

READ

ALL ABOUT IT!

Research Exploration Activities Discovery

READ My Mind!

July 13 – July 18

There was a time when some doctors believed they could tell a lot about your intellect by feeling the bumps and dents of your skull. Phrenology was an attempt to understand the mind. The mind is a big thing to understand! With millions of connections to make and jobs to do, your brain is a very busy place. It is also a very unique organ. It is the only body part that got to name itself. The brain is in charge of the rest of you. This week, let's look at your mind and see what you can do to keep your brain growing, healthy, and safe.

Research: Read some books. Ask some questions. What would you like to learn?

Explore: How big is your brain? What is your brain made of? How does it work? Can you trick your brain? How does the mind figure things out?

Activities: Play some games. Break some codes. Try some brain food. Build some brain power!

Discovery: Your mind is amazing! What new things did you learn? What did you try? Do you feel smarter? You should!

Which animal has the biggest brain? The sperm whale, whose brain weighs about 17-18 pounds. That's a big brain! But having the biggest brain doesn't make it the smartest animal. How the brain is structured and the size of the brain compared to the size of the animal are factors in intelligence. Here is a list of animals, their brains, and a few brain-y facts.

Average human brain	1300-1400 grams	or	3- 3.3 pounds	
Newborn human baby	350- 400 grams	or	$\frac{3}{4}$ pound	
Killer whale	5,620 grams	or	12-15 pounds	
Elephant			11-12 pounds	Its brain sits in the back of its head.
Cat	30 grams			That's about the weight of 5 quarters.
Dog, Beagle-sized	70 grams			
Alligator	8 grams			About the size of an olive.
Goldfish	0.097 grams			
Albert Einstein's brain	1,230 grams			

Woodpeckers need an extra tough skull with all the head-banging they do. They also have a "spongy" bone next to their brain to protect it from getting concussions.

The Colossal squid has a brain shaped like a donut. Its esophagus is in the center. Squids have to make sure they swallow tiny pieces of food so they don't damage their brain when they eat. It's a good thing they don't eat much!

Leeches have a brain with 32 sections. Each section works independently, so it's like having 32 brains, but that doesn't mean leeches are smart.

Human brains are composed of spongy fat, water, and protein. Your brain is made of two hemispheres, a left and a right hemisphere. Both halves work together all the time. But, your left hemisphere controls the muscles on the right side of your body and holds the parts that control speech, language, math calculations, and fact retrieval. The right side of your brain controls the muscles on your left side, along with understanding the things you see and hear, determining where things are (spatial skills) and artistic ability. Having a wrinkly brain, with lots of sulci and gyri, is a good thing. Learning new things, memorizing, doing puzzles, and exercising your body all help make a wrinkly brain. So, learn something!

Activities

Spider Web Treasure Hunt

For each player you will need something for them to find (a treat, small toy, etc.), a ball of string or yarn to help them find it (a different colored ball of yarn for each player works well), and a stick, a small piece of dowel rod, or a popsicle stick for them to wind their yarn on. Tie the end of the yarn onto the prize and hide the prize. Slowly unwind the yarn ball from the hiding spot and travel backwards, around obstacles, under things, over things, ending where you want the game to start. Tie a stick to the end. Repeat the process for each player, using different hiding spots and paths. Great for inside and outside.

To play, have each player take their stick and follow their yarn path, winding the yarn onto their stick as they go, until they find their prize.

Mind Reading

Take three pieces of identical paper. Place them on a table. Announce that you will now read someone's mind. Turn to the person you've chosen and say, "Think of somebody's name. Don't say it out loud. Just think it. Focus. I'm going to read your mind and write down the name." Write on a piece of paper, fold the paper in half, and set it back on the table so no one can see what you have written. Now ask them what the name was. Smile. You will now read their mind as they think about a number. Write your answer on another paper, fold it, and return it to the table. Have them tell everyone what number they thought of. For the last paper, ask them to choose either red or green and to focus hard on thinking about that color. Write your answer on the last paper,

fold it, and place it on the table. Gather the papers and hand them to someone to read all three papers out loud. Watch the amazement on their faces.

How the trick is done: When you pick up the first paper, while they think about a name, you write down either red or green. When you pick up the second paper, you write down the name they just told you. On the third paper, you write down the number they just said. You are guaranteed to get at least 2 out of 3 each time.

Blind Taste Test

So much of what we do relies on more than just one of our senses. We hear words people say not only with our ears, but also with our eyes. Foods we eat taste the way they do because of our taste buds, our eyes, and our nose, working together. In this activity, you get to isolate your sense of taste. Gather a variety of foods and spoons. Be nice. Blindfold the first taster and have them try to name the food they are tasting. You can let them know then if they got it right or wait until they have tried everything. Stick to 5-6 foods for best results.

This is also fun for developing vocabulary. Try adding new words to describe what you taste.

Games and Puzzles

Board games can be great for brain building. Try chess, checkers, Chinese checkers, Mastermind, Memory, Blokus, Connect Four, and Tribond.

Other activities include: tangrams, building blocks, Legos. Riddles and word games, Rubik's cubes, treasure hunts, and Sudoku. Logic problems, crossword puzzles, mazes, and cryptograms. Trivia, tic-tac-toe, dot-to-dot, and Find the Hidden Object games. All the games we play are really good for us! They build brain power! Try making a puzzle or maze. Or try:

- Using your non-dominant hand to write, eat, and play games with. Is your handwriting any better? Do foods taste different?
- Use both hands to draw a picture at the same time. Use a separate sheet of paper for each drawing. You may need to tape the papers in place so they don't slide around. Is it harder than you thought?
- With a computer, print up names of colors in a different color. **BLUE YELLOW BROWN RED** Quickly read the color used to print the word, not the word. Hard?
- Do a paint-by-number craft.
- Look at optical illusions
- Play hand games, Pat-a-cake, secret handshakes. Use movements that cross your hands right to left and left to right.
- Challenge someone to a game of Dots and Boxes. Make a grid of dots in very straight lines. Player 1 will draw a line to connect two dots, either vertically or horizontally. Player 2 connects two dots. Eventually someone will make the fourth side of a box. That player writes their initial inside the box and gets that point. Go until all the boxes are full. Count up the initials to see who won.
- Human Thesaurus. Pick a word. Think of as many synonyms (words that mean the same) as you can. Play in teams, take turns, or make a list with everyone helping.
- Tray Memory Game. Place 20 objects on a cookie sheet. Look at the items on the tray for 1 minute and try to memorize what's there. Cover tray and try to list all 20 objects.

Codes

There are so many codes for you to crack! Some codes assign each letter of the alphabet a picture or a number. Using the pictures or numbers you can write secret messages. Or write your message backwards so the reader needs to use a mirror. Make a code with a decoding wheel. Learn about computer code or the dots and dashes of Morse code. You can even figure out your family's genetic code.

In 1866, a brilliant monk named Gregor Mendel published an article that explained why you can curl your tongue, have freckles, or brown eyes. After studying 30,000 plants, Mendel was able to explain inherited genes. No one paid any attention to his work then, but we sure do now!

When people say you have your mother's eyes or your dad's nose, what are they talking about? Some physical features are inherited from our parents. We have two copies of each gene inside us, one from our mom, and one from our dad. Some genes are dominant and show up, which is why parents with brown eyes usually have brown-eyed kids. Some genes are recessive. These genes don't show up as often, usually only in a 3:1 ratio. Your family has its own genetic code. This code is how dominant and recessive genes show up in you, your siblings, parents, and grandparents. Using photographs and people, look how different inherited traits show up in your family. Notice that some traits, like 6 fingers, may be dominant but 5 fingers is much more common. Genes are tricky!

TRAIT	DOMINANT	RECESSIVE
Male baldness	yes	no
Cleft in chin	yes	no
Dimples	yes	no
Earlobes	free	attached
Freckles	yes	no
Handedness	right	left
Toe length	second toe longer than big toe	big toe longer than second toe
Tongue rolling	ability to	not able to
Tone hearing	tone deaf	normal hearing
Number of fingers	6 fingers	5 fingers
Hair	curly	straight
Eye color	brown	blue, grey

Recipes

Rice Krispie Treat Tangrams

Using your favorite recipe, make Rice Krispie Treats. Cut them into a variety of geometric shapes--squares, triangles, rectangles. Wash your hands and use the shapes to make pictures. For example, challenge everyone to make a boat. Or a bird. Set time limits.

Jig Saw Puzzle Sugar Cookies

Make your favorite sugar cookie dough. Roll the dough out, $\frac{1}{4}$ to $\frac{1}{2}$ inch thick, onto a greased cookie sheet. Trim the edges to 1 inch from the edge. Using watered-down food colors and a paint brush or edible markers, paint a picture on the dough. Score the top of the dough with jig saw puzzle lines. This is where you will cut the cookies to make the puzzle. In the center of each piece, insert an almond on its end to help move the pieces into place when you assemble the cookie puzzle. Bake according to recipe directions. You may want to lower the oven temperature 25 degrees and increase the baking time to make sure the cookie bakes all the way through. Let cookie cool. Use a sharp tip of a knife to cut along the score lines. Separate into pieces. Assemble and enjoy. Use gloves if germs are a concern.

Fruit Kababs

Brains love to guess patterns. Use a variety of fruits (bananas, grapes, strawberries, melon) and skewers to assemble fruit kabobs to make patterns.

Guess What's Inside

Turn dinner into a game with clues. You can hide all sorts of great ingredients inside pizza crust (fold it in half to make instant calzones stuffed with spinach, cheese, everything), pie crust (quiche, pie fillings), bread dough (stuffed scones, sub sandwiches, hamburger, gourmet grilled cheese with pickles, or marshmallows) or tortillas (eggs, Nutella). Make a new family favorite. Have everyone guess what is inside.

Brain Foods

Some foods are being labeled “brain foods,” foods that help keep our brain healthy. These foods include fish, blueberries, broccoli, pumpkin seeds, oranges, nuts, eggs, green leafy vegetables, avocados, and dark chocolate. What does your brain think? I bet your stomach will like them!

Especially for preschoolers!

- *Hide toys. Give oral clues about where to find them.*
- *Put 5 items on a tray. Let the child see them. Have her look away while you remove one item. See if she can guess which item is missing.*
- *Use a wide mouth jar. Drop small items into it. Try standing, kneeling, standing on one foot, tossing it in backwards, or with eyes crossed. Be creative.*
- *Play Show and Tell. Let your child choose one object to tell you about. Ask them questions. Help them find new words to explain with. Celebrate their learning.*

At the end of the week, send us a picture or a message highlighting your favorite activity. One submission per family per week. Submissions are due by 5:00 PM Saturday, July 18. With your email submission, your name will be entered in a drawing for a gift card to a local business. One prize will be awarded each week. Winners will be notified on Mondays.

PGlibkids@gmail.com

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#PGREADallaboutit

#READmymind

Books to READ:

Arithmechicks Add Up: A Math Story by Ann M. Stephens PIC STE

Colorful Puzzles for Wise Eyes by Keith Kay J Curiosity

I Spy books (many titles) PIC Concepts--Look and Find, E Concepts—Look and Find

Impossible Objects: Amazing Optical Illusions to Confound and Astound by J. Timothy Unruh J Curiosity

Look and Compare: A Photo Analogy Game PIC Curiosity

Look and Remember: A Photo Memory Game by Kristen McCurry PIC Curiosity

Secret Coders series by Gene Luen Yang J Comics Secret Coders

Up-Close Mysteries: Zoomed-in Photo Puzzles by Kristen McCurry PIC Curiosity

Where's Waldo by Martin Handford PIC Concepts—Look and Find

Websites

How Einstein's Brain Is Different Than Yours <https://www.youtube.com/watch?v=rnlE9q5IEul>

Spot the difference Brain Games for Kids <https://www.youtube.com/watch?v=mljQf60PKDw>

6 Amazing Secret Codes Your Kids Will Really Enjoy <https://rediscoveredfamilies.com/secret-codes-for-kids/>

How to Decode a Secret Message! (DIY Decoder) | D.I.SPY
<https://www.youtube.com/watch?v=0Ef22f48LJU>

Treasure Hunt! - A Thinking Game for Kids <https://www.youtube.com/watch?v=p12Ckt57H9c>

Ball Drop https://www.youtube.com/watch?v=QmeHr_eCQDc