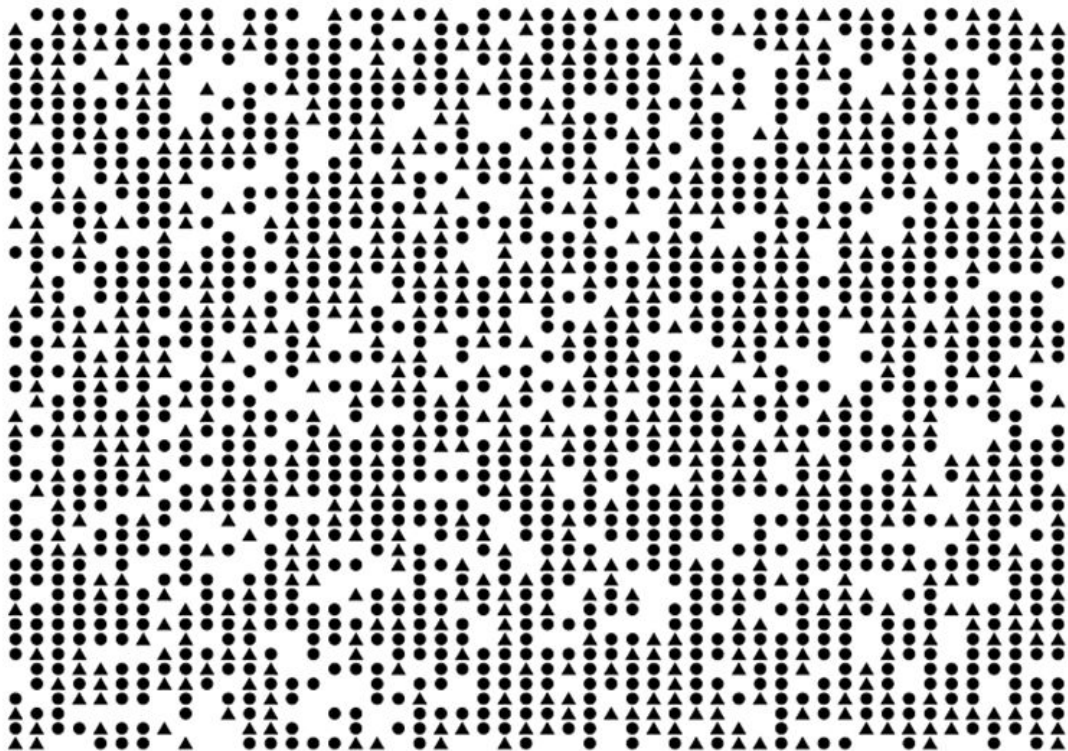


Focus on Middle School

Participant Copy: Mars Tasks

Source: <https://www.map.mathshell.org/tasks.php?unit=HE01&collection=9&redir=1>




COUNTING TREES



This diagram shows some trees in a tree farm.

The circles ● show old trees and the triangles ▲ show young trees.

Tom wants to know how many trees there are of each type, but says it would take too long counting them all, one-by-one.

<p>Growlets Zoo</p>  <p>36 miles from Bosworth Entrance fee \$2.50 per person</p>	<p>Prison Museum</p>  <p>30 miles from Bosworth Entrance fee \$6 per person</p>	<p>Space Science Show</p>  <p>10 miles from Bosworth Entrance fee \$10 per person</p>
--	--	--

The class vote on which place to visit.
Here are the results:

Name	First Choice	Second choice	Name	First Choice	Second choice
Olivia	Zoo	Space show	Jack	Prison museum	Zoo
Grace	Space show	Prison museum	Thomas	Zoo	Prison museum
Jessica	Prison museum	Zoo	Joshua	Zoo	Prison museum
Ruby	Zoo	Space show	Oliver	Space show	Prison museum
Emily	Space show	Prison museum	Harry	Prison museum	Zoo
Sophie	Prison museum	Zoo	James	Zoo	Space show
Chloe	Prison museum	Space show	William	Space show	Space show
Lucy	Prison museum	Space show	Samuel	Zoo	Prison museum
Lily	Space show	Prison museum	Daniel	Zoo	Space show
Ellie	Space show	Prison museum	Charlie	Prison museum	Prison museum
Ella	Zoo	Space show	Benjamin	Space show	Zoo
Charlotte	Space show	Prison museum	Joseph	Zoo	Prison museum
Katie	Space show	Prison museum	Callum	Zoo	Prison museum
Mia	Zoo	Space show	George	Prison museum	Space show
Hannah	Zoo	Space show	Jake	Space show	Prison museum

The bus company charge \$6 per mile. The school fund will pay the first \$200 of the trip.
Teachers will go free. Each student will pay the same amount.

Sample Response: Cloe

first choice

$$\text{Zoo} = \frac{12}{30}$$

$$\text{Space Show} = \frac{10}{30}$$

$$\text{Prison museum} = \frac{8}{30}$$

Zoo most popular

Second choice

$$\text{Zoo} = \frac{1}{30}$$

$$\text{Space show} = \frac{1}{30}$$

$$\text{Prison museum} = \frac{1}{30}$$

Student Response: Olly

First choice 2 points } Tally
 Second choice 1 point }

200	 	29
Prison museum	 	30
Space Show	 	31

1) I made a tally and for there first choice they got 2 points and there second choice the got 1 point and the result I got is the space show was most popular.

2) 30 people - £10 entree per person

$$\begin{array}{r} 30 \times 10 = 300 - \\ \underline{200} \\ \text{£}100 \end{array}$$

The school fund pays for the first 200.

Teachers go free!

£160

$$\begin{array}{r} 10 \text{ miles} \\ \times \text{£}16 \text{ pound per mile} \\ \hline \text{£}160 \end{array}$$

Pupils pay - 5.35 each

Sample Response: Robyn

1) Zoo - 12 - 5 30 pupils
Space Show - 10 - 11 $6 \times 36 = 216$
Prison museum - 8 - 14 $6 \times 30 = 180$ ^{Prison-M.} ~~Space Show~~
 $6 \times 10 = 60$ - Space Show.

$6 \times 36 = 216$
 $6 \times 30 = 180$
 $6 \times 10 = 60$

So I think that they should go to the Space Science show because it is cheaper to go there 21 people said either in the 1 or second choice, therefore it is a good decision, however it is £10 to get in the show which is more expensive ~~that~~ than the others.

2, each person needs £10 to get in, £200 pounds is paid by the school but it is £10 to get in for each person & £60 to get there so its, $30 \times 10 = 300$
 $+ 60 = 360$

So children have to pay the extra £160
 $£160 \div 30 \text{ (children)} = 5.333$

Sample Response: Emily

ZOO
Entrance = £2.50 x 30 = £75
miles = 36 miles x £6 = £216
£218.50 each

Prison Museum

Entrance = £6 x 30 = £180
miles = 30 miles x £6 = £180
£186 each

Space Science Show

Entrance = £10 x 30 = £300
miles = 10 miles x £6 = £60
£70 each

1. I think they should all go to the Space Science Museum as it would be less pay.
2. Each person would have to pay £70 each to go to the Space Science Show.