

Brainwork for Dogs

Teaching Cognitive Skills to Our
Canine Companions

(Play with Your Dog's Brain)

Session 3: Match to Sample;
Reading and Counting

Pat Miller, CBCC-KA, CPDT-KA

Peaceable Paws™
Dog and Puppy Training

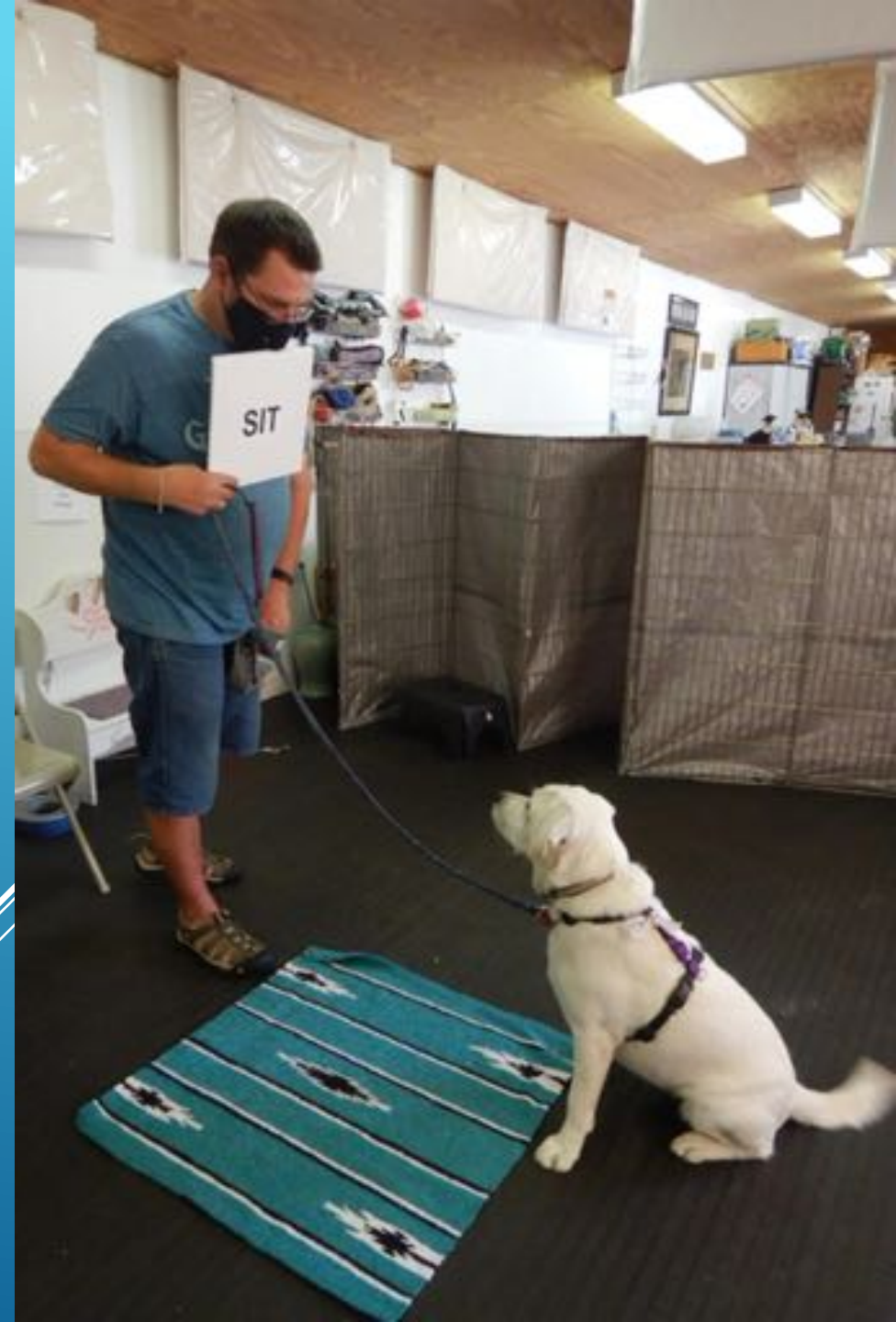
Fairplay, MD

www.peaceablepaws.com

A Puppyworks Webinar

www.puppyworks.com

1/22/22

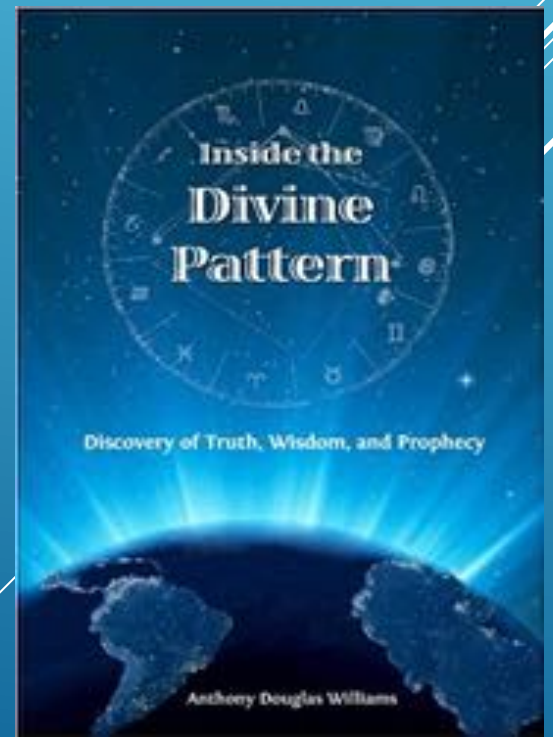




"If they breathe, they live. If they live, they think. If they think, they feel. Just like you and me." ~ *Anthony Douglas Williams*



Anthony Douglas Williams
1953 -



THE WONDERFUL WORLD OF CANINE COGNITION

- A whole new way of looking at our dogs (and other animals)
- Exercise your dog's brain and enrich her world (and brainwork is incredibly/surprisingly tiring!!)
- Add new life to your training programs for your own dogs and your clients' dogs
- Discover creative new ways to teach behaviors
- Amaze your friends and family (and clients) with your dog's cognitive talents



Zazie Todd Mirror Test Blog: https://www.companionanimalpsychology.com/2022/01/time-for-self-reflection-exploring.html?utm_source=convertkit&utm_medium=email&utm_campaign=Time+for+Self+Reflection%3F+Exploring+the+Mirror+Test+for+Self+Awareness+in+Animals%20-%207409211

(companionanimalpsychology.com: Time for Self Reflection? Exploring Developments in Animals' Abilites to Demonstrate Self-Awareness)

MATCH TO SAMPLE:

Have dog indicate matching object with a
“Same” or “Match” cue



MATCH TO SAMPLE

1. Fun and surprisingly easy!!! (compared to some cognition games...)
2. Have two identical objects
3. Warm up by having your dog nose or paw touch one object
4. Set object on platform



MATCH TO SAMPLE

5. Hold up second (matching) object
6. Cue “Same, touch”
7. If necessary, indicate object on platform with touch stick or finger
8. Fade stick/finger prompt as soon as possible
9. And, of course, click/mark and treat each success!





MATCH TO SAMPLE

10. Add one distractor object (help/prompt dog if necessary)
11. Change match objects
12. Add multiple distractor objects

**Advanced Match to Sample:
Match to a photo**

□ <https://www.youtube.com/watch?v=yG12rqPaldc>



















COUNTING

Ken Ramirez: "In 2013, I began what I thought would be a brief project: train a few dogs to understand the concept of counting. Previously, I had trained several dogs to count to three, a task that is not particularly difficult."

Science has shown that dogs have the ability to recognize quantities of three easily.

He worked with Coral, a highly reactive 3-year-old Airedale mix.

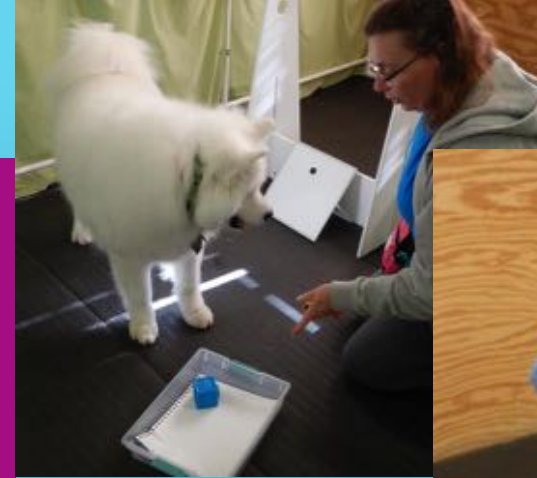
After Coral looked at the objects in the tray, she had to touch the whiteboard with the corresponding number of dots on the cue, "How many?"

Coral achieved a 79% success rate with numbers as high as 14. Beyond 14 she became frustrated (tried up to 22).

The remarkable Ken Ramirez has worked with at least one dog to achieve 95% accuracy with up to three items; 90% accuracy with up to eight items; 79% accuracy with up to fourteen items

<https://www.kenramireztraining.com/media/> and

<https://www.clickertraining.com/node/5002>



COUNTING

- You need:
 - A number of different colored items
 - A white tray
 - Boards with magnetic dots
- Dog watches you place one item in the tray.
- Ask her to touch the white board with one dot (cue: “How many”?).
- Repeat until she does this easily.



COUNTING

- Place a second board with two dots (remove the single dot board)
- Dog watches you place two items in the tray.
- Cue “How many?” and ask her to touch the white board with two dots
- Repeat until she does this easily.



COUNTING

- Now place both boards out.
- Place one item in tray, ask “How many?” If she touches correct board, mark and treat. If she touches incorrect board, do nothing.
- Repeat until she is reliably correct (80%-plus)
- Dog watches you place two items in tray.
- Give the “How many?” cue. If she touches correct board, mark and treat. If she touches incorrect board, do nothing.
- Repeat several times.
- Continue to add items and boards as she is reliably successful.

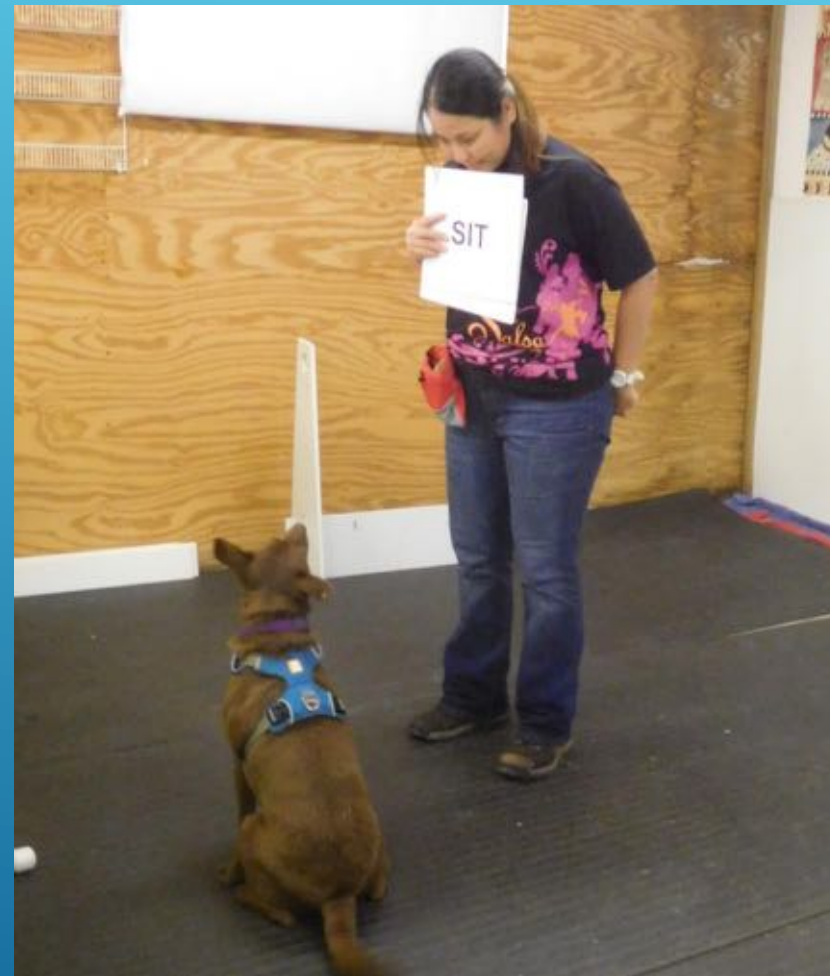




READING

Teaching your dog to interpret “squiggles” on a board and respond to the cue with the appropriate behavior.

- Two cards – one word on each card: “Sit,” “Down” or... your choice
- Dog starts in standing position
- Hold up “Sit” card, pause, cue dog to sit. Repeat until dog sits when you hold up card without “Sit” cue. (Dog now thinks white card with black squiggles means “sit”)
- Put “Sit” card away



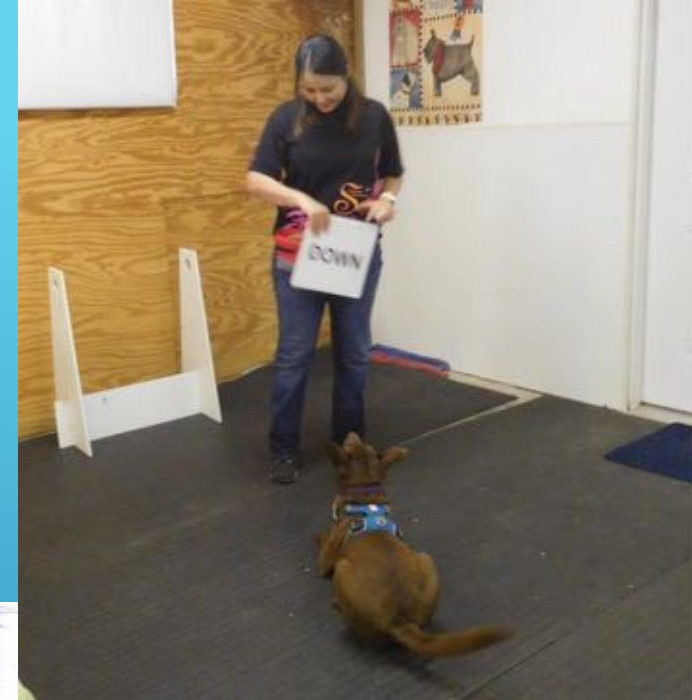
READING HINTS

1. if your dog doesn't know Stand/Stay move backwards as you do this or, alternatively – leave him on a stay across the room and call him to you.
2. Hold the “Sit” cue card behind your back between each repetition. (If you keep holding it up you are repeating the cue!)
3. Bring it out and hold it at chest height, pause, then verbally cue your dog to sit. If you were backing up, stop moving. If you called him to you, hold up the card as he reaches you.
4. It helps to write “sit” and “down” on the backs of the appropriate cards



READING

- Hold up the “Down” card, cue dog to down. Repeat until dog downs without the cue when you hold up card. (Dog thinks you changed your mind and white card with black squiggles now means down)
- Now randomly alternate cards (be sure to always hold cards in same position regardless of word on card), cueing as needed, until dog can get it right at least 80% of the time (or better) without the cue. Your dog is reading!
- Next – add a third behavior card...





















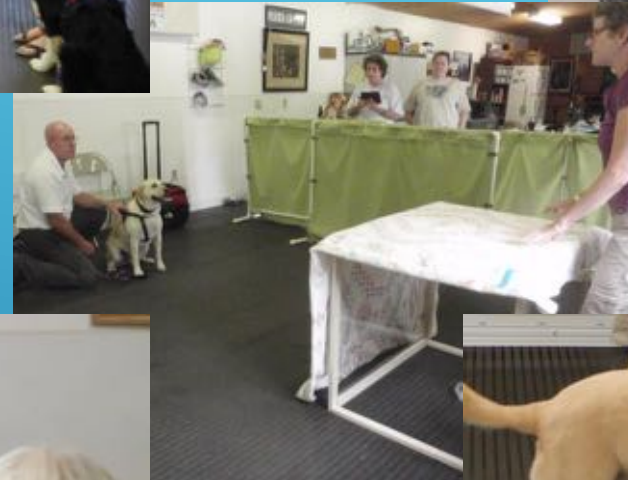




COGNITION ACADEMY TESTS

COGNITION ACADEMY TEAM COGNITION TEST PRESENTATION

1. What is your hypothesis/question?
2. How well did your protocol test your hypothesis/question?
3. Present/analyze your data
4. Discuss flaws/confounding factors
5. Present your team conclusions



Example Hypothesis: A dog will be fooled by the larger container when given the opportunity to select which plate to choose from when identical amounts of food are in each dish.

PAINTING



**Cognition?
Maybe not...
but FUN!!!**

WRITING?

1. Teach dog to hold marker in mouth
2. Teach dog to move marker in mouth against paper or whiteboard
3. Teach dog to move marker from one dot to next dog
4. Arrange dots to form words
5. Teach dog to write words by following dots
6. Associate cue with word
7. Fade use of dots



Can we teach them to read and understand the words that they write?

Bunny and Her Talking Buttons – I'm Skeptical

2020: Bunny hits the TikTok scene with her talking buttons, and she's an instant hit. Owner Alexis Devine insists Bunny knows what she is saying when she pushes buttons. I'm skeptical.

<https://www.theverge.com/21557375/bunny-the-dog-talks-researchers-animal-cognition-language-tiktok>

4/24/21 (Neuroscience News): A company that sells these word boards, FluentPet, launched a study in 2020 in collaboration with researchers at the University of California, San Diego, to understand how animals use this means of communication.

<https://neurosciencenews.com/animal-communication-18280/>

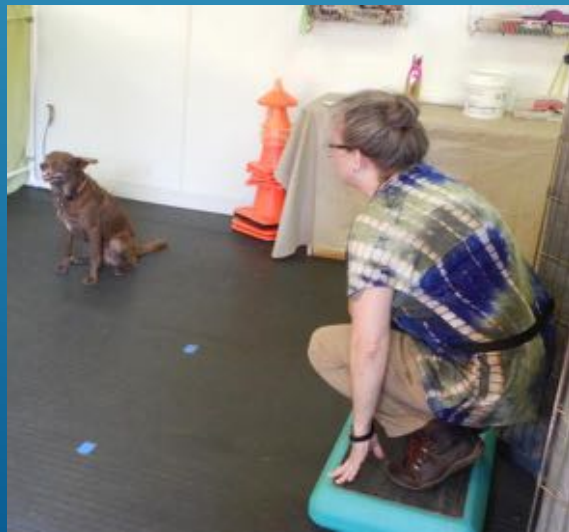
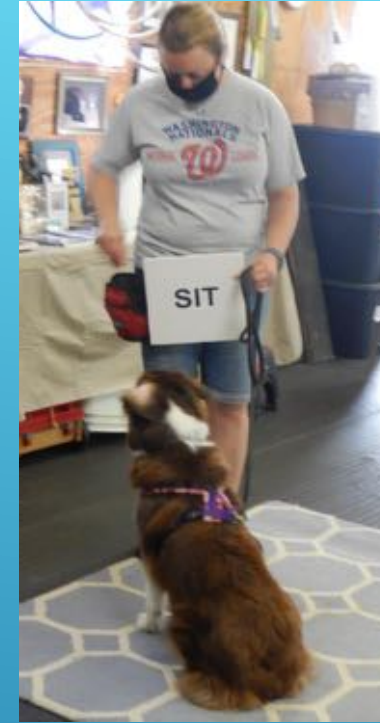




Peaceable Paws Very Ambitious Brain Games Class Curriculum

6 weeks, 1 night/1 hour class per week

Pre-requisite: completion of our "Beyond Good Manners" Class



Brain Games: Peaceable Paws Class Curriculum

Week 1:

Discussion

- The Importance of Choice
- Discuss Choice article
- Discuss Copy That article

In Class Work/At Home Practice:

- Choice Game with treats/toys. **Goal: dog understands the choice concept**
- Bucket Game - Reinforce your dog for looking at bucket (or bowl) in your hand – feed treats from the bucket. **Goal: 10-second duration looking at bucket; dog understands she has choice in husbandry procedures**
- Copy That – Phase 1 Imitation protocol. **Goal: teach your dog to imitate three known behaviors on cue**



Brain Games: Peaceable Paws Class Curriculum

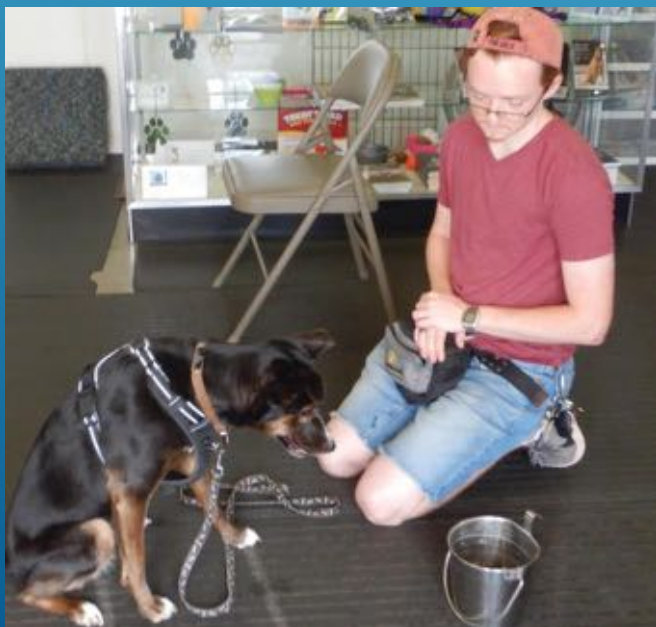
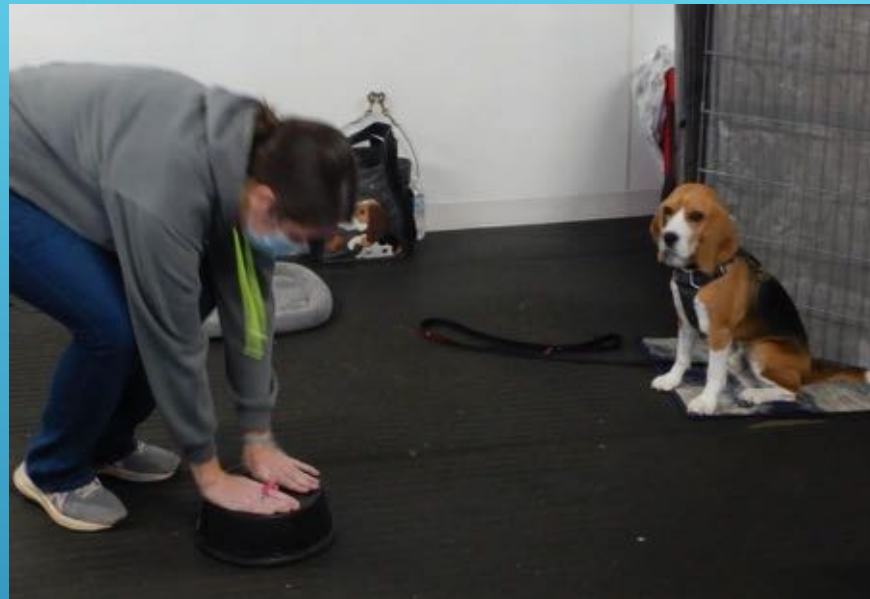
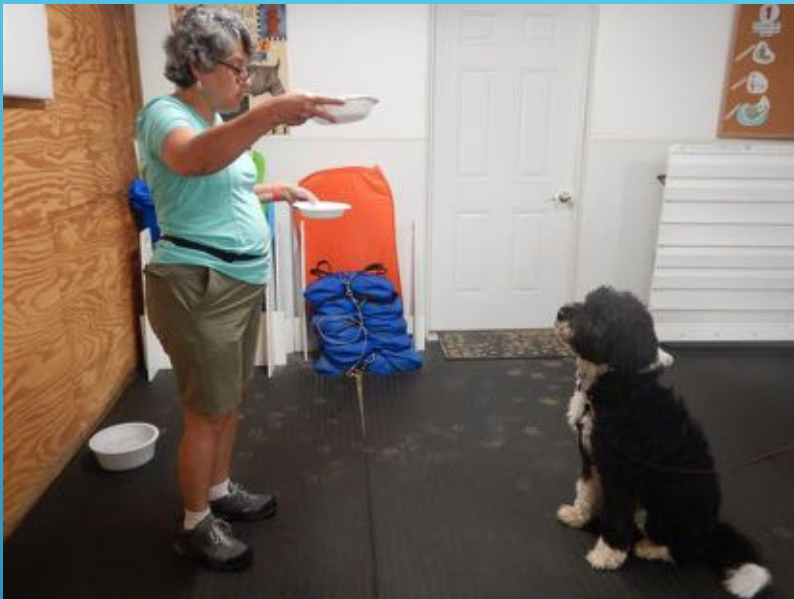
Week 1 (Cont.):

Assignments:

- Find at least three ways to bring choice into your dog's life. Present next week.
- Consider what your dog's name means to him/her – do you think your dog knows his name means “that's me”? Or is it simply a word that has a positive association with lots of treats and attention?
- For Object Discrimination Game - Select and think of names for 2 objects that interest your dog. (You can use objects he is already familiar with.) Bring them with you to class.
Goal: teach your dog to indicate correct object when named.



Brain Games: Peaceable Paws Class Curriculum Week 1



Brain Games: Peaceable Paws Class Curriculum

Week 2:

Review

- Present Choice ideas
- Discuss “Name” assignment
- Practice Choice Game
- Practice Phase 1 Copy That; Introduce Phase 2
- Practice Bucket Game

New In Class Work/At Home Practice:

- Reading: Begin to teach dog to understand “sit” and “down” cue cards. **Goal: to have dog sit and down in response to appropriate cards.**
- Object Discrimination - **Goal: Dog can quickly identify names of objects (fast-mapping).**



Brain Games: Peaceable Paws Class Curriculum

Week 2 (Cont.):

Discussion

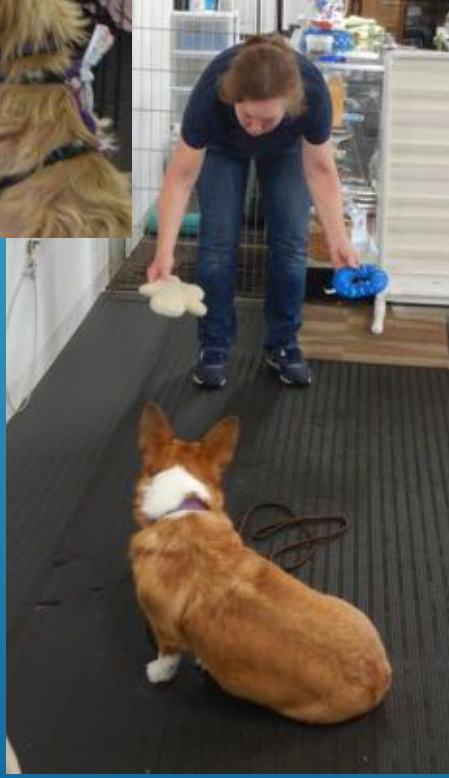
- “Fast-Mapping”
- Theory of Mind – I know you know: For discussion next week – what level of “Theory of Mind” do you think dogs are capable of?

Assignments:

- Consider “Theory of Mind” with respect to your dog.



Brain Games: Peaceable Paws Class Curriculum Week 2



Brain Games: Peaceable Paws Class Curriculum

Week 3:

Review

- Practice Choice
- Practice Bucket Game
- Practice Object Discrimination
- Practice Copy That – Introduce Phase 3
- Practice Reading

New In Class Work/At Home Practice:

Retrieve: Begin teaching retrieve using Imitation. **Goal: discover cognitive/useful applications of imitation.**

Discussion: “Theory of Mind” examples



Brain Games: Peaceable Paws Class Curriculum Week 3



Brain Games: Peaceable Paws Class Curriculum

Week 4:

Review

- Practice Choice
- Practice Bucket Game
- Practice Object Discrimination
- Practice Copy That
- Practice Reading
- Practice Retrieve



Brain Games: Peaceable Paws Class Curriculum

Week 4 (Cont.):

New In Class Work/At Home Practice:

Color Discrimination: Begin teaching

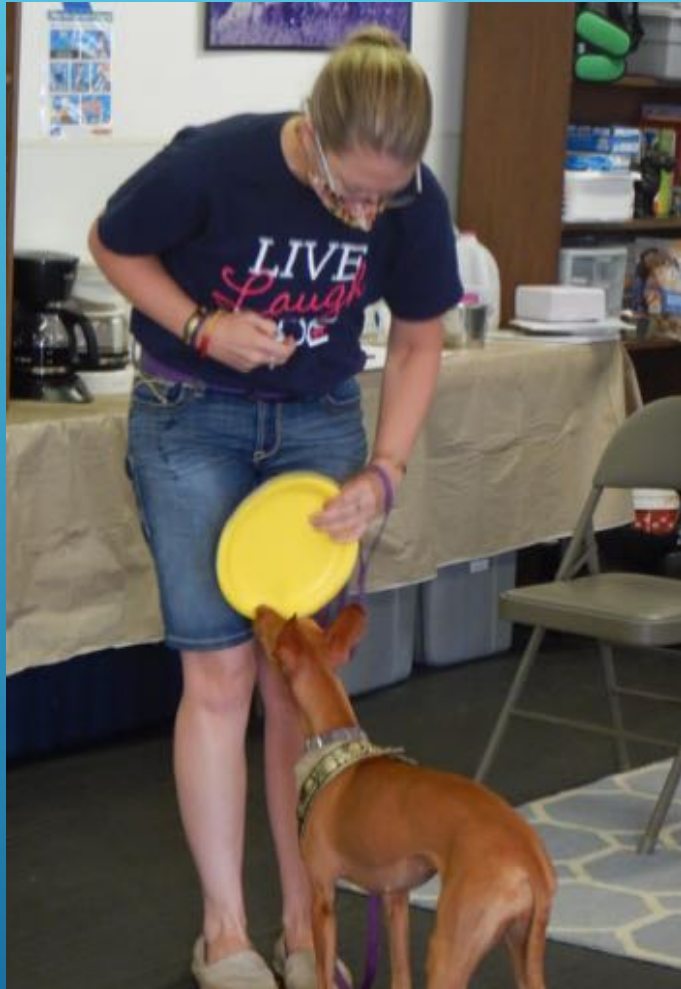
Goal: teach dog to recognize and identify various colors (within limits of canine color-blindness)

Discussion: Match to Sample

Assignment: Bring two identical “match” objects to class next week



Brain Games: Peaceable Paws Class Curriculum Week 4



Brain Games: Peaceable Paws Class Curriculum

Week 5:

Review

- Practice Choice
- Practice Bucket Game
- Practice Object Discrimination
- Practice Copy That
- Practice Reading
- Practice Retrieve
- Practice Color Discrimination



Brain Games: Peaceable Paws Class Curriculum

Week 5 (Cont.):

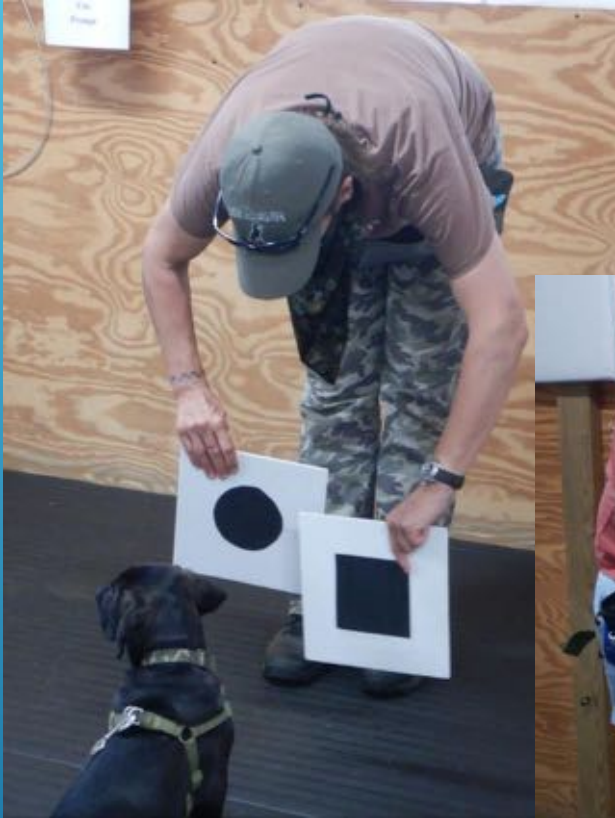
New In Class Work/At Home Practice:

- **Shape Discrimination: Begin teaching**
Goal: to teach dog to recognize and identify various shapes
- **Match to Sample: Begin teaching**
Goal: to teach dog Match to Sample skill

Assignment: Practice all skills for graduation



Brain Games: Peaceable Paws Class Curriculum Week 5



Brain Games: Peaceable Paws Class Curriculum

Week 6:

Review All

- Choice
- Bucket Game
- Object Discrimination
- Copy That
- Reading
- Retrieve
- Color Discrimination
- Shape Discrimination
- Match to Sample
- Class Demos and Comments

Discussion:

- Writing and Counting



CELEBRATE YOUR DOG'S BRAIN!!!















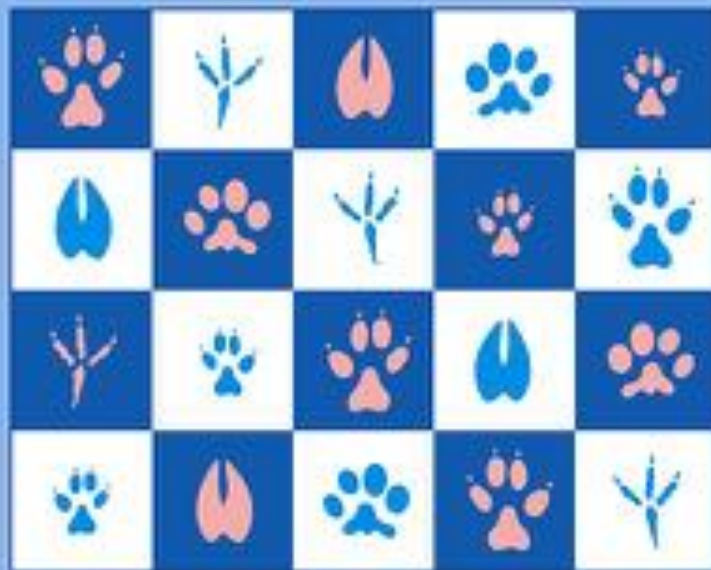
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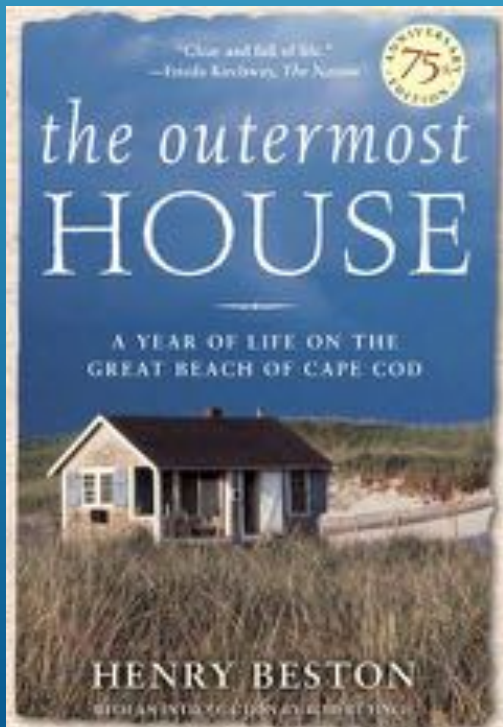
Henry Beston, *The Outermost House*: A Year of Life on the Great Beach of Cape Cod

“We need another and a wiser and perhaps a more mystical concept of animals. Remote from universal nature and living by complicated artifice, man in civilization surveys the creature through the glass of his knowledge and sees thereby a feather magnified and the whole image in distortion. We patronize them for their incompleteness, for their tragic fate for having taken form so far below ourselves.

And therein do we err. For the animal shall not be measured by man. In a world older and more complete than ours, they move finished and complete, gifted with the extension of the senses we have lost or never attained, living by voices we shall never hear. They are not brethren, they are not underlings: they are other nations, caught with ourselves in the net of life and time, fellow prisoners of the splendour and travail of the earth.”



Henry Beston
6/1/1888-4/15/1968



COFFEE BREAK FOR PAT MILLER: BRAINWORK FOR DOGS

Stay Tuned We Will Be Back Shortly!

In the meantime, check out our upcoming webinar with Sue Sternberg & Dr. Tim Lewis! Details at puppyworks.com.



presenting

**Sue Sternberg
Dr. Tim Lewis**

***The Factors Controlling the
Human-Canine Partnership:
Behavior, Environment & Sociability!***

A live online webinar in three 2 1/2 hour sessions,
each session hosted by both speakers.

Saturdays: February 26, March 5 & 12, 2022

Includes Attendee's Video Submissions!

6 CEU's Total

RESOURCES

- **Mental Exercise (Cognition):** <https://www.whole-dog-journal.com/training/cognitive-skills/are-canines-cognitive/>
- **Do As I Do, Claudia Fugazza (website):** <https://www.doasido.it/claudia-fugazza/>
- **Do As I Do, Claudia Fugazza (book):** <https://www.dogwise.com/do-as-i-do-using-social-learning-to-train-dogs-book-with-instructional-dvd/>
- **Genius of Dogs, Brian Hare (book):** <https://www.amazon.com/Genius-Dogs-Smarter-Than-Think/dp/0142180467>
- **Dognition, Brian Hare (Citizen Science):** <https://www.dognition.com/brian-hare>
- **Chaser; Unlocking the Genius Of the Dog Who Knows 1,000 Words, Pilley (book):** <https://www.goodreads.com/book/show/17415012-chaser>
- **Canine Cognition Center at Yale:** <https://doglab.yale.edu/>
- **Dog Cognition Lab, Alexandra Horowitz; Barnard College (Columbia University):** <https://dogcognition.weebly.com/>
- **Duke Canine Cognition Center (Hare):** <https://evolutionaryanthropology.duke.edu/research/dogs>
- **Family Dog Project, Adam Miklosi; Budapest, Hungary:** <https://familydogproject.elte.hu/>

About Pat Miller

Pat Miller is a Certified Behavior Consultant, Canine (KA) Certified Professional Dog Trainer (KA), A former Board member of the Certification Council for Professional Dog Trainers, past president of the Association of Professional Dog Trainers, member of PPG, APDT, APDTA, MAAAPPT and owner of Peaceable Paws, LLC, located on an 80-acre campus in Fairplay, Maryland. Prior to establishing Peaceable Paws in 1996 in Monterey, California, Miller worked for 20 years at the Marin Humane Society in Novato, California, and trained her own dogs for obedience and herding. She titled two of the first dogs in the world in Rally obedience, and has done agility and canine freestyle "just for fun." Her Scottish Terrier could ride a skateboard, push a shopping cart, say his prayers, salute, and play an electronic keyboard.

Miller is also Training Editor for The Whole Dog Journal (WDJ), and a regular contributor to WDJ and several other publications. She has published 7 books, most recently "Beware of the Dog" on canine aggression, a 5-booklet behavior series, and several DVDs.

Miller and her husband Paul, share their home with two dogs, four cats, three horses (plus several equine boarders), and a pot-bellied pig.



The End

