

FAMILYGUIDE

HELLO FAMILIES!

The brain: everybody has one. So EVERYONE is invited to connect, communicate and learn about this amazing organ by participating in the CEREBROedu program!

This bilingual (Spanish/English) program was developed with and for Latinx communities. This program's activities, media, and events will help educators and families to:

- Learn about the brain's structure, function and certain conditions like Alzheimer's, depression and epilepsy;
- Discuss everyday habits that foster and maintain good brain health;
- Explore great careers in neuroscience and/or brain health; and
- Become more aware about mental health resources in your community.

To meet these goals, we invite the whole family to enjoy these CEREBROedu gatherings and activities:

CEREBROedu Welcome: This two-hour meeting welcomes you to the program, and offers details on everything your child will explore about the brain. You'll also discuss details like scheduling, and have plenty of time to ask questions and make suggestions. Bring the whole family

CEREBROedu Family Guide: This guide offers a window into the brain. Each chapter explores how the brain works—and sometimes struggles to work—with common conditions like Alzheimer's disease, epilepsy and depression. Clips from award-winning PBS films (provided on the CEREBROedu website) and family-friendly discussion questions help you watch and talk together. Each chapter also features a simple and lively activity that shows our brains in action!

CEREBROedu Family Fiesta: This closing celebration encourages kids to share everything they've learned about the brain! Everyone is invited to learn more about community health resources. Guests will enjoy food and have fun.

If you have questions, don't hesitate to reach out to your child's educator. We're so glad you're here!

EPILEPSY: YOUR ELECTRIC BRAIN



LEARN

What is epilepsy?

Epilepsy is a brain disorder that causes seizures. A seizure is a sudden surge of electrical activity in the brain that affects how a person acts and feels for a short time. There are many different kinds of seizures, and no two people experience epilepsy in exactly the same way. Epilepsy is very common, affecting about 1 in every 26 people. This means that within an average-sized classroom, at least one person is likely to have epilepsy.

Although researchers are constantly learning about epilepsy, it is not widely understood. In many parts of the world, people have the misconception that seizures only result from substance abuse or spiritual influences. These beliefs can make them reject people with epilepsy, or treat them differently. Learning the facts about epilepsy can empower people to seek treatment. And since epilepsy medicine only helps 70% of patients, ongoing research about the disease is important for human health.

What is Seized: Inside the Mystery of Epilepsy?

SEIZED: Inside the Mystery of Epilepsy is a 2016 PBS film that tells powerful stories of patients, families and doctors fighting for new treatments and new insights into this ancient disease.



WATCH AND TALK

Visit www.cerebroedu.org to view brief videos, then use the questions to guide your discussion.

Learning about Epilepsy

- Ouida learned that she had epilepsy while living in China, where she also experienced language and cultural barriers. Where in your own community would you go for help with seizures or epilepsy? What challenges might you face?
- Epilepsy is very common. Have you ever seen or had a seizure? How did you respond, or how do you think you might react?
- What surprised or concerned you about Ouida's story?

Epilepsy and Family Life

- Ouida's seizures make her unaware of her surroundings. How might you help someone like Ouida during a seizure?
- Ouida's young daughter Ripley describes her mom's seizures. How could you help children better understand or feel less afraid of epilepsy?
- How do you think a chronic disease like epilepsy affects family life? Where can you find help for ongoing health problems?

Science, Surgery and Seizures

- A "smart" device is placed in Ouida's brain to help stop seizures. How would you feel about you or a loved one having this surgery?
- Dr. Emad Eksander uses brain imaging technology to plan Ouida's surgery and care. Would you want Dr. Eksander's job? Why or why not?
- What kind of technology or device could you design that would help Ouida? What would it do? How would it work?
- If you were Ouida and her family, what questions might you have for Dr. Eksander and his coworkers?

Living with Epilepsy

- What do you think is the biggest challenge for Ouida and her family?
- What good health habits might you practice if you had epilepsy?
- What else would you like to learn about epilepsy?



EXPLORE MORE

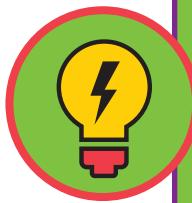
To learn more about epilepsy, and to find help in your community, visit The Epilepsy Foundation at www.epilepsy.com. Information is available in English and Spanish.



DO IT!

Make a Thinking Cap!

This fun and hands-on project displays the parts of the brain.



You'll Need

- 1) Several sheets of newspaper
- 2) Masking tape OR a balloon
- 3) White glue OR white flour and salt (for papier mache paste)
- 4) Tempera paint AND/OR watercolor markers

1: Make a Form

To make a wearable cap, you'll need a model head! To create one, choose from the following options:

- Crumple up newspaper (or other paper) into a ball that is about the same size as your head, and cover the paper ball with masking tape, OR
- Blow up a balloon to the size of your head.

2: Create Your Cap

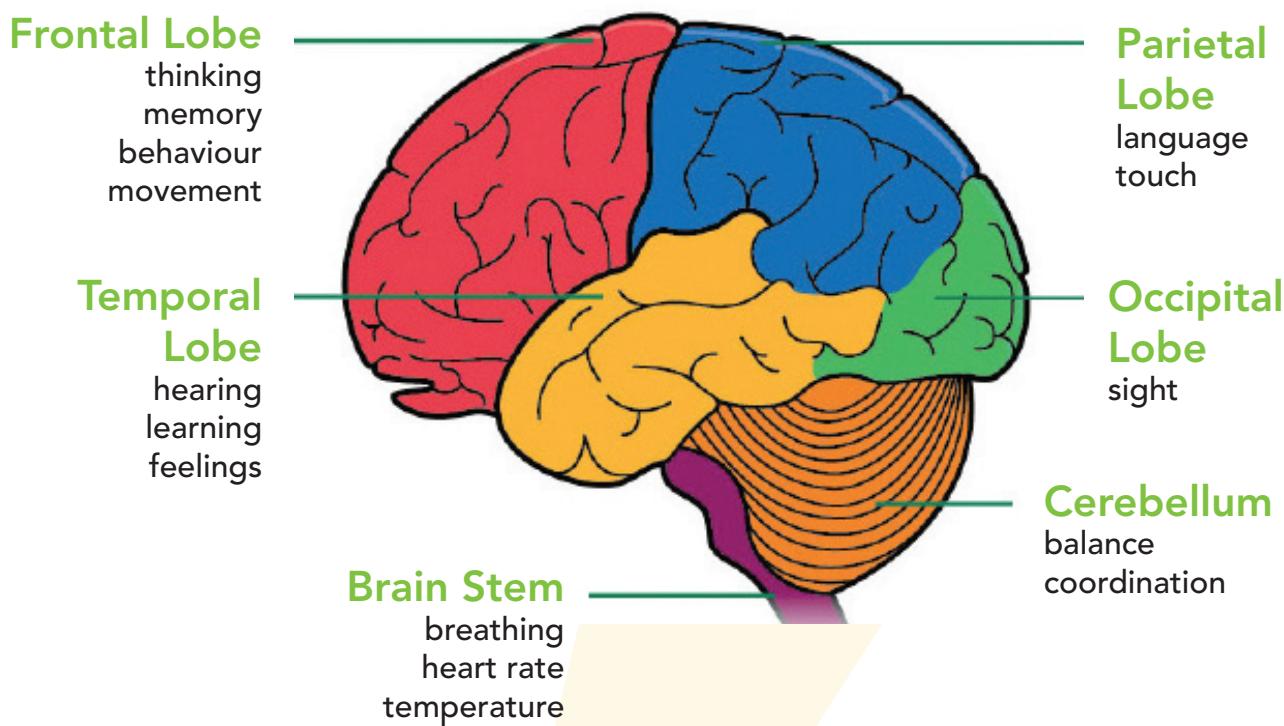
Now you'll create your cap by following these simple papier mache steps:

- Rip or cut up long strips of newspaper.
- Create paste from white glue and water (about 2 parts glue to 1 part water), OR white flour, salt and water (about 1 part flour to 1 part water with a few tablespoons of salt).
- Coat the newspaper strips with the paste, and place them on the form.
- Let each layer dry before adding a new layer. Add enough layers to create a strong structure.
- When the structure is dry, remove the underlying form. Feel free to cut the edges of the structure as needed to ensure a good fit on your head. You can repair any rough edges with more papier mache.

DO IT!

3. Show Off That Brain!

Once your structure is totally dry, use markers or paint to display the parts of the brain. See the diagram below for the parts of the brain and what they do.



4. Brainstorm

Ask the family this brainy question: what are your favorite activities, and which part of the brain helps you do those fun things?

DEPRESSION: SCIENCE, HELP AND HOPE



LEARN

What is depression?

Depression is the most common mental health challenge, and it affects people of all ages and backgrounds. People with depression describe a lack of interest in activities they used to enjoy, or express feelings of unhappiness, emptiness, guilt, loss of hope and worthlessness. The exact cause of depression is not well-understood, but biological, environmental and genetic factors all contribute. One key problem in depression is that neurons, or brain cells, do not communicate with each other as well as they should. Some people with depression have low levels of neurotransmitters, or "chemical messengers," in their brains.

Depression is different from a passing sad mood. It is not a condition that can be simply "wished away," nor is it a sign of personal weakness or laziness. Help for depression is available, and includes counseling or therapy, medication and healthy lifestyle choices. It is important to remember that people can and do recover from—or successfully manage—depression.

What is Depression: Out of the Shadows?

Depression: Out of the Shadows is a 2008 PBS film that weaves together the science of depression with the experiences of families and individuals facing the disease. These stories offer insight, help and hope.



WATCH AND TALK

Visit www.cerebroedu.org to view brief videos, then use the questions to guide your discussion.

Depression in Young People

- Like most people, Emma's depression did not have a single cause. What challenges do teenagers and young people face that might prompt or add to depressed or anxious feelings?
- Depression among young people is common. Where can adolescents and teenagers seek support in your community?

- If you were Emma's friend or neighbor, how might you help her or her family?
- Youth of color tend to show higher rates of depression and anxiety compared to their white peers. What additional obstacles might these teens face?

The Maturing Brain

- The human brain keeps growing and changing well into our twenties. What health habits can we follow (and help our loved ones practice) to foster good brain health during time of transition? What might we avoid?
- As young people mature, they become more aware of financial, racial, educational or cultural barriers faced by their families. How might these obstacles affect young people's willingness to talk about or seek help for depression?
- Scientists at the National Institutes of Health study the brain using high-tech tools like MRI machines. Do you think you'd enjoy a neuroscience or mental health career?
- In addition to learning more about depression, what else might scientists discover from brain imaging and similar practices?
- What kind of technology or device could you design to treat depression? What would it do and how might it work?

Help and Hope

- Depression is a disease that affects how the brain functions. Can you think of other diseases that affect a specific part of the body? How are these diseases the same or different as depression?
- How and why do we think or talk about depression in ways that are different from other diseases?
- Antidepressants are medications that have helped many people recover from or manage depression. What are other ways for treating or managing this disease?
- What are some ways family and friends of people with depression can care for themselves as they support their loved one?



EXPLORE MORE

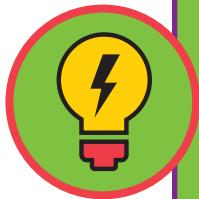
To learn more about depression and find help in your community, visit www.nami.org. Information is available in both English and Spanish.



DO IT!

What I Like About YOU!

Positive words can't cure everything, but they do help to build self-image, create connections and spark smiles. Gather your group for some kindness, creativity and compliments!



You'll Need

- 1) A bowl or box
- 2) Index cards
- 3) Markers, crayons and/or colored pencils

- 1:** Form a circle and grab an index card.
- 2:** Have players write their names on the top of the index card. Encourage everyone to use favorite colors, special designs or mini-drawings that represent them.
- 3:** Ask players to put their cards back into the bowl. Shake up the bowl, mixing up the cards.
- 4:** Pass the bowl around and have participants each pick one index card. Look at the name, and write at least one positive word that describes that person (i.e. "funny," "kind," "creative," etc). Again, encourage use of color and flair!
- 5:** Ask players to pass their cards to the person next to them, and repeat the exercise until each card has traveled around the table once and each participant has added their compliments and drawings.
- 6:** Give the completed cards back to each person and let them enjoy the positivity!
- 7:** To go a step deeper, ask participants to share specifics (i.e. "Mary made me soup when I was sick, which was really kind" or "Juan's piano playing is super-creative").
- 8:** Encourage participants to post their "compliment cards" where they can most enjoy them: in their locker, on the family bulletin board, on their mirror or wherever feels right!

ALZHEIMERS DISEASE: SCIENCE, HELP AND HOPE



LEARN

What is Alzheimer's disease?

Alzheimer's disease is a brain disorder that slowly destroys memory and thinking skills and, eventually, the ability to carry out the simplest tasks. It is the most common cause of dementia among older adults, and usually affects people over age 65.

Researchers know that many complex brain changes play a role in Alzheimer's disease. Chemical messengers called neurotransmitters allow brain cells to talk to each other. A person with Alzheimer's disease has lower amounts of neurotransmitters. Their brains also develop protein and fiber deposits that prevent the cells from properly working. Over time, these cells also begin to shrink and die. This causes symptoms that become more serious over time, from misplacing items to being unable to do everyday tasks to forgetting names and faces.

There is no single cause for Alzheimer's disease. Scientists know there are genetic factors. Other things that might contribute include high blood pressure, high cholesterol, Down syndrome, or head injury. It is important to remember that people don't get Alzheimer's disease by thinking too much, or because they are lazy or unintelligent. Treatments are improving, but there is no cure. However, on the positive side, researchers believe exercise, a healthy diet, and taking steps to keep your mind active (like doing crossword puzzles) may help delay the start of Alzheimer disease.

What is *The Forgetting: A Portrait of Alzheimer's*?

The Forgetting: A Portrait of Alzheimer's is a Primetime Emmy Award-winning documentary that takes a dramatic, compassionate and thorough look at the growing epidemic of Alzheimer's disease. Through the stories of three families, as well as from the viewpoints of world-renown scientists, the film shows the personal and social impact of the disease, highlights cutting-edge research and offers reason for hope.



WATCH AND TALK

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Meet Mrs. Scully

- Mrs. Scully is undergoing neurological testing during an early stage of Alzheimer's disease. How did you feel or what did you think as she struggled with simple tasks?
- Most people who misplace keys or forget an appointment are healthy. But what are some of the differences between normal aging and early-stage Alzheimer's disease? When do you think someone should seek testing or help?
- What are ways you could provide practical and emotional support to someone like Mrs. Scully at this point in her illness?

The Disease Progresses

- This video says that "the human brain is a miraculous and complex organ that controls every breath, thought, heartbeat and emotion." When you think of the brain, do you think more about physical functions, emotions or both? Why?
- Dr. Rudy Tanzi is a pioneer in Alzheimer's research and treatment. How would you feel about working in this field? What are some advantages and disadvantages?
- This video describes the losses that Alzheimer's causes over time: simple confusion about tasks and places, emotional changes, and ultimately the loss of long-term memories and people. Which losses do you think are most challenging for the person with Alzheimer's? How about for the person's family, friends and caregivers?
- This video offers a simple explanation of how Alzheimer's takes hold of the brain, destroying nerve cells and erasing memory. What surprised you about this segment? What else would you like to know?

Meet the Fuget Family

- Gladys and Harry have been married for 45 years. What special challenges might a couple who have been together so long face when encountering Alzheimer's? What advantages might this long-term relationship offer them?
- Gladys was a beautiful dancer, and enjoyed music. What activities might her family do to connect with her, even though her abilities and awareness has been deeply changed by Alzheimer's?
- Dr. Steven DeKosky worked with the Fugets, performing simple memory tests to assess Gladys' neurological health. What did you think or feel during this scene?

Gladys and her Grandson

- Alzheimer's disease has made Gladys interact with her grandson more like a peer, which hurts his feelings. How might you explain Alzheimer's disease to such a young child? What might make him feel less sad or confused?
- Where might the Fugets go to receive help or support as Gladys moves into the middle stages of her disease?

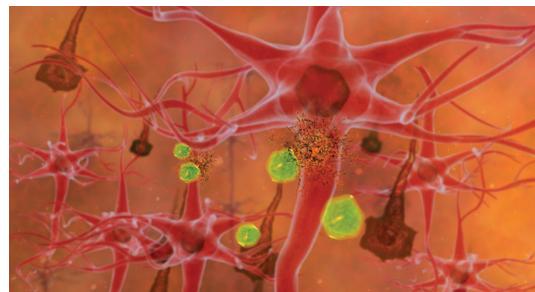
Still Gladys

- Gladys takes up smoking, an old habit, as her disease progresses. Why do you think she does this? Would you try to prevent her from smoking or allow her to do so? Why?
- What might Henry and the Fuget family do to retain good memories about Gladys?



EXPLORE MORE

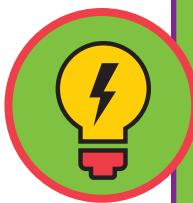
To learn more about Alzheimer's disease, and to find help in your community, visit the Alzheimer's Association at www.alz.org. Information is available in English and Spanish.



DO IT!

A Trip Down Memory Lane!

The hippocampus and cerebrum are the parts of the brain associated with memory. Give them a workout while connecting with friends and family!



You'll Need

- 1) A great memory
- 2) A group of creative people!

- 1:** Tell players that you're going on an imaginary trip. Decide together where you'd like to go. Grandma's house? Hollywood? Paris? The MOON? Get imaginative; the sky is the limit!
- 2:** Everyone is going to name something they will pack for this trip, using the next letter of the alphabet. So the first player might say, "We are going to Toyko, and I am packing an APPLE." Or an ARROW or an ANTFARM—any thing that begins with "a."
- 3:** The next player will be challenged to name not only what s/he is bringing, but what the players before have packed. So the second player might say, "I am going to Tokyo, and I am packing an APPLE and a BASEBALL" (for the letter "b"). The third player might say, "I am going to Tokyo and I am packing an APPLE, a BASEBALL, and a CAT."
- 4:** You can see that the game gets harder as the "suitcase" gets fuller! Can YOUR group make it all the way to "z"?

YOUNGER-ONSET ALZHEIMER'S THE RACE FOR THE CURE



LEARN

What is younger-onset Alzheimer's Disease?

Alzheimer's disease changes the way people act and behave, and makes it difficult for them to remember. People with Alzheimer's disease have abnormal proteins in their brain that stick together in little globs forming plaques. These plaques interfere with neuronal (brain cell) communication and affect thinking, learning and memory.

Younger-onset Alzheimer's disease affects people under 65 years old. Only 5% of people with Alzheimer's disease experience younger-onset, and doctors are not certain why it occurs. Younger-onset Alzheimer's disease can be hard to spot, as it is sometimes mistaken for menopause, depression or symptoms of stress. Honest communication and collaboration with doctors can increase the chances of an accurate diagnosis, which can help people make key decisions about work and family life.

What is Alzheimer's: Every Minute Counts?

Alzheimer's: Every Minute Counts is a 2017 PBS film that tells powerful stories of patients, families and doctors fighting for new treatments and new insights into this ancient disease.



WATCH AND TALK

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Meet Daisy and Sonia

- Daisy cares for her mother Sonia 24 hours a day. What do you think is the hardest part of Daisy's role? What are the rewards?

- What was surprising or concerning about Daisy and Sonia's story? What did you learn about Alzheimer's disease while watching this clip?
- As Alzheimer's disease progresses, people like Sonia face increased risks to their well-being. How can we work together to create safer environments for people with dementia?
- Are you a caregiver, or do you know one? What support do you/they need? Where can you find help in your community?

Daisy's Test

- Daisy decides to get a test to learn whether or not she has the gene mutation that causes Alzheimer's disease. Would you or would you not want a similar test? Why?
- Daisy also decides to get an experimental treatment that may prevent Alzheimer's disease. What are the pros and cons of such a treatment?
- Daisy has a close friend who helps her with this difficult challenge. How could you best help a friend like Daisy?

Raising Awareness

- Daisy meets with members of Congress to raise awareness about Alzheimer's disease research. What approach would you take, or who might you talk with, to advocate for families facing Alzheimer's disease?
- As people live longer lives, it is anticipated that the rates of Alzheimer's disease will soar. How might this affect our country, your community and your family?
- What else would you like to learn about Alzheimer's disease, and particularly about early-onset Alzheimer's?



EXPLORE MORE

To learn more about Alzheimer's disease, and to find help in your community, visit the Alzheimer's Association at www.alz.org. Information is available in both English and Spanish.



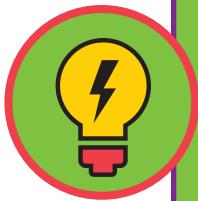
DO IT!

Hippocampus Workout!

The hippocampus is one part of the brain associated with many memory functions. This short-term memory activity is a family favorite!

You'll Need

- 1) Tray or plate
- 2) 10-20 small items (like an eraser, pencil, coin, marble, etc.—stuff from your junk drawer, desk, backpack or purse.)
- 3) Cloth or towel to cover the tray
- 4) Timer or stopwatch
- 5) Paper and pencils (for players to write down what they remember)



- 1:** Grab a tray, platter or a large plate.
- 2:** Put 10 to 20 objects on the tray, then cover them with a towel or cloth.
- 3:** Tell players that underneath the cloth there are many objects. Their challenge is to look at them for one minute and memorize as many as they can.
- 4:** Remove the cloth, start the timer and tell players to BEGIN MEMORIZING!
- 5:** After one minute, cover the tray again and challenge players to list every object they can remember. Give them two minutes. Players may work alone or in pairs (but shhhh...don't give away the answers to your competitors while discussing them!)
- 6:** The players or teams who recall the greatest number of items are the winners!
- 7:** A few fun questions: Could anyone remember all of the items? Did they have a special method to help them? Are there any items that were forgotten by everyone?
- 8:** Try again, possibly removing items or adding new ones for an even bigger challenge!