Solar Eclipse Activity Idea	
About this project	This Scratch Project is designed for students who have some familiarity with Scratch and serves as a great way to introduce or reinforce use of the glide and change brightness effect blocks. This project integrates Science, Geography, and valuable research skills. <u>Here is a link to an example project.</u> Note: This is an open ended project, instructions are general and not exact step by step in order to preserve uniqueness and creativity of each project. Fun Idea: Have students pick a town or city in the Total Path of Totality. Students can research the location, fun facts, and start and end time of partial and total totality. The location they researched will serve as the backdrop for their project. Teacher Resource: Keep track of the Scratch blocks you have covered and ones you would like to introduce with this FREE customizable <u>Scratch Skills</u> <u>checklist</u> , from Mrs.Geeky.
Scratch Blocks you might use in this project.	Events: when green flag clicked when sprite clicked Motion: glide Control: repeat wait Looks: hide show switch backdrop to
Let's get excited!	Talk to students about the upcoming total eclipse. Here is a great video from NASA that explains a Total Solar Eclipse. <u>https://youtu.be/hyf5JF_VxwM</u> Also from NASA is a comprehensive interactive website. <u>https://science.nasa.gov/eclipses/</u> Here <u>are Eclipse related activities</u> you can do with your students from NASA QR codes for links below.
Instructions:	 Explain to students they will be creating a project that will simulate what happens during a Total Solar Eclipse if one is in the Path of Totality before, during, and after. Have students brainstorm and take notes on what their project will look like. What will the location be; city, rural, school, etc. What sprites will they need in addition to Sun and Moon; animals, people, trees, etc.

What will change/happen in the environment during the eclipse; temperature, animals, what else?

- 3. Have students create a storyboard based on the brainstorming prior to starting their project. Students should sketch out their idea sequentially for the Scratch project and blocks they might use.
- 4. Students will go to <u>scratch.mit.edu</u> and log in, if they don't have a Scratch account they can still create the project. Students can save their project locally and use the File | Load from your computer to upload their project when needed.
- 5. Students will create or import a backdrop for their project. (make sure students use the "switch backdrop to" block in the beginning so the correct backdrop appears.
- 6. Students add sprites for their project.
- 7. Students code their project illustrating what a Total Solar Eclipse will look like before, during, and after. You may want to review the following blocks with students.
 - a. Motion: "Glide _ seconds to x_ y_". The glide block will be helpful to show the moon moving towards, in front of and moving away from the sun. Note: the more glide to points set as the moon moves towards and away from the sun the soother the appearance.
 - b. Looks: "Change brightness effect by _____" This helps to create the effect of the day getting darker. The more increments programmed to go from light to dark and dark to light the better effect. This takes some trial and error.
 - c. "go to front/back". This may come in handy to make sure the moon covers the sun and not the other way around.
- 8. Have students share their completed projects with a gallery walk or projecting on a board/wall in classroom.







Scratch Checklist

Example Project

Solar Eclipse Resources

Mrs. Geeky and Co. works together with districts and organizations in the planning, development and implementation of both short and long term customized STEM PD.

Contact Mrs.Geeky and Co. and let's see how we can work together! 602-845-9447 | lgreen@mrsgeeky.com | www.mrsgeeeky.com