

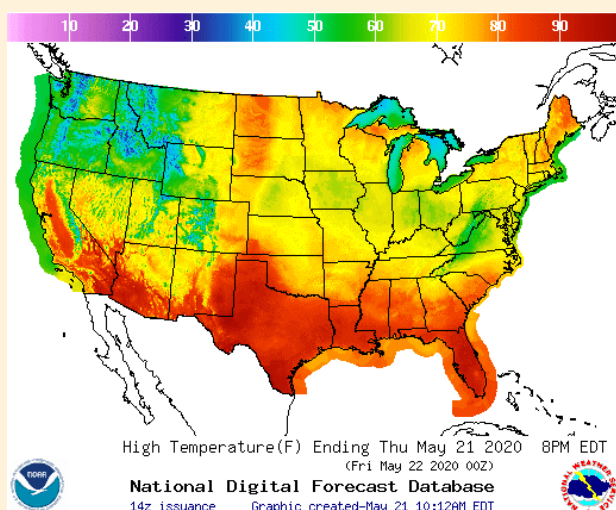
STEM@CGI AT HOME

STEM-based activities for kids that can be done at home

Staying active. Learning together. #STEMatHome

“STEM@CGI at Home” offers weekly STEM-based activity packets for children, including practical STEM activities and competitions. Get your family involved, share pictures, learn and have fun!

Activity 1 – Data analytics



Data are pieces of information. When we organize data to help us better understand things, we call that **Data Analysis**. When we show data in picture form, we call that **Data Visualization**. For example, the picture to the left visualizes weather data using different colors.

Did you know that data is everywhere?

Samples of Data

- Names and phone numbers in a cell phone
- Addresses of the houses on your street
- Grades of you and your friends at your school
- A list of all the video games you like to play

In this activity, we will explore some data you can collect about weather.

This activity is recommended for ages 11 and up.

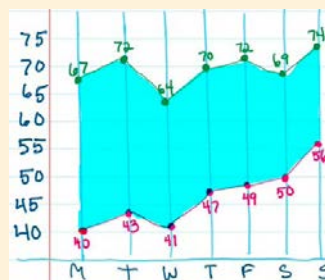
1. Pick a source of data

- [The Weather Channel](#)
- [The National Weather Service](#)
- [Accuweather](#)
- [Time and Date](#)
- Search [Google](#) for your local Broadcast Channel Weather

2. For 7 days, collect the weather forecast for your city. Create a chart like this to store your data:

	High	Low
Mon	67	40
Tue	72	43
Wed	64	41
Th	70	47
Fri	72	49
Sat	69	50
Sun	74	56

3. Create a graph to plot your forecast data, Use one color for the high temperature and another for the low temperature. You can shade the area in the middle to show the range of temperatures for the week.



What other pieces of data related to weather can you track? Wind speed, pollution index, inches of rain, etc.

Activity 2 – Sweet stats

In this lesson, kids will learn the concept of **more**, **less**, and **equal** while exploring how to use images and graphs to show numbers.

Watch STEM@CGI Administrative Coordinator, Lashonda Dean, walk through the lesson in [this video](#).

This activity is recommended for ages 5 to 8 with assistance and 9 to 10 without assistance.

[Access the worksheet here.](#)



Activity 3 – Compare data (aka make a comparative analysis)

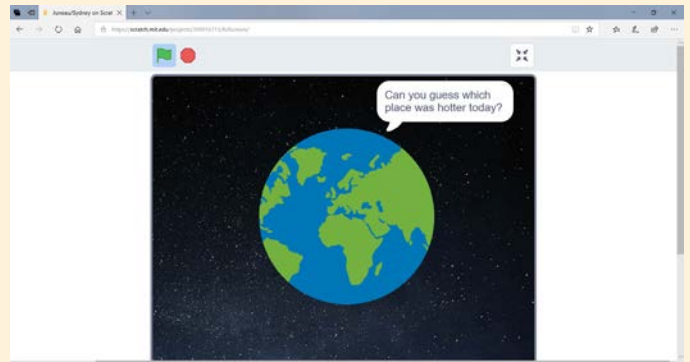
Now that you have learned how to analyze data, let's get creative! For this competition you will do the following:

8 to 12 years old

(younger kids may need assistance)

- Pick two CGI locations [here](#).
- Use a chart to draw out the difference in temperature in the two locations.
- Compare the weather in the two locations however you like! It could be a drawing, a representation in Scratch, a PowerPoint, or a collage.
- Be creative and show us what the data says!

[Here](#) is an example of a comparison of the weather of Juneau, Alaska and Sydney, Australia made in Scratch. Feel free to remix this for your project!



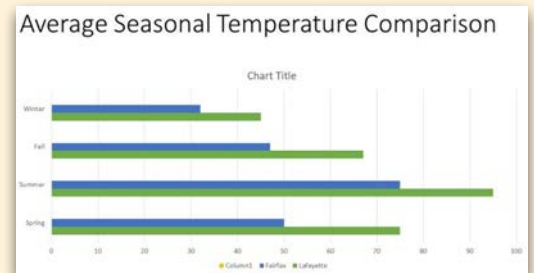
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Activity 3 – Compare data (continued from previous page)

8 to 12 years old

- Create a PowerPoint comparing at least two CGI locations. Pick your locations [here](#).
- Add charts and graphs to creatively represent the weather for the different locations.
- Include information about the cities you have chosen. Consider things like a “fun fact” about the city, normal weather trends or patterns (is it typically rainy, humid, etc.).
- Be creative and show us what the data says!

Sample Slides:



Bonus activities

These activities are aimed at students aged 8 to 14 but everyone can get involved!

[Weather and Climate](#)

NASA has some great information about the difference between weather and climate.

[Scratch - Weather Projects](#)

Take a look at some of the Scratch projects other kids have made. Try remixing one to show the weather in your city.

[Planet Arcade](#)

Try your hand at some weather-related games from the NOAA – The National Oceanic and Atmospheric Administration.

**Watch for more STEM@CGI at Home ideas next week.
Stay healthy and safe!**