

STEM@CGI AT HOME

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

Staying active. Learning together. #STEMatHome

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

National Hispanic Heritage Month

Developed in partnership with Latinos Unidos@CGI

National Hispanic Heritage month is a time when Americans honor the histories, cultures and contributions of American citizens whose ancestors came from the Caribbean, Mexico, and Central and South America.

National Hispanic Heritage month is celebrated from September 15 to October 15 each year.

Celebrate with us as we take virtual field trips, explore extreme STEM contributions from notable Hispanic scientists, and play games that expand our knowledge of light.

Activity 1 – A virtual field trip

Caribbean



Mexico



Puerto Rico



Central America



South America

What is a virtual field trip?

A virtual field trip is when you travel to a place you have never been by using an online mapping app like Google Earth.

Ages - 5 and up

1. **Click** on the following names of the country or continent linking to Google Earth to bring up a 3D view of the earth in that region.
2. **Click More Info** to open more destinations around the country or continent for a virtual visit!

Activity 2 – Carnival celebration



What is Carnival?

Carnival time is a bright, lively celebration of the culture, people, beliefs, and traditions of the Hispanic and Latino culture. Mostly celebrated in the spring through summer months each year, it includes colorful parades where participants wear masks, costumes, and dress up like mystical characters distinct to each area.

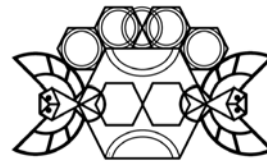
In this activity, you will color a mask of your choice using the MS Paint in the Windows Accessories on your computer.

Ages - 5 and up

1. Select the mask of your choice. Once open, right click on your mouse and save the file to your computer.
2. Open the START menu of your computer.
3. Scroll the list to find and open Windows Accessories to locate Paint.
4. Open the image within Paint to color the masks!



[Mask 1](#)



[Mask 2](#)

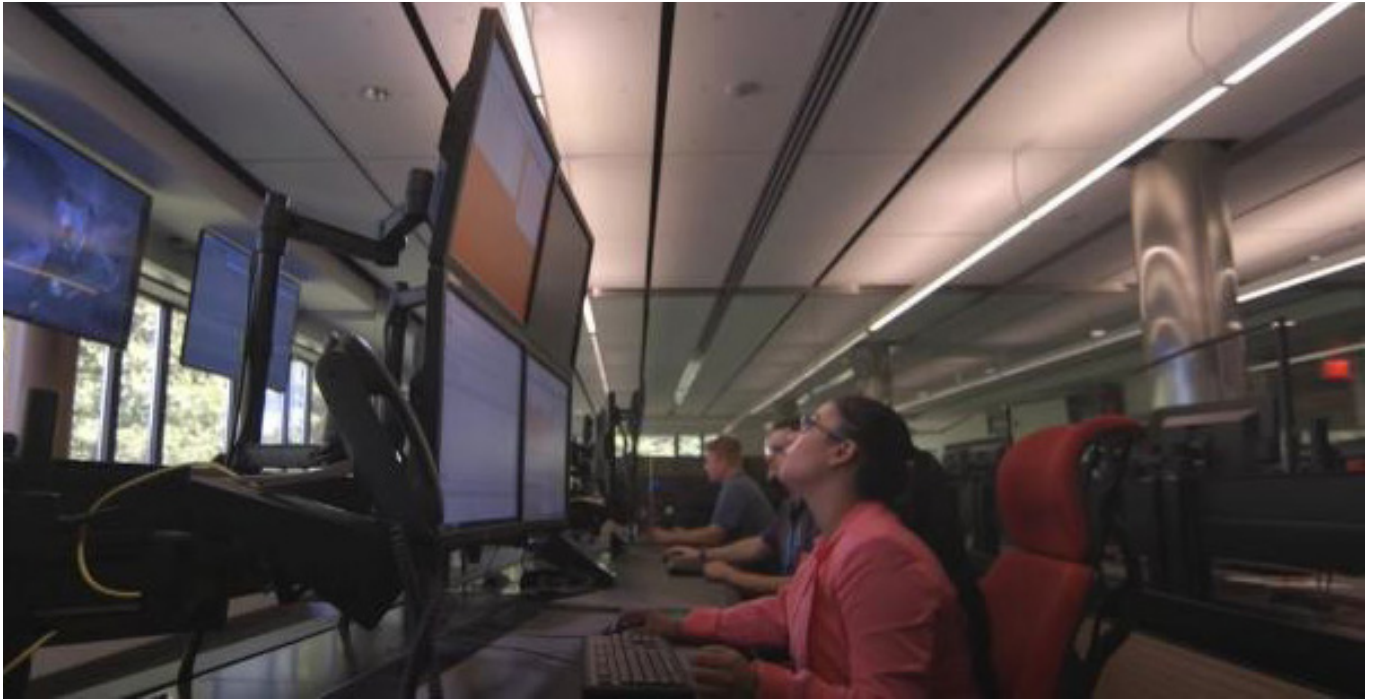


[Mask 3](#)

What you need

A PC/Tablet capable of running MS Paint or other image-editing software.

Activity 3 – STEM highlight



Scarlin Hernandez

As a spacecraft engineer, Scarlin Hernandez, mission lead, for the James Webb Space Telescope (JWST), tests ground systems that will command and control how the telescope will discover new planets and galaxies.

She develops procedures that are going to be executed onboard the spacecraft. This includes anything the spacecraft is going to do including –

- launch procedures
- how it's going to unfold
- how it is going to deploy once it's up in space
- all normal operations of the telescope for its 10-year-long mission

Hear from Scarlin Hernandez and her experiences as a woman from the Dominican Republic in STEM by [clicking here!](#)

Activity – build your own satellite

You are the spacecraft mission lead asked to build the next space satellite



Ages - 5 and up

You can access this activity from the NASA Spaceplace website [here!](#)

What you need

- small juice box
- yellow sponge
- small plastic dish with a pick-up stick
- half a Styrofoam ball
- black construction paper
- 2 – coffee stirrers
- screw
- clear tape

What you will learn

- how to build a satellite
- how satellites work
- creativity and innovation



Ages - 8 and up

See full instructions to build your own James Webb Space Telescope (JWST) like Scarlin Hernandez and other JWST models on the JWST website [here](#).

What you need

- [Microsoft Word - Assembly_parts_pages.doc \(nasa.gov\)](#)
- [Microsoft Word - jwst_model_instructions.doc \(nasa.gov\)](#)

What you will learn

- how to build a satellite
- how satellites work
- creativity and innovation

Bonus activities

Color your universe in infrared



Ages - 5 and up

Travel with NASA SpacePlace to [Color your universe](#) to color the universe as seen through IR and find hidden objects

Objective –

- Bring back color to the drawing by finding the hidden objects in each panel.
- You can even print the picture when you're done.

Scope it out!



Ages - 8 and up

Find all the parts of the James Webb Space Telescope (JWST) using your knowledge of telescopes here on earth with this [JWST virtual video game](#).

Scope It Out! includes an introduction to telescopes and two matching games. Be sure to pay attention as you go - the information contained in each level will help you solve the puzzles in the next round.

Experience a world in infrared!



Ages - 11 and up

Try out [A Slower Speed of Light](#) virtual video game to experience a world seen through infrared (IR)!

A Slower Speed of Light is a first-person game prototype in which players navigate a 3D space while picking up orbs that reduce the speed of light in increments.

Objective –

Catch as many orbs as you can while trying to move close to the speed of light but slow enough to view where you are in IR

Pick the perfect satellite



Ages - 14 and up

Try seeing the farthest into the cosmos by choosing your own satellite with the [JWST virtual video game](#)

Objective

1. Choose what science your satellite will be used to study, and then decide what wavelengths, instruments, and optics will help you learn the most about the science you've chosen.
2. After you launch your satellite, you'll see what it looks like, and learn what real mission has data similar to the one you created.
3. You'll discover a large range of astronomical missions, dating from the 1980s to today.

For more information or additional support with STEM activities when working remotely, please contact us here.

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