Lesson 2

BUYING A HORSE

Aim
To describe the procedures for the buying and selling of horses.

It is important to match the horse and it's rider very carefully. A well matched horse and rider will make a happy combination. There are several points to consider.

Temperament
Horses vary in their temperament just as people have different personalities. Horses can be bold or timid; nervous or placid; mean or kind. Horses with a difficult temperament should be matched with experienced, calm riders who will improve these horse's behaviour. Novice riders should be matched with a "schoolmaster". This is a horse that will not take advantage of a rider's inexperience and is kind and steady.

Size
Height -The horse is measured from the highest point of the withers to the ground. (see Figure 2.1).
The unit of measurement is a HAND and this equals 4 inches or 10 cms. (The imperial measurement is usually used despite metrication). A horse is described as so many hands high, abbreviated to hh.
Horses.....over 14.2 hh
Ponies.....up to 14.2 hh
(Animals that measure up to 15 hh, but show distinct pony characteristics may be called ponies).

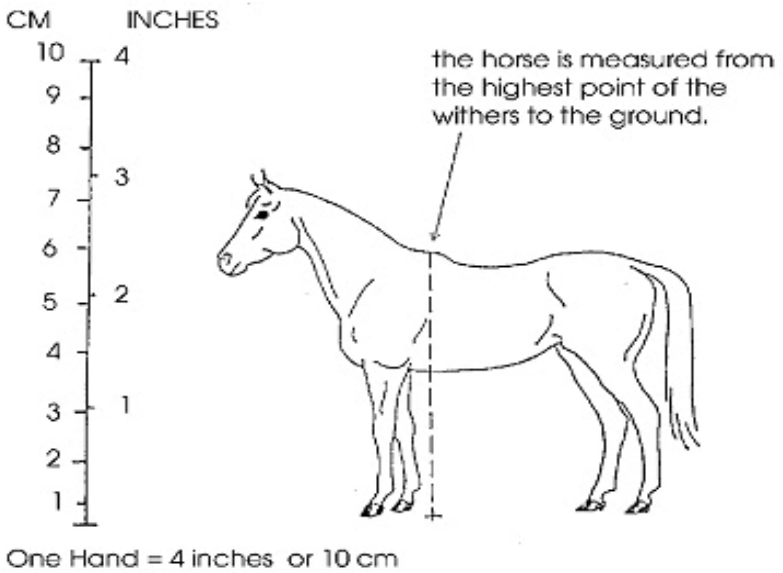


Fig 2.1: Measuring the horse

Example:
How tall is a horse that is 15.3 hh?

15.3 = 15 hands + 3 inches
= (15 X 4) + 3
= 63 inches divided by 12 to get feet.
= 5 feet 3 inches

1 inch = 2.54 cms
63 inches = 63 X 2.54
= 160.02 divided by 100 to get metres
= 1 metre 60 cms

It is easy to "guesstimate" a horse's height fairly accurately. Measure yourself from head to toe and convert your height into hands. Then stand next to the horse's withers and compare your heights. "Guesstimate" how many inches you must add or subtract to your height so that your height matches the horse's. It is wise to match the height of the horse to that of the rider for ease of riding. However, height alone does not determine what weight the horse will carry.

Weight Carrying Ability
The ability of a horse to carry weight depends on the strength of it's bone and muscle. A thick boned short pony can carry proportionally more weight than a tall, light boned horse.
It is important, therefore, to match both the height and the weight carrying abilities of the horse to the rider's build. Remember, a short rider is not always light - nor is a tall rider always heavy.

Age
The younger the horse, the less experienced it is and the more likely it is to behave unpredictably. A young horse needs a skilled rider to train it. An older horse is often trained and easier to manage. A horse begins its ridden training at 3 years old and can be worked to the age of 15 - 20 years when most horses begin to show signs of age.

EQUINE DENTITION & AGEING
The Age of domesticated livestock can be estimated by examination of the teeth. This is not always accurate as factors such as feed, soil type and water quality influence the rate of wear. Coarse fibrous feed causes faster teeth wear as does grazing on sandy and gravel soils. Fluorosis can be a problem if the fluoride content of bore water is excessively high.

Glossary of Terms
AGED
Usually refers to a horse over the age of 8 years; or a horse over the age of 15 years as any degree of accuracy in ageing is no longer possible. This is of little or no importance as the horse if past its prime.

BRIDLE TOOTH or canine or tush.
Small tooth found in males and located behind the corner incisors in each jaw – the number can vary. If found in mares they are small and number 1-4.

BUCCAL SURFACE
The outer surface of the tooth, close to the cheek.

CENTRAL INCISORS
The two incisors, on each jaw, on either side of the mid line

CORNER INCISORS
The last (rear) or most lateral incisors

ERUPTION
The tooth has cut through the gum and is visible

GALVAYNE'S GROOVE
A groove running down the labial surface of the upper corner incisors. It appears near the gum at 10 years

INFUNDIBULUM
The dark depression (cup) on the wearing surface (table). It is surrounded by enamel.

IN WEAR
The wearing surface of one tooth is in contact with the opposing tooth of the other jaw.

LABIAL SURFACE
The outer surface of an incisor tooth, close to the lips

LATERAL INCISORS
Those between the central incisors and corner incisors on each jaw.

LINGUAL SURFACE
The inner surface of all teeth, close to the tongue.

MOLARS
The last 3 cheek teeth on both sides of each jaw

PERMANENT TEETH
These replace the temporary (deciduous) incisors and premolars. There are no temporary molars, or bridle teeth (visible).

PREMOLARS
The first 3 cheek teeth (if no wolf teeth) on both sides of each jaw. Immediately in front of the molars.

TABLE
The wearing surface

TEMPORARY TEETH or deciduous milk teeth
Those which are present at birth or erupt shortly after. They are pushed out by the permanents.

WOLF TOOTH
A small vestigial tooth 1-2 cm in length located immediately in front of the first well defined cheek tooth – 2nd premolar. May or may not be present as it is often shed with the temporary tooth (premolar) behind it.

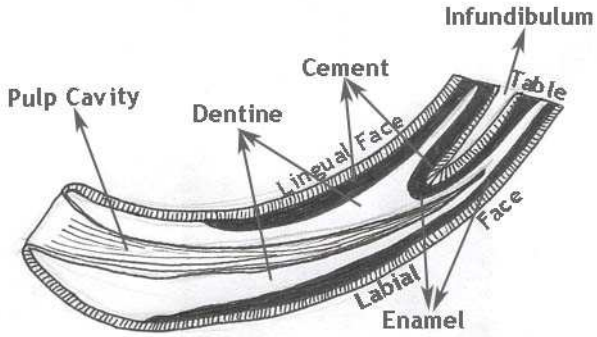


Figure 2.2 Diagram of longitudinal median section of a partly worn horse's incisor tooth, showing its structure.

The dental formula for permanent dentition of the horse is

$$\frac{3 \quad 1 \quad 3 \text{ or } 4 \quad 3}{3 \quad 1 \quad 3 \text{ or } 4 \quad 3}$$

This means that on the right and left sides of each jaw (4 sides) there may be 3 incisors, 1 canine, 1 wolf, 3 premolars and 3 molars. This gives a total of 40-44 permanent teeth.

The easiest and most commonly used procedure to determine the age of horses is:

- Firstly take a general overview of the animal and determine if it is young, middle aged 8-15 years or aged (elderly) 15 years plus.
- Once the horse has been selected to one of the above categories a close examination of the 12 incisor teeth, a glance to see if the bridle teeth have erupted, the slope of the incisors together with their length and the shape of their tables.
- The eruption of the cheek teeth (premolars and molars) is used to a lesser extent to determine age. Though this is an accurate aid they are more difficult to observe and as a result are used less frequently.

Temporary incisors differ from the permanents in that they are smaller, smoother and whiter and they are rounded where they meet the gum and a small triangle of gum is seen between each tooth. There is very little or no gum seen between the permanent incisors. Also, the upper permanent incisors usually have two well defined grooves on the labial surface while the lower permanent incisors have only one groove.

The infudibulum (cup) appears as a deep depression in the centre of the tables of the newly erupted permanent incisors. As the tooth wears the infundibulum becomes more shallow until it finally disappears leaving a ring of enamel and the shape of the table changes from oval to triangular to quadrilateral.

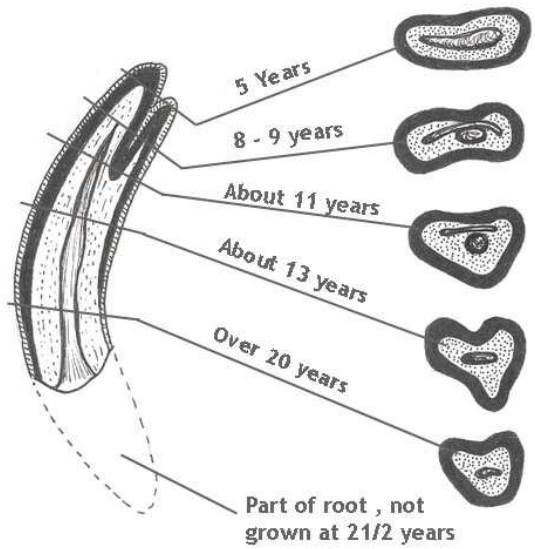


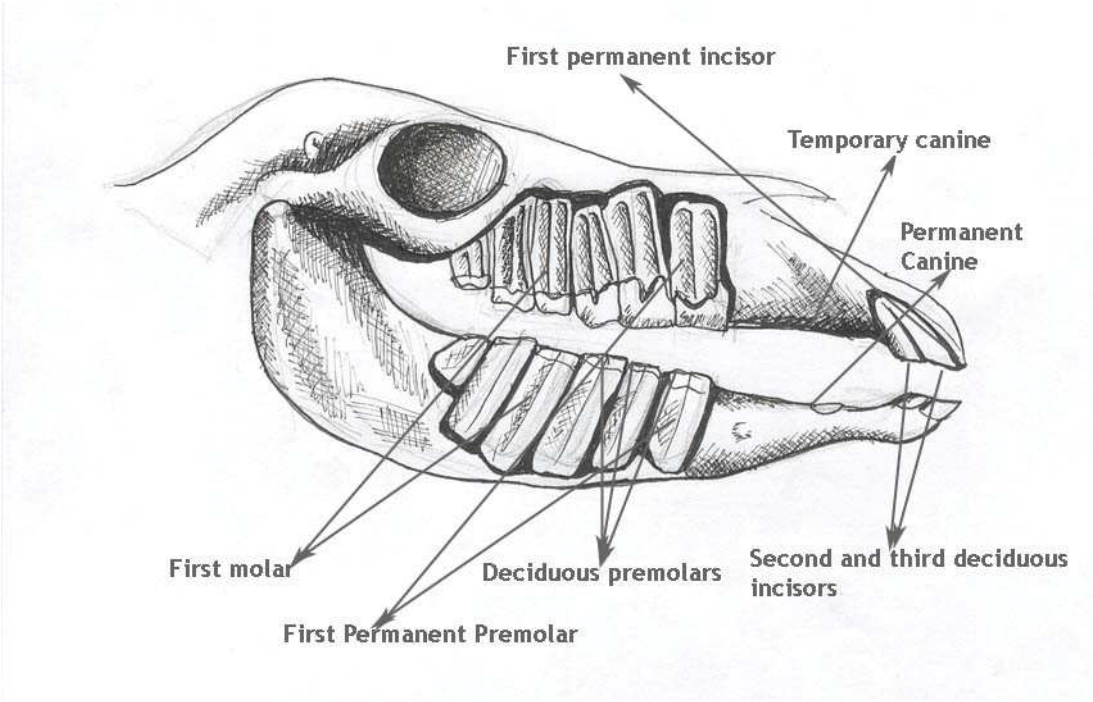
Figure 2.3: Longitudinal Section of lower central incisor, showing the approximate appearance of the cross section i.e. what the tables are at various stages of wear. This tooth erupts at 2 years 6 months.

The slope of the incisors begins to increase from about 8 years of age. From 9 years the gums begin to recede and the incisors appear to increase in length.

Temporary canine teeth occur in both sexes, 6mm in length and do not erupt. There are no temporary wolf teeth. There are no temporary molars.

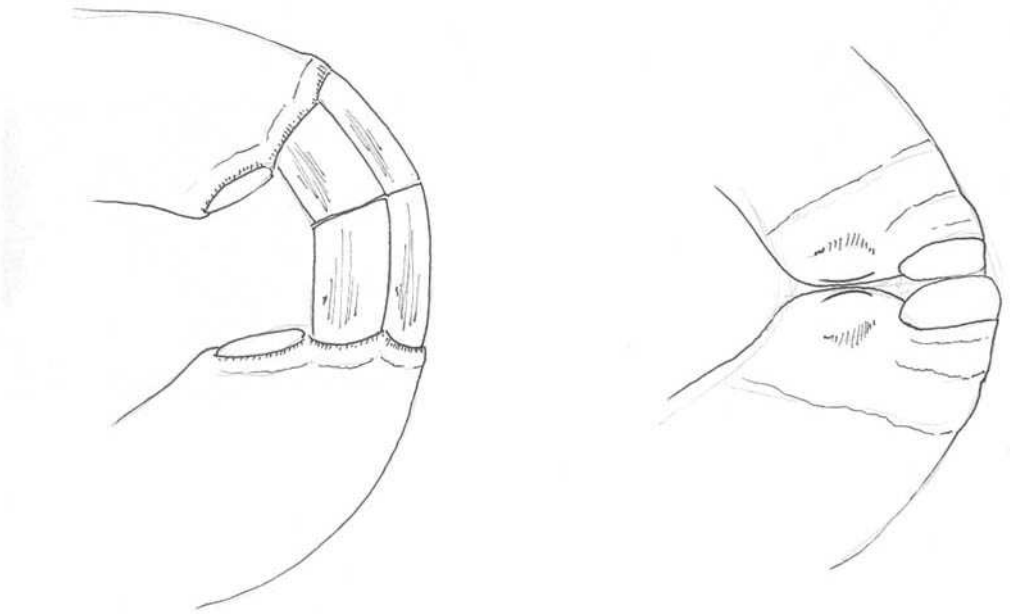
AGE OF ERUPTION	INCISORS	CANINES	PREMOLARS	MOLARS
Birth – 8 days	2 Temp Centrals			
4-8 weeks	2 Temp Laterals		1st, 2nd, 3rd Temp Pairs	
5-6 Months			1st Perm Pair (WOLF)	
8-9 Months	2 Temp Corners			1st Perm Pair
1 ½ - 2 Years				2nd Perm Pair
2 ½ Years	2 Perm Centrals		2nd Perm Pair	
3 ½ Years	2 Perm Laterals		3rd Perm (3 yrs)	3rd Perm Pair
4 ½ Years	2 Perm Corners	ALL (1-4)	4th Perm	

Note: Perm = Permanent; Temp = Temporary



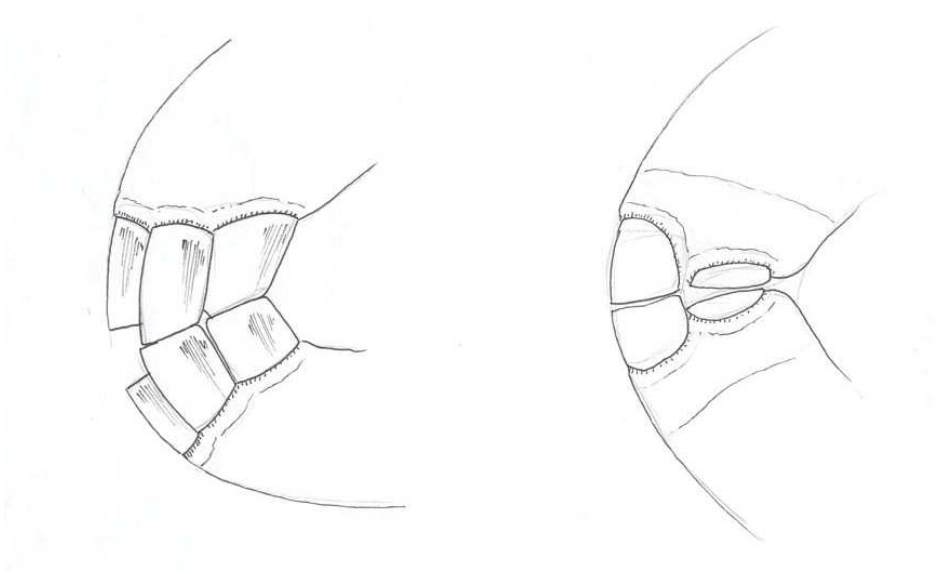
Birth to 8 days

- The foal is usually born with the 2 temporary central incisors of each jaw erupted or nearly erupted.
- The premolars can be felt under the gum.



4 – 8 Weeks

- The two temporary laterals on each jaw erupt,
- the temporary centrals have met and the 3 pairs of temporary premolars on each jaw have erupted.



8 – 9 Months
- The temporary corner incisors top and bottom have erupted and the centrals and laterals are in wear.
- The 1st pair of permanent molars in both jaws have erupted or nearly erupted.
- The 1st pair of permanent premolars, Wolf, will have erupted by now (5-6 months).

1 Year
- The 1st permanent molars are in wear.
- The temporary corner incisors have met along their front edges.

1 ½ Years
- All the temporary incisors are in wear
- Centrals and laterals are quite prominent
- 2nd permanent molars have erupted or nearly so.

2 Years
- The corner incisors are in wear.

2 ½ Years
- The two temporary central incisors in each jaw are pushed out by the permanents.
- The 2nd permanent premolars replace the temporaries

3 Years
- The permanent central incisors are in wear.
- The 3rd permanent premolars push out the temporaries.

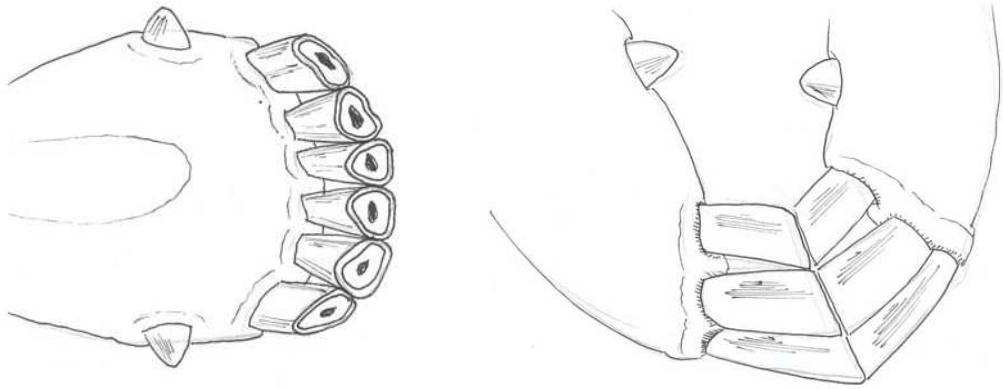
3 ½ Years
- The permanent lateral incisors have erupted or nearly.
- The 3rd permanent molars (back) should have erupted.

4 Years
- The permanent laterals are in wear.
- The 4th permanent premolars erupt.

4 ½ Years
- The permanent corner incisors erupt.
- The canines (1-4) have erupted. All the premolars (2,3 & 4) are in wear.
- The horse is now classed as a “full mouth”.

5 Years

- The corner incisors are now in wear on their front edges.
- The canines are well grown with sharp points.



6 Years

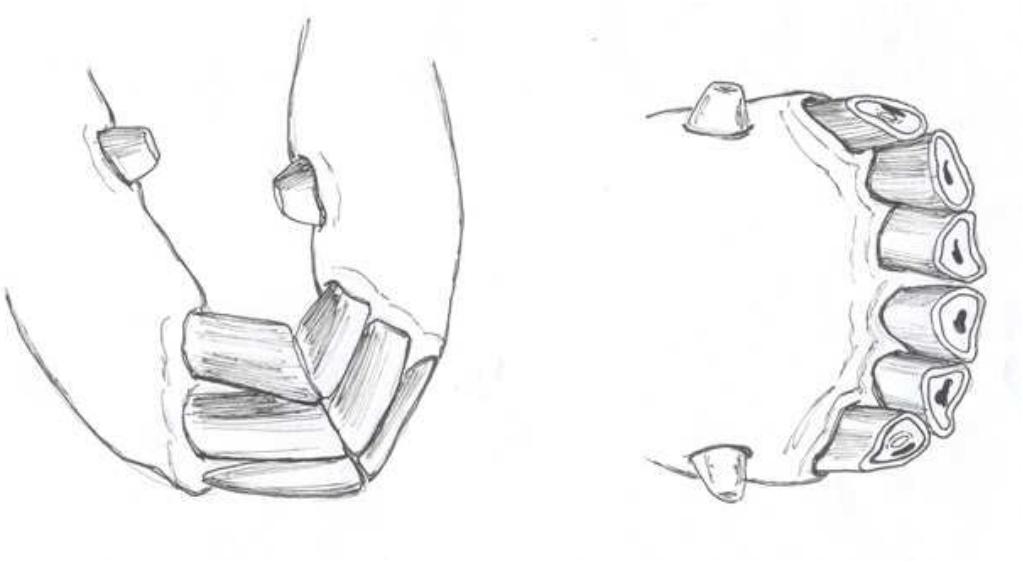
- The corner incisors are in full wear.
- The infundibulum on the lower central incisors is gone or nearly gone. The inner rings of enamel remain.
- The tables of the centrals and laterals have become an obvious oval shape.

7 Years

- The infundibulum of the lower laterals is very shallow or gone.
- Presence of the “7 year hook” on the posterior edge of each upper corner incisor due to them being larger than the corresponding lower incisor.
- The tables of the centrals are now broader from front to back.

8 Years

- The central ring of enamel and the tables of the central incisors are becoming triangular. The infundibulum of the lower corner incisors is gone or very shallow.
- The “7 year hook” has gone or nearly gone.
  The “dental star”, which is a brownish yellow to brown stain line which runs across the tooth between the inner enamel ring of the tables and the front edge of the tooth begins to show on the centrals and laterals.
- The angle of incidence of the incisors is less than 180°i.e. they are beginning to slope.

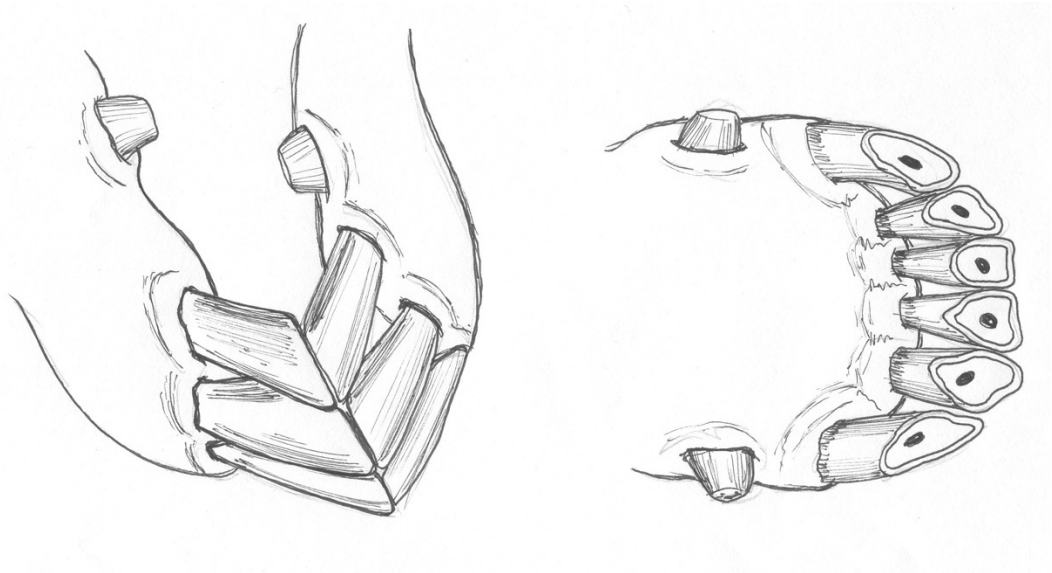


9 Years

- The infundibulum of the upper central incisors is gone or nearly gone.
  The dental star is now visible in the tables of all the incisors but most obvious in the centrals.
  The tables of the incisors are becoming broader from front to back.
  The slope of the incisors has increased from 8 years.

10 Years

- The infundibulum of the upper lateral incisors is gone or nearly gone.
- The tables of the central incisors are as deep as they are wide and contain only a small inner enamel ring. The inner rings of the laterals and corners are still large and oval shaped.
- Galvayne's Groove appears as a small "V" just below the gum on the labial surface of the upper corner incisors.



11 Years

- The infundibulum of the upper corner incisors are gone or nearly gone.
- The disappearance of the infundibulum from the upper incisors is not as definite as it is in the lower jaw.
- The upper incisors are larger and longer than those in the lower jaw and tend to erupt earlier.

13 Years

- The angle of incidence has become more acute and the teeth appear longer due to the receding gums.
- The tables are now triangular. The inner ring of enamel has disappeared from the tables of the centrals and laterals.
  The dental star is distinct in the centre of the tables.

15 Years

- Galvayne's groove is now halfway down the labial surface of the upper corner incisors
- The tables have become broader front to back and a depression appears in the centre of the dental star.

17 Years

- Galvayne's groove is about 2/3 of the way down.
  The teeth are longer still due to the receding gums.
- The angle of incidence is more acute and the tables of the centrals and laterals are more triangular.

20 Years

- Galvayne's groove has reached the bottom of the labial surface.
- The depression in the dental star is distinct.

20 – 30 Years

- Galvayne's groove begins to disappear from the top of each corner incisor and has grown out by about 30 years.
- The dental stars are square shaped and the tables are elongated from front to back.
- The gums have receded further and by 30 years each gum is quite flat.
- The incisors are now well worn.
  The slope is more acute.

The upper corner incisor is the most important tooth in determining the age of a horse. It plays a leading role at:

7 – 9 months	-	eruption of temporaries
4 ½ years	-	eruption of permanents
6 years	-	in full wear
7 years	-	7 year hook
10-30 years	-	start of Galvayne's groove at 10 years and its disappearance at 30 years.

Summary/Ready Recogniser:

8 Days 8 Weeks 8 Months	Eruption of temporary incisors
2 ½ Years 3 ½ Years 4 ½ Years	Eruption of permanent incisors
3 Years 4 Years 5 Years	Permanent incisors in wear
6 Years	Corner incisors in full wear
7 Years	7 year hook on upper corner incisors
8 Years	Dental star appears on central and lateral incisors
10-30	Galvayne's groove on upper incisors

OTHER CHARACTERISTICS

Sex

Riders may prefer one sex of horse to another. Some people find female horses unpredictable and ticklish, others praise their kind and gentle natures! Male riding horses are usually castrated to make them more manageable. Table 2.1 gives a list of terms used to describe sex and age in horses.

TABLE 2.1 - TERMS DESCRIBING SEX AND AGE IN HORSES

Foal	The young of a horse, either sex, 5 to 6 months of age
Filly	Young female up to three years old
Colt	Young entire male up to three years old
Yearling	A horse of either sex between one and two years old
Two year old	A horse of either sex between two and three years old
Mare	Female horse over three years old
Stallion	Entire (uncastrated) male horse over 3 years old
Gelding	Castrated male horse of any age
Rig	Incompletely gelded male horse (one or two testicles retained in the abdominal cavity) - behaves like a stallion but cannot make a mare pregnant. Also known as a **cryptorchid**

Experience

The experience that a horse has depends on its age and its training. It is important to match the horse's past experience to what the rider expects to do with the horse.

Potential

Sometimes a horse lacks past experience in a certain activity, but has the potential to be trained if the rider is skilful. The horse must be young enough to accept the training and should have the temperament and conformation (shape) for the new activity.

Colours & markings

This, like the horse's sex, can be matched to the riders preference. There is ongoing debate as to whether colour affects the horse's temperament and performance. See Table 2.2 and Figure 2.4 for colours and markings used to describe horses.

TABLE 2.2 **COLOURS OF THE HORSE**	
ALBINO	No pigments, white hair, pink skin, blue eyes
BLACK	Black in colour. Black points
BROWN	Dark brown with brown points
BAY	Brown body with black points
CHESTNUT	Ginger body with ginger points. Can be 'light', 'dark', or 'liver chestnut'
GREY	White and black hairs in coat, black skin, coat becomes lighter in colour with age
IRON GREY	Black hairs predominate
LIGHT GREY	White hairs predominate. Also 'fleabitten grey' where dark hairs (usually chestnut) occur as dots and 'dappled grey' where dark hair occurs in ovals.
DUN	Cream to golden body, usually black points
PALOMINO	Golden coat, white or silver mane & tail
STRAWBERRY ROAN	Chestnut and white hairs in coat
BAY ROAN	Bay and white hairs in coat
BLUE ROAN	Black and white hairs in coat
PIEBALD	Large irregular patches of black and white on coat
SKEWBALD	Large irregular patches of brown and white on coat
ODD-COLOUR	A horse that does not conform to the above categories

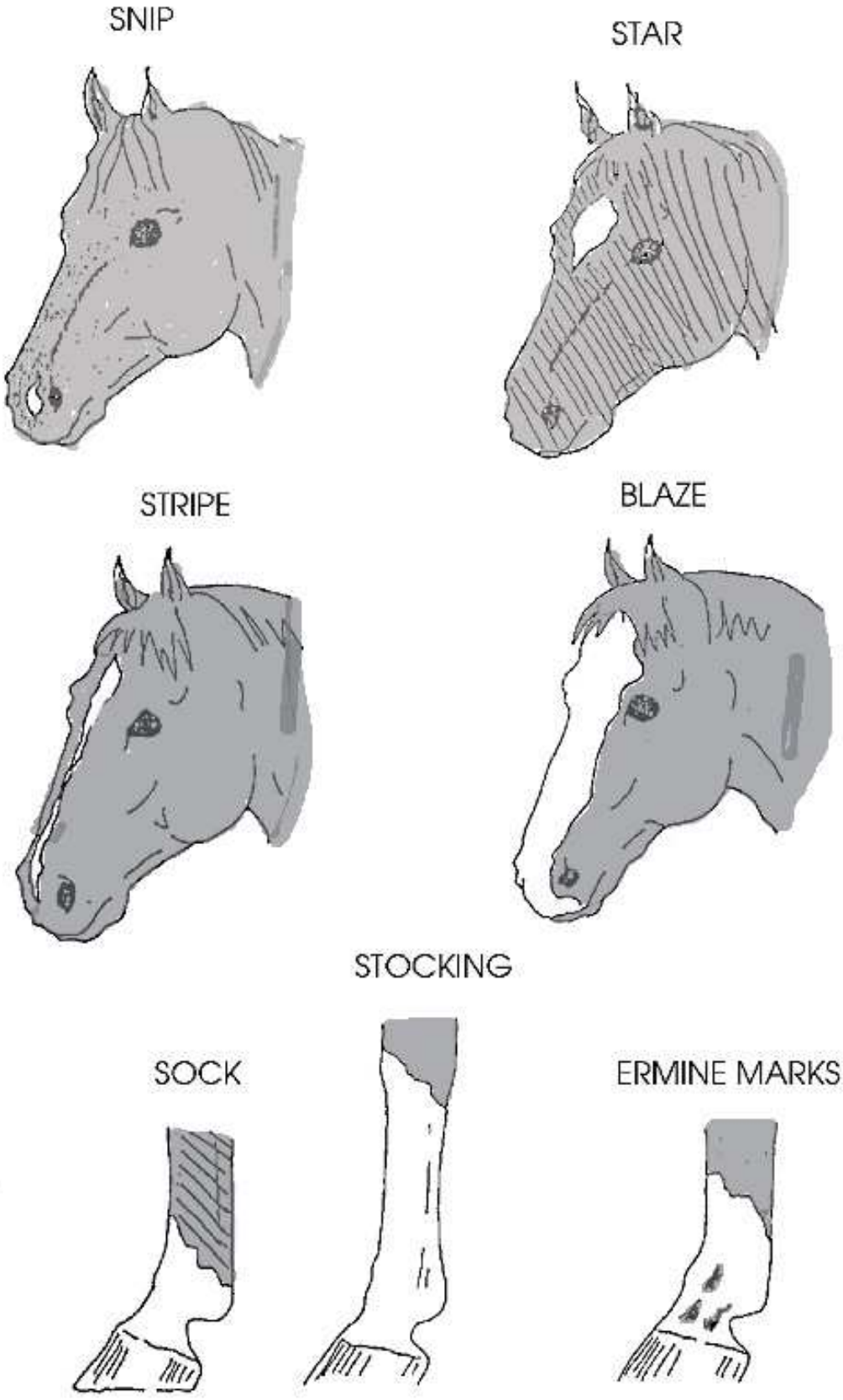


Fig 2.4: Markings found on horses

BREED

The breed of a horse affects its temperament, height and weight, colour and potential. Matching of a horse's breed to a rider depends on the riders preference and capabilities. Some breeds are more difficult to handle and keep in good condition than others. Below is a short description of the more common breeds in Australia.

Australian Stock Horse.

Origin:	Australia
Height:	14 - 16 hh
Colour:	Any. Solid colours preferred
Temperament:	Mild manner
Characteristics:	Tough, durable, comfortable canter, thoroughbred influence
Potential:	Stock work, camp draft, polo, endurance, dressage, showjumping

Arab

Origin	Arabia
Height	14.2 - 15.1 hh
Colour	Gray, bay, chestnut
Temperament	Spirited, fiery, intelligent, bold, loyal
Characteristics	Beautiful concave head, wide nostrils, large dark eyes, arched neck, compact body, legs delicate but strong. Graceful, effortless action. Great stamina
Potential	Riding horse, especially endurance riding

Thoroughbred

Origin	England
Height	14.2 - 17.3 hh Average 16 hh
Colour	Black, Brown, Bay, Chestnut, Grey
Temperament	Bold and brave
Characteristics	Aristocratic head, straight face, large eye, long arched neck, good sloping shoulders and strong back.
Potential	Fine and silky coat, action free, long striding and very fast. Horse racing, show jumping, general riding

Anglo-Arab

Origin	Britain, France, Poland - the result of interbreeding Arabs with Thoroughbreds
Height	15.3 - 16.2 hh
Colour	Bay and Chestnut most usual
Temperament	Brave, gay, sweet natured, intelligent
Characteristics	Delicate straight head, large eyes, good shoulders, tail carried high, slender long legs
Potential	General riding and jumping

Australian Pony

Origin	Derived from other pony breeds in Australia
Height	Not exceeding 14 hh
Colour	Any solid colour, or grey
Temperament	Alert, gay, sweet natured
Characteristics	Intelligent head, slightly crested neck, sloping shoulders, strong back, strong neat feet, pretty
Potential	Childs pony, pony club and showing

Quarter Horse

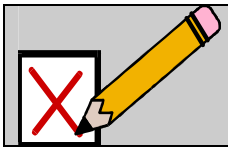
Origin	American
Height	14 - 16 hh
Colour	Black, bay, brown, chestnut, roan, dun, palomino
Temperament	Calm, reliable, alert, intelligent, willing
Characteristics	Big haunches, well muscled, compact body, cow sense
Potential	Cattle work, sporting events and western and English pleasure riding

Shetland

Origin	Shetland & Orkney Islands - Northern Scotland
Height	Never over 10.2 hh. Average 9.3 hh
Colour	Any. Black and dark brown most common
Temperament	Gentle but courageous. Adaptable
Characteristics	Small head, kindly eyes, abundant mane and tail, heavy winter coat, light action. Legendary strength. Can pull twice it's own weight and carry grown men over long distances. Very hardy
Potential	Ideal childs first pony, light harness work, working pony, (was used as a pit pony in the coalmines of Northern England)

Welsh

Origin	Wales
Height	Up to 14 hh, larger ponies being called Welsh Cobs
Colour	Any colour except piebald and skewbald
Temperament	Kind, intelligent, spirited, courageous
Characteristics	Arab type head, graceful neck, short muscular back. Tail carried gaily. Quick free action
Potential	Excellent children's ponies, good in harness, showing, jumping



SELF ASSESSMENT

Perform the self assessment test titled ' test 2.1'

If you answer incorrectly, review the notes and try the test again

SET TASK

(1) Visit a stable and note the breeds of horses the stable holds. Find out why they have these types or breeds. Also note the sexes of the horses and find out whether the sex of the horse affects the performance of the horse.

What if You Cannot Visit a Horse Facility?

For most people undertaking a course on horses, this should not be a problem
It is assumed that if you have a serious interest in horses, you would be visiting such facilities anyway.

If you cannot visit a real life facility in this or future lessons due to insurmountable problems such as a disability or isolation you may as an alternative, investigate the same type of facility by undertaking a virtual visit
(i.e. Visiting a well illustrated and comprehensive web site).

(2) Find out all that you can about the buying and selling of horses in your locality. Consider private sales, agents, direct from breeders, stock markets, etc. How are these sales notified to the public (e.g. newspapers, club newsletters, industry or trade magazines, word of mouth)?

(3) Inspect a horse being offered for sale in your locality.

ASSIGNMENT
Download and do the assignment called 'Lesson 2 Assignment'.