

For Creative Minds

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Even numbers always have a match or a pair!

0

1



2



3



4



5



6



7



8



9



Which numbers have only pairs and are even?

Do you see a pattern?

Is zero odd or even? Why?

If you count by twos, are the numbers even or odd? Why?



Square Numbers: Odd or Even?

Instead of counting by two, now count two by two. Start at the "x" and count two blocks over and two blocks down. How many blocks did you count? Is that an odd or even number? What shape do the blocks make?

Now, start at the "x" and count three blocks over and three blocks down. How many blocks did you count this time? Is that an odd or even number? What shape do the blocks make?

Continue going over and down and count how many blocks there are each time. Are the numbers odd or even? Do you see a pattern? What shape do the colored blocks make? Do you think the pattern will continue as the numbers get higher and higher? Why or why not?

X	
	2

$$2 \times 2 = \underline{\quad} \text{ blocks}$$

X		
		3

$$3 \times 3 = \underline{\quad} \text{ blocks}$$

X			
			4

$$4 \times 4 = \underline{\quad} \text{ blocks}$$

X				
				5

$$5 \times 5 = \underline{\quad} \text{ blocks}$$

The number of blocks that were counted each time are called "square numbers."
How do you think they got that name?



Creative Sparks

We use or wear lots of things that come in pairs: a pair of shoes, gloves, etc. What are some other things that come in pairs?

Defending the Truth Math Riddles

Read the riddle and defend the truth. Can you find which statements are true and which are false?

1. True / False?

My number is an **even, square number** less than ten, divided by two then added to 20.

Your number is an **odd number** greater than 10, but less than 14 that is multiplied by 2.

Therefore your answer could be the same as mine.

2. True / False?

My number is **even**.

Your number is **odd**.

Both our numbers are less than 5.

Therefore your number could not be greater than mine.

3. True / False?

My **even** number is less than 10.

Your number is a multiple of 3 and is odd.

Therefore our numbers could be the same.

4. True / False?

Both of our numbers are between 21 and 41

My number is an **even number**.

Your number is a multiple of 5.

Therefore our numbers could be the same.

Can you write your own riddles using **even** and **odd** numbers?

Answers: 1. True: $(4/2 = 2 + 20 = 22)$ and $(11 \times 2 = 22$ or $13 \times 2 = 26)$
2. False: (Even: 0, 2, 4 or Odd: 1 or 3) 3 is greater than 2 or 0 and 1 is greater than 0
3. False: (2, 4, 6, or 8) and (3, 6 is even not odd, or 9)
4. True: (22, 24, 26, 28, 30, 32, 34, 36, 38 or 40) and (25, 30, 35, or 40) Therefore the numbers could be 30 or 40.

