

GUIDE
DOGS



STEM Project

The making of a guide dog



Guide Dogs is the largest breeder of dogs in the world. There are currently 5000 working guide dog partnerships in the UK, and we've made a promise to each of those 5000 guide dog owners that if they want one, they can have a guide dog for life and there are new people who'll need a dog too. In 2017, 1356 puppies from 190 litters left our breeding centre to start their journey to become guide dogs. Unlike breeders of pet dogs, we don't breed for appearance but we use our knowledge of blood lines, inheritance, breed characteristics and temperament to produce puppies that are most likely to become successful, happy and healthy guide dogs. We have a code of ethics which outlines our ethical standpoint relating to breeding practices and shows our commitment to the Health and Welfare of all our Dogs. **Link to our code of ethics page.** A guide dog needs to be confident, friendly and willing to learn as well able to make its own decisions when dealing with difficult situations and adaptable to changes.

In over 80 years of working with guide dogs we've found that certain breeds are better guide dogs than others, so we've focussed our breeding programme around those breeds.



- 50%** **Golden Retriever Crosses**
(with Labradors or German Shepherds)
- 34%** **Labradors**
- 10%** **Golden Retrievers**
- 4%** **German Shepherds**
- 2%** **Other**
Poodle or curly coat retriever crosses

The Labrador/retriever cross is the most successful guide dog mix meeting the balance of health, temperament and behaviours that meet the guide dog standard.

The table below details the Guide Dog standard:

Task	Standard
Social	Acceptable spending (toileting) behaviour which could be reasonably managed by a guide dog owner.
	<p>Demeanour calm and relaxed in all social situations.</p> <ul style="list-style-type: none"> • Not attention seeking • Non boisterous/jumping up on greeting. • Not scavenging/stealing • Non vocal/minimal vocalisation • Non mouthing • Clean quiet and non- destructive overnight and when left for up to 3 hours without confinement in a home environment <p>Working situations Calm and relaxed with handler</p>
	Established recall response – comes back when called or whistled, in a controlled manner
	Obedience on and off the lead (solid sit, stand,heel, walk to heel and down/ stay, speed variation) including van obedience and in a variety of areas
Working with equipment	<p>Relaxed/confident acceptance of harness</p> <ul style="list-style-type: none"> • Body piece • Handle • Handle on back <p>Confident acceptance of harness at outset</p>
	<p>Relaxed on all transport.</p> <ul style="list-style-type: none"> • Dog settles quickly once on board. • Relaxed travelling • Positive when boarding/alighting transport (not rushed)
Guiding skills	<p>Kerb work</p> <ol style="list-style-type: none"> 1. Approach <ul style="list-style-type: none"> • positive kerb approach, with minimal support from handler 2. Stop <ul style="list-style-type: none"> • Straight sit/ stand • Stop without prompting from handler 3. Take off. <ul style="list-style-type: none"> • Steady straight take off

	<p>Straight line</p> <ul style="list-style-type: none"> • Central pavement position, with minimal handler influence • Moves from central pavement position for obstacle avoidance, but returns with minimal support • Central pavement position regardless of road on left or right • Straight road crossings and responds to straight command
	<p>Consistent speed and tension</p> <ul style="list-style-type: none"> • Dog maintains speed throughout walk • Responsive to speed control within varied conditions speed appreciation for busy conditions, but regains normal speed when clear • Sufficient guiding tension without pulling. Consistent throughout duration of route • Responsive to vocal command steady and “Hup up”
	<p>Concentration</p> <ul style="list-style-type: none"> • To be easily able to regain and maintain guiding task focus when walking past distractions or suspicious objects. • Recovery of focus when distracted should be prompt and with minimal support
	<p>Response to directional commands</p> <ul style="list-style-type: none"> • Positive responses to all commands, with minimal support • Response to be controlled/able to be followed easily

Task

Robot Guide Dog

- Which elements of the guide dog standard would be easiest to apply to a robot? Which would be more difficult?
- You'll need to take this standard into consideration when you are programming your robot/tech solution to guiding.
- Try this out by programming a robot or micro computer to perform the basics guiding skills outlined in the guiding standard. Would this be good enough to guide a person with visual impairment safely? If not, what else does the robot need to be able to do?

Why dogs?

Why do we use dogs for guiding?

Unlike other animals, dogs have a real willingness to please and work hard for their handler. Handlers can build an extremely strong rapport with their dog, unlike animals such as cats which are much more independent and don't have the same close bond with their owners. **A link to the video "Guide Mogs"**. Dogs also have the right level of initiative and intelligence as well as attributes such as confidence, dependability and soundness to carry out the function of guiding a person. Moreover, the size and stature of a dog, is more practical to guide a person.

Dog and human bonds lead to a strong working and social relationship. Its important to form a bond with a dog to meet its needs.

- Attachment
 - Security
 - Stimulation
 - Consistency
- Aids relaxation, confidence, predictability and therefore reduces stress levels
 - Aids and maintains attentiveness and concentration
 - Facilitates development of obedience responses and learning in general
 - Increases willingness, co-operation and motivation
 - Aids achievement of first and early walks objectives
 - Enables the dog to cope better with the demands that guide work brings e.g. taking responsibility for decision making
 - Helps the dog to cope with any negative feedback that may be given

This is why our trainers work hard to create a bond with the dogs they train – it benefits the dogs and makes them easier to train and means they will be confident workers in the future.

Task

How do dogs learn?

Carry out your own research into how dogs learn from humans through conditioning. Key words and phrases include '**behavioural conditioning**', '**positive reinforcement**', '**clicker training**'. Dogs respond best to '**classical conditioning**' and '**operant conditioning**'.

Guide Dogs only uses **positive training methods** through praise, clicker training and reward as reinforcement. Some dogs like praise as a reward, others have small treats or play sessions with their toys. Positive associations create a strong bond between dog and trainer and mean that a dog is more likely to behave in the way you want them to again and again as they have learned that good things happen when they do what they are told.

Working dogs

Dogs have been used throughout the centuries as working animals from sheep dogs on farms, sled dogs in places such as Alaska and Sweden to guard dogs throughout the world.

However, in the past century, we have a new type of working dog – assistance dogs. We work closely with our assistance dogs and often if a dog is not suitable to become a guide dog, then it may be more suitable for another assistance dog charity such as:

- Canine partners
- Dogs for the Disabled
- Hearing Dogs for Deaf People
- Medical Detection Dogs

They may also be more suited to working as a Police sniffer dog or a customs and Excise dog.

Each of these organisations look for a particular type of dog, each with different attributes to suit their clients. For example, a guide dog cannot be distracted by the environment around them, however, they could go on to become an excellent sniffer dog in the police and being aware of their environment would actually be an advantageous trait.

Questions

- Why do we use dogs rather than other animals to guide people who are vision impaired?
- What makes dogs easier to train?
- Why is it important that trainers and owners form a bond with their dog?
- What happens when the dogs we train demonstrate traits that aren't suitable to guiding?