



GirlsGotSTEAM x Simply Neuroscience One-Day Workshop: Brain Building

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| Program: | Build a Brain |
| Age Range: | 7-11 |
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| Description : | Step 1: Wake up! Step 2: Come to this workshop! Step 3: Have fun! Learn how to make a brain model! |

NOTE TO INSTRUCTOR: This lesson plan is an OUTLINE - use it as you will to execute your one day workshop. Feel free to add and remove material as needed. Attached is a PowerPoint and a packet (SciNotebook) for your student to complete. The SciNotebook includes material that should be taught and explained throughout the day.

The PowerPoint will include pictures, additional information, and instructions. It **SHOULD NOT** be the primary resource to run the workshop. Please refer to the lesson plans for detailed instructions. If you have any questions, comments, or concerns about any information in this workshop, please email girlsgotsteamorl@gmail.com or skylerbasco@gmail.com

| Time | Objective | Component |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Block 1: Introduction | Students should be introduced to the basic brain structures: the cerebrum, the brain stem, and cerebellum. | Activity 1: Introduction Activity 2: Mapping the Brain |
| Block 2: Plan and Build | Students should use their design skills to create, assemble, and learn about the certain structures of the brain. | Activity 1: Plan and Design a model of the Brain in the SciNotebook Activity 2: Build a model of the Brain! |
| Block 3: Reflect | Students should end by reflecting on the building and design process. | Activity 1: Discussion Activity 2: Review Activity 3: SciNotebook |

Materials for Brain Model

NOTE TO INSTRUCTOR: This is a DESIGN project. The materials listed below are suggestions. Once again, feel free to remove or add materials as needed.

Colored Pencils or Markers • Playdough • Glue/Tape
Scissors • SharpieBeans • Pipe Cleaners



Block 1: Introduction

• Activity 1: Introduction

- To begin, it is vital to know about the basic and necessary parts of the brain. These are categorized in 3 main parts; the cerebrum, cerebellum, and brain stem.
- Refer to the powerpoint for this activity.

• Activity 2: Mapping the Brain

- The brain is a very intricate and complex structure, as it coordinates and helps us with everything we do in our daily lives. Mapping the brain can be tough, but put on your explorer gear, and get ready to dive into the three main components that make up the organic computer we call our brain!
 - In order to properly map the brain, take out the three 'maps.' Each map will have a key on the side to refer to which lists the parts of the brain and an associated color.
 - The first map, which is of the cerebrum, will show you the four main cortex lobes; parietal, occipital, frontal, and temporal. The second map, for the cerebellum, will also show the different sections of the structure. The third map will be of the brain stem, a highly intricate part of the brain.
 - Go over these maps carefully, and explain to the students the significance/function, along with the location of these parts (refer to the PowerPoint). While doing this, be sure to direct the students to color the map for the different regions and answer guiding questions.
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Block 2: Plan and Build

• Activity 1: Plan the model!

- Before students build, emphasize the importance of having a plan to base off of to follow in case one gets lost or confused. Be sure to present the 'plan' slide from the presentation while the students work.
- Students are to design and plan the building of this model in their SciNotebook. Supply them with colored pencils/markers in order to do this. Students should look back at their maps and implement all the main regions they had learned about, making sure to correspond these with colors and a key.
- Have the students pair/group up in order to plan. Assign the role of a scribe (writer), and have the other partner(s) greatly help to come up with a step-by-step plan in the creation of the model. In order for the group to continue to the 'Build the Model!' stage, have them check their plan/design in with you (look for inaccuracies within the model, incomplete plan, etc.).

• Activity 2: Build the model!

- It's now time for the most fun but also the messiest part of the activity! The brains are ready to be built! In order to build the brains, have the kids select varying colors of Play-Doh corresponding to their color key and design. Also have them collect a sharpie (for labeling the names of the regions), glue/tape (to attach all the regions together), and scissors (to potentially cut the Play-Doh, or anything else). Make sure the kids are mindful of their messes, and create their model over a sheet of paper, newspaper, or cardboard (some sort of protective surface).



- Step 1: Have the kids collect the materials (listed above).
- Step 2: Have them reread their design and plan to make sure they understand what they are aiming to create/replicate.
- Step 3: The students should first create the separate parts of the brain.
- Step 4: Once these parts are created, have the students write the region names on the parts to identify them (you will need to check for accuracy).
- Step 5: Attach all of the labeled and made parts together to form the brain (check for accuracy).
- Step 6: Admire and share with others! You can set up a walking 'gallery' for the students to show and look at work their classmates built.

Block 3: Reflect

• Activity 1: Discussion

- The class should discuss the hardships and obstacles when building their brain models. What was hard? What was easy? What can we do differently next time?
- NOTE TO INSTRUCTOR: Discussion should be fun, interactive, and detailed. Please ensure that students understand the objective of this workshop.

• Activity 2: Review

- Instructors should reiterate the key learning points of this workshop by asking students questions:
 - What is something we learned today?
 - Why is the brain important?
 - What do these different parts do?
 - What are the different parts of a brain?

• Activity 3: SciNotebook

- Since the workshop is coming to an end, please ensure that all the students' SciNotebooks are completed.

We hope your students will enjoy creating their own Brain Models! Thank you so much for using

GirlsGotSTEAM's resources for your workshop - our team would be beyond happy to provide you with more free and enjoyable lesson plans in the future! For any questions, comments or concerns, please email girlsgotsteamorl@gmail.com or skylerbasco@gmail.com or DM us @girlsgotsteam on Instagram!