

## *Study Skills - Problem Solving*

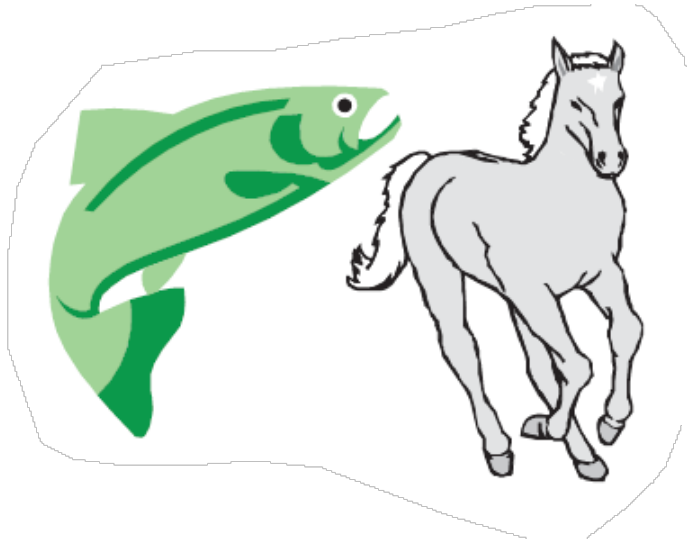
*LP: To apply critical thinking skills to solve a problem*

*On the next slide there will be a problem or puzzle of some kind, work to try and find a solution.*

*They are all possible so don't give up!*



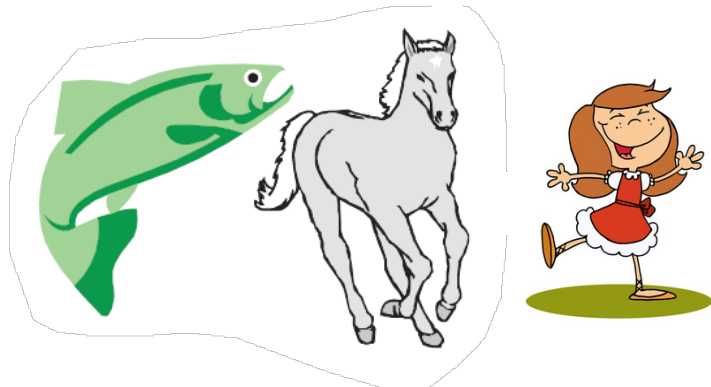
## Legs, Eyes and Tails



The girls from the farm have  
horses and fish.  
The girls and their pets have 14 legs  
7 tails and 20 eyes altogether.  
How many girls?  
How many horses?  
How many fish?

Extension: *Is there a more mathematical way to solve this than just trying numbers?*

Solution:



0 legs	4 legs	2 legs
2 eyes	2 eyes	2 eyes
1 tail	1 tail	0 tail

*Answer: 5 fish, 2 horses, 3 girls*

Explanation:

*These are the only numbers that make this work.*

*Legs:  $5 \times 0 + 2 \times 4 + 3 \times 2 = 14$  legs*

*Eyes:  $5 \times 2 + 2 \times 2 + 3 \times 2 = 20$  eyes*

*Tails:  $5 \times 1 + 2 \times 1 + 3 \times 0 = 7$  tails*

*However, there is a method to solve problems like this called simultaneous equations. Look them up on mymaths or the internet to find out more.*