



UV Bead Buddy

Smiley Face Key Chain made with UV Sensitive and Glow in the Dark Beads

Muria Everitt, 4-H Afterschool Coordinator
Shannon Cromwell, Extension Associate Professor
Matt Palmer, Extension Associate Professor
Brandi Reber, Youth Programs Coordinator
Utah State University Extension, Sanpete County

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Introduction

This kit comes with very special beads. They are sensitive to Ultraviolet Rays AND they glow in the dark! The ultraviolet-sensitive pigment (substance that gives the beads color) changes the beads from white to a variety of colors right before your eyes when you take them outside. This shows that the invisible Ultraviolet (UV) rays are all around even if you cannot see them. These rays will give you a sunburn if you are not careful. The beads also contain a special substance in them called phosphors. Phosphors give off visible light after being energized, meaning they have to soak up light for a while before they will glow in the dark. The phosphors in the beads can be charged using the light from inside or outside. The beads in this kit will be used to make a Smiley Face key chain.

Objectives

By making this project youth will learn a basic understanding that Ultraviolet rays are present outside and that glow in the dark beads need to be energized or charged to glow. Youth will also be able to follow step by step instructions on how to create a Smiley Face "bead buddy" key chain.

Supply List

- Instructions
 - 75 UV Sensitive Beads
 - 8 Black Beads
 - 4.5 Feet of Clear Cord
 - 1 Metal Snap Hook
- with Key Ring

Do:

Step 1

1. Lay out all of the materials.
2. It may be helpful to put the beads in a bowl while you are putting together this project.
3. Read through the instructions before you proceed.



Step 2

Put the cord on the key chain

1. Fold the cord in half and pull through the key ring.
2. Pull the ends of the cord through the loop and pull snug. (See pictures for reference, black cord used for visibility)



Step 3

String the Beads, Follow the Diagram

1. Thread row 1 (6 UV beads) onto the left cord.
2. Thread the same row with the second cord going in the opposite direction. (see picture)
3. Pull snug but not too tight or the beads will bunch and not lay flat.

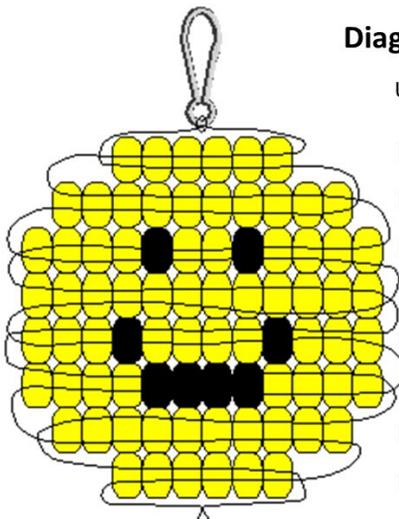


Diagram reference for stringing Beads

UV= Ultraviolet Beads Blk= Black Beads

Row 1- 6 UV

Row 2- 10 UV

Row 3- 4 UV, 1 Blk, 2 UV, 1 Blk, 4 UV

Row 4- 12 UV

Row 5- 3UV, 1 Blk, 4 UV, 1 Blk, 3 UV

Row 6- 4 UV, 4 Blk, 4 UV

Row 7- 10 UV

Row 8- 6 UV



Step 4

Continue Stringing Beads

1. Use the photo diagram from Step 3 to determine how many beads are needed per row.



Step 5

Tie the Cord

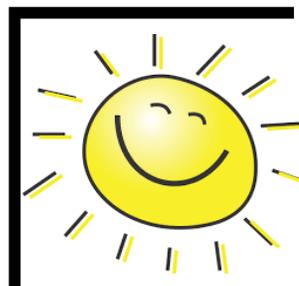
1. Once you have completed every row you will need to tie the two ends of the cord together to finish your project.
2. Be sure to tie a double knot to ensure the beads do not fall off. (A dab of super glue will help secure the knot if you have some.)



Step 7

Take It Outside

1. Now that your Smiley face is complete you will want to take it outside.
2. This is the best part of the project. How quickly did your beads change color?
3. Notice how fast the beads change depending on how sunny it is outside.



Step 8

Go to a dark room

1. Once your beads are charged from exposure to light (indoor or outdoor) take them to a dark room and watch what happens.
2. They GLOW! These are pretty special beads.



Final Product

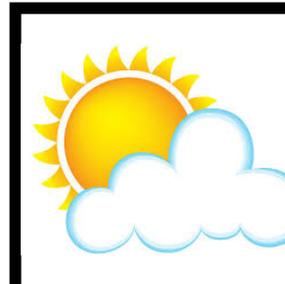
Finished Smiley Face

1. Hang your key chain on your backpack or on a set of keys so that you can make observations about UV rays everywhere you go. It will also be easy to see in the dark.



Reflect

- Why do the beads change color outside?
- Do the beads change color faster when it is sunny or cloudy? Why do you think it matters?
- What do you need to do to make the beads glow in the dark? Why do they glow?



Apply

- Remember the invisible UV rays the next time you are going to be outside for a long time. Be sure to protect your skin by putting on sunblock.
- You can do an experiment to see how well sunblock works. Start by putting a handful of beads into a few different clear zipper bags. Then apply or rub different SPF sunblocks onto the outside of the bag. Lay the bags in the sun and see if the sunblock protects the beads. Be sure leave one bag without sunblock so that you can see the differences.



Mastery

- Look for more bead buddy templates online (also called bead animals.)
- Make a bead buddy to display at your County Fair.
- Make a variety of bead buddies and give them as gifts for birthdays and holidays.
- Make a display of the sunblock experiment to enter in your County Fair.



For additional Help

Please watch our tutorial on You Tube:

<https://www.youtube.com/watch?v=cYf6TQzjM74>