

Final Report

1. Sally should give the secret message to

because the following object(s) has/have the same charge as B1:

2. The number _____ appears in the top left corner of Ben's magic square because the following object(s) is/are insulators:

3. The number _____ appears in square A or square B because this is the number that "black" is ranked when you list the colors from the one that absorbs the most light to the one that absorbs the least amount of light.

1. _____

2. Green

3. _____

4. Yellow

5. _____

4. The answer found in Activity 3 belongs in square _____ because lens _____ has a longer focal length.

Now that you have completed the four activities, you have all the information you need to decode Ben's secret message. Follow these directions:

Fill in the information you found in Activities 2-4 on the magic square below.

Complete the magic square using the rules given in the handout, *About Magic Squares*.

Decode the message. Each row of the magic square tells you two words in the message. Follow these instructions to find the six words of the message:

	L	M	R
1			
2		5	A
3			B

1. Number each line in Ben's letter, beginning with "My time..." as number 1.
2. Look at the number in the left (L) column of row 1 of the magic square. Find the line in the letter that begins with this number.
3. Number each word in this line, beginning with the number 1.
4. Find the word that corresponds to the number in the middle (M) column of the first row of the magic square. This is the first word in Ben's message.
5. Now find the word that corresponds to the number in the right (R) column of the first row of the magic square. This is the second word in Ben's message.
6. For example, if row 1 was

8	3	4
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, then the first two words of Ben's message would be "happiness would" since they are the 3rd and 4th words of line 8.
7. Repeat Steps 2-5 with the second and third row of the magic square to get the rest of the message.

Write Ben's secret message here:

1M	1R
2M	2R
3M	3R

Congratulations! You have completed the PhysicsQuest challenge. If you would like to compete in the PhysicsQuest competition, your teacher should enter these results on or before March 2, 2007 online at www.physicscentral.com/physicsquest.