Where is Roy G Biv?

Each letter in **Roy G Biv** stands for the initial of one of the colors in a rainbow that forms in the sky or when white light is refracted or bent as it passes through water vapor in the atmosphere or a prism. There are excellent explanations, videos and pictures online on how rainbows are formed that will be able to answer questions that may come up.

R = red
0 = orange
Y = yellow
G = green
B = blue
I = indigo
V = violet

First, See the Rainbow
If you have a prism or crystal, hold it so that the sun will shine through and bend the light, reflecting the rainbow off the wall. Depending on the prism, you may or may not see all seven colors.
If it has recently stopped raining and the sky has cleared you can go outside and search for an actual rainbow. You can search the sky for a rainbow when the sun is about midway up or down and look in the sky opposite of the sun. Water vapor in the atmosphere acts the same way as the prism, refracting or bending the sun's light and splitting it into the seven colors that make up white light. This creates the rainbow that we see.

You can also create a rainbow by using your garden hose and spraying a light mist high in the air on a sunny day. You may need to move around to find the right angle to see the rainbow.

You can also search online for pictures or images of a rainbow if your student hasn't directly experienced one.

Second, Find the Rainbow
Once you have discussed rainbows, challenge your student to find each color of the rainbow in your yard. You will need a sheet of paper for each color and a box of crayons from which you can select the colors of a rainbow.

Place the first sheet of paper on a clipboard or piece of stiff cardboard with a paper clip. Grab the red crayon and head outside. The student can draw everything they find with the color red. In my yard I would see the red azalea beginning to bloom, a male cardinal and my neighbor's red car.

Here are the colors and what I found in my yard:

Red – azalea flowers, cardinal, a neighbor's car

Orange – the center on some daffodils, the orange seeds on maple trees

Yellow – dandelions, the outer petals of the daffodils, the yellow garden hose

Green – all the different color green leaves from a pale light spring green to a deep dark green in holly leave

Blue – bluebirds, blue jays, tiny blue yard flowers called speedwell, and the blue sky

Indigo – a very dark bluish purple color. A bird called a Grackle is an iridescent indigo when the sun reflects off its feathers.

Violet – Wood violets are everywhere in my yard, also henbit, a small light purple flower, and on the edge of some species of grass blades there is a very thin edging of violet. You need to look closely.

Choose one color a day so that by the end of the week all the colors have been found. Plan the activity for no more than an hour of the day so he/she doesn't get bored. Colors do not need to be in the order of a rainbow. I have searched for rainbow colors with the rule that if I hadn't gotten to that color, I must remember where I saw it so that when I got to the color I can find it again and draw it. I am allowed to go back to a page I have already created but not forward. These decisions are best decided individually and based on the age of your student.

Once all the colors are discovered in the yard, put all the pages together in a book. Make a cover with an interesting title such as "ROY G BIV Visits Suzie's Yard" Write a short story of what Roy G Biv did and saw on his visit. Colors will change with the season so the book can be continuously updated with summer and fall visits.

Extension:
When you visit a paint store ask for a few strips of paint color samples. Put the strips into a box and without looking pull out one of the paint sample strips. Go outside and try to match the color. These colors are the many shades between the main colors we see in a rainbow.