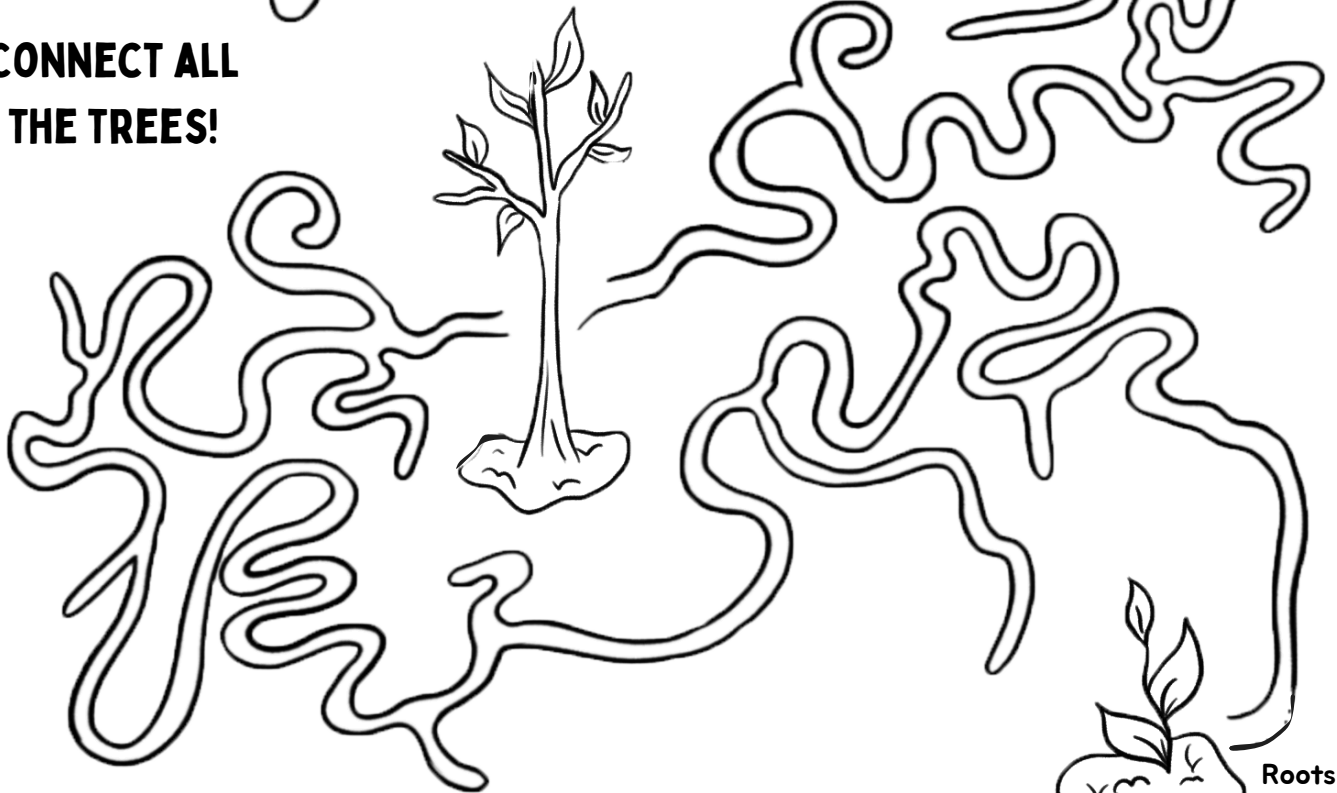
Did You Know?

Trees have an amazing way of helping one another! Their roots connect underground, creating a network that helps keep trees strong during harsh winds and storms. Scientists have also discovered that older

'mother trees' can send nutrients and energy through these root connections to younger trees, helping them grow and survive. Trees are a great example of community—when we support and help each other, everyone grows stronger together!



**CONNECT ALL
THE TREES!**



**Roots
Connected!**

GROW YOUR OWN PLANT ACTIVITY

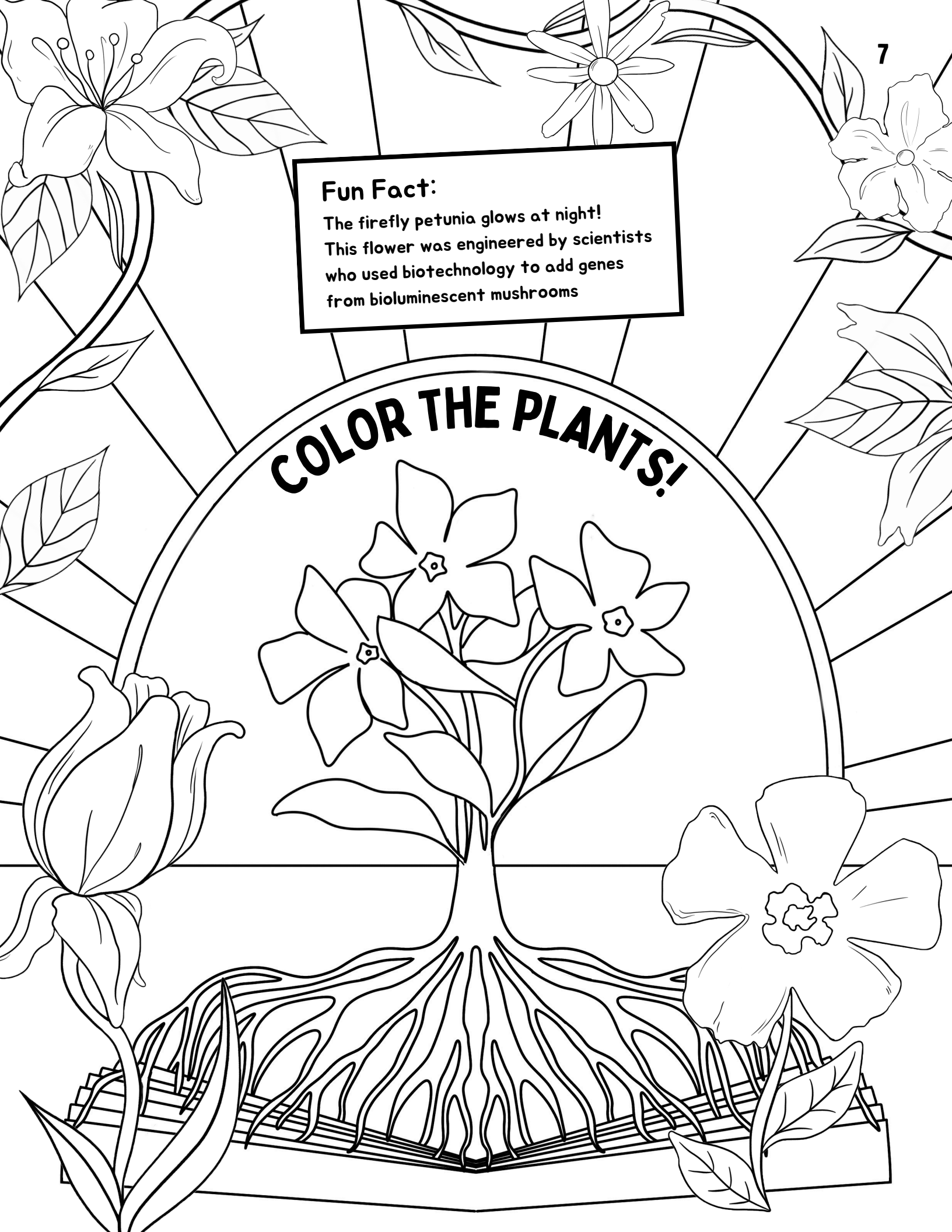
Grow your very own plant to take home!

- Design your recycled planter
- Pick out a seed to grow
- Learn how to take care of your plant and help it grow
- Plant the seed in soil, put it in direct sunlight when you get home, water it every day, and watch your plant grow over the next few weeks!

Draw your plant when it grows!

Fun Fact:

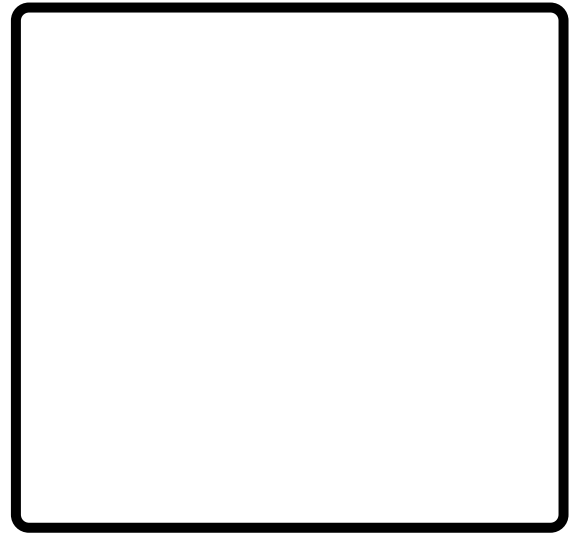
The firefly petunia glows at night!
This flower was engineered by scientists
who used biotechnology to add genes
from bioluminescent mushrooms

COLOR THE PLANTS!

NATURE SCAVENGER HUNT

In this activity, we are going to do a scavenger hunt for books about roots and systems in nature. Find one of these books in the library, read a bit about it, come back and tell us an interesting thing you learned to earn a prize!

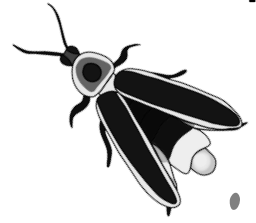
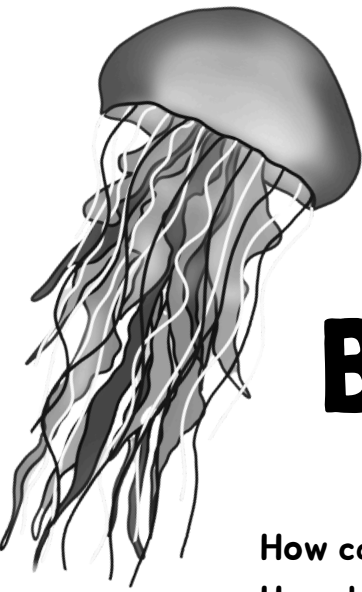
What did you learn?



Did you know? 1/2

There are multiple beaches around the world that glow at night! One of them is Toyama Bay, located in Toyama, Japan. Stick around and learn why in the next section!





WHAT IS BIOLUMINESCENCE?

How can nature glow?
How do fireflies light up?

The answer is bioluminescence!

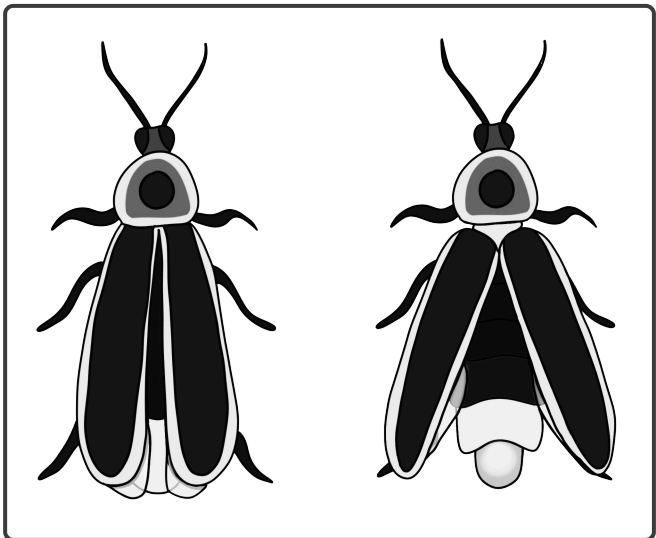
Did you know? 2/2

Toyama Bay, located in Toyama, Japan glows because of the firefly squids and algae illuminate its water! The glow comes from the squids internal organs and attracts mates while confusing predators

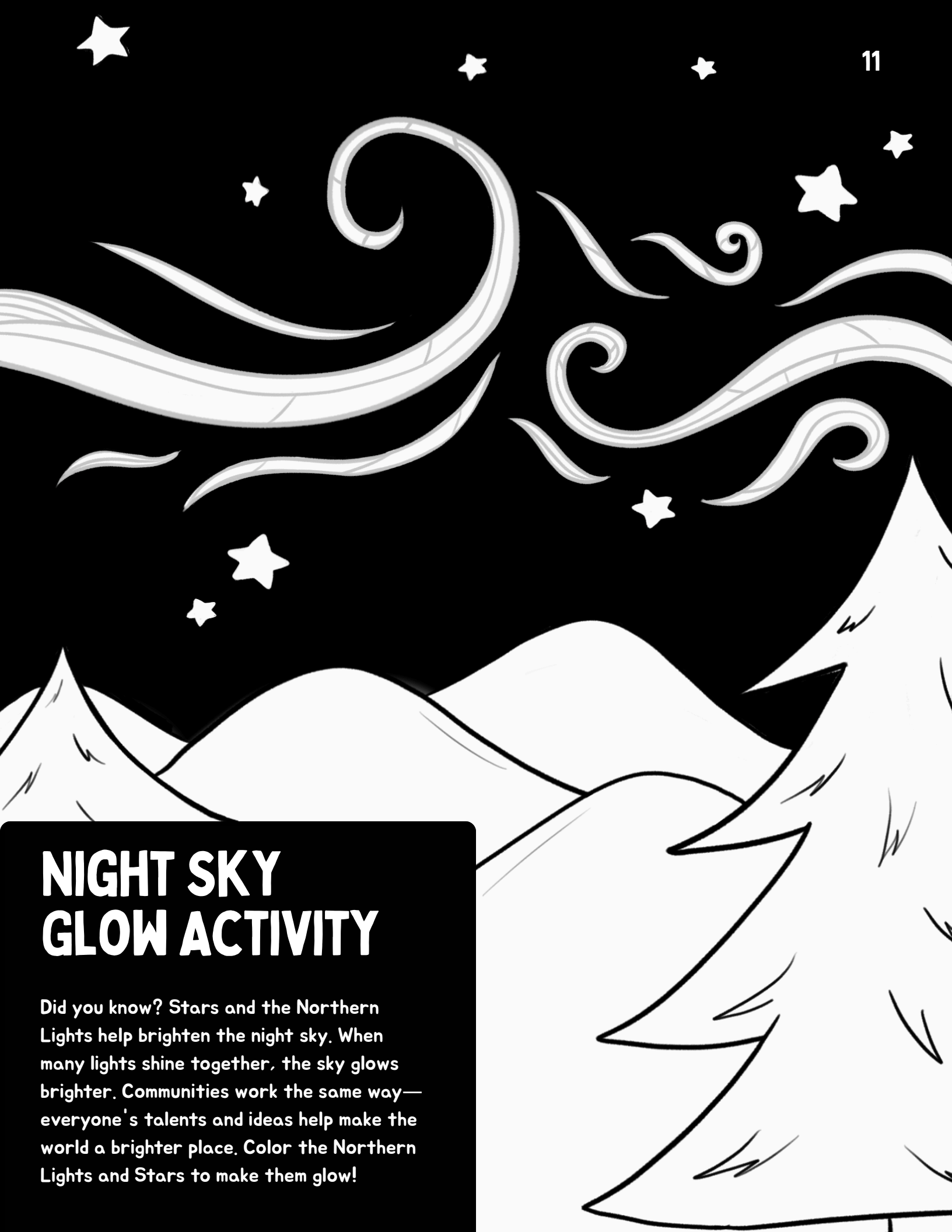
About Bioluminescence:

Nature and animals glow through a chemical reaction called bioluminescence!

Bioluminescence is a process many animals and natural systems use to produce light, making them glow!



This glow helps them survive in the dark by confusing predators, attracting prey, and as a form of communication!

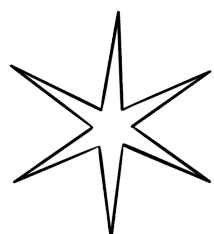


NIGHT SKY GLOW ACTIVITY

Did you know? Stars and the Northern Lights help brighten the night sky. When many lights shine together, the sky glows brighter. Communities work the same way—everyone's talents and ideas help make the world a brighter place. Color the Northern Lights and Stars to make them glow!



NATURE GLOWS PAINTING ACTIVITY



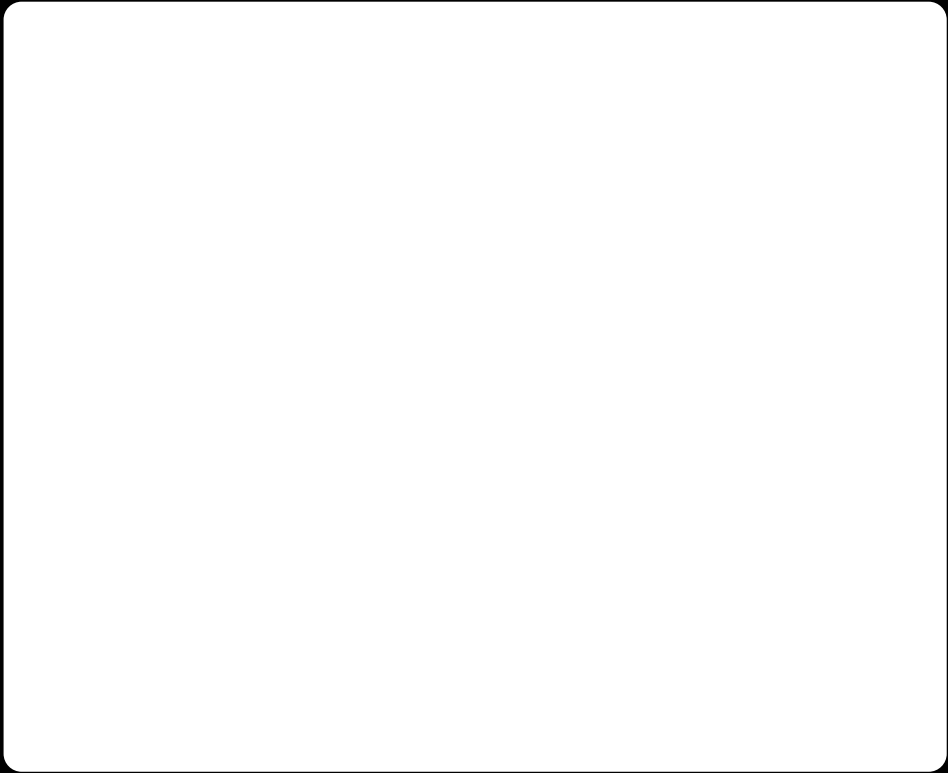
Paint your own Glow in the Dark Rock!

- Grab all of your materials
- Pick out a rock
- Brainstorm what you would like to paint
- Begin drawing and painting your glow in the dark rock and watch it glow at night when you go to sleep!

Did you know?

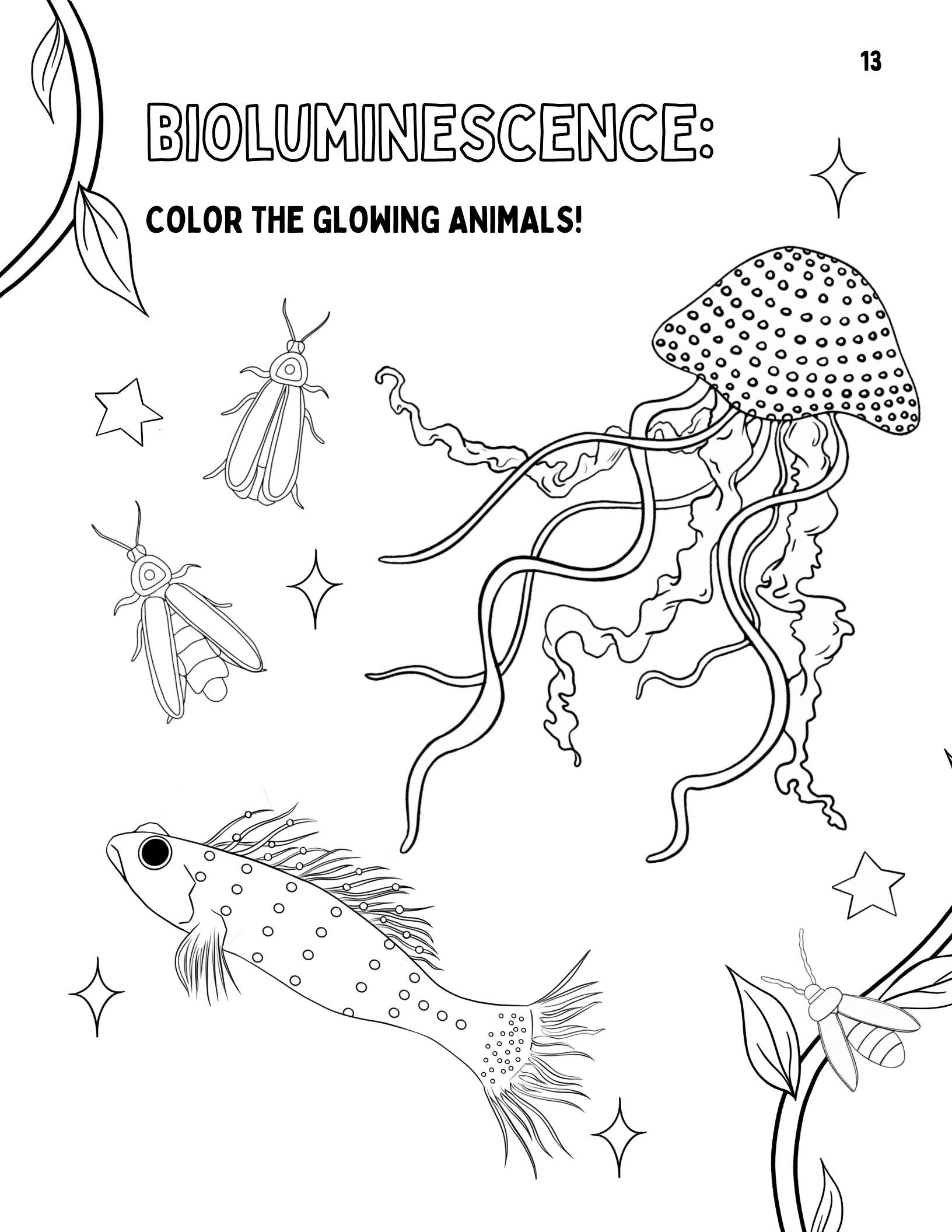
There are many rocks that glow or change colors when it's dark or when black light is shone on them? Some examples of this are Yooperlites and Fluorite!

Draw your rock when it glows!



BIOLUMINESCENCE:

COLOR THE GLOWING ANIMALS!





REFLECTION:

3 things you learned about today:

--	--	--

The most interesting thing you learned was:

--

What is one thing you want to learn more about?

--

What has been your favorite part about the Nature Glows: Rooted in Reading coloring workbook?

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