

Horses, Donkeys, and Mules¹

By Gary Clendenen

Horses, donkeys, and mules are found in most countries and they come in different sizes and colors. The photo on the left is of a huge horse meeting a small miniature horse. The photo on the right is a baby donkey. Horses, donkeys and mules did not live in North America until the Spanish brought them in the 1500s.



Can you find 4 differences between the three animals in the photos above?

Why does the baby miniature donkey in the photo on the right look taller than the huge horse in the photo on the left?



At the left is a photo of a baby miniature mule named Melly. Her mother is a miniature horse and her father is a miniature donkey. So she is one-half horse and one-half donkey.

Melly is what percent donkey?

Does Melly look more like one of the horses or more like the donkey above? Why do you think that?

¹ Suggested Grades: 5 – 6 Skills: Compare animals, draw a conclusion based on perspective from photos, convert a fraction to a percent, multiply using percent and decimals, complete a table, add a column of numbers, and use addition and multiplication to answer the same question.

Horses, donkeys and mules can only carry 20% of their own weight.

We usually measure the height of humans in feet and inches, or centimeters. But the height of horses, donkeys and mules is measured using a measure called a “hand.” When used this way, a hand is the same thing as 4 inches. It has nothing to do with your hand. For example a small dog might be two hands tall which means that it is 8 inches tall.



$$2 \text{ hands} = 2 \times 4 \text{ inches} = 8 \text{ inches tall}$$

Complete the following table:

Animal	Height	Weight	Height (in inches)	How much Weight can it Carry?
Huge Horse	16.1 hands	1900 pounds		
Miniature Horse	7 hands	221 pounds		
Full Size Donkey	8.7 hands	320 pounds		
Miniature Mule	6.0 hands	185 pounds		

What is the total combined weight of the 4 animals in the table?

Use addition to find out how many legs the 4 animals have all together. Show your work.

$$\underline{\hspace{2cm}} \text{ legs} + \underline{\hspace{2cm}} \text{ legs} + \underline{\hspace{2cm}} \text{ legs} + \underline{\hspace{2cm}} \text{ legs} = \underline{\hspace{2cm}} \text{ legs}$$

Now, use multiplication to find out how many legs the 4 animals have all together. Show your work.

$$\underline{\hspace{2cm}} \text{ animals} \times \underline{\hspace{2cm}} \text{ legs per animal} = \underline{\hspace{2cm}} \text{ legs}$$

What is the difference between addition and multiplication?