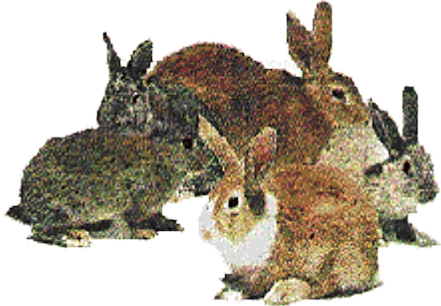Fibonacci's Bunnies

The original problem that Fibonacci investigated (in the year 1202) was about how fast rabbits could breed in ideal circumstances.

Suppose a newly-born pair of rabbits, one male, one female, are put in a field. Rabbits are able to mate at the age of one month so that at the end of its second month a female can produce another pair of rabbits.

Fibonacci told us to assume that rabbits:

- always produce one male and one female offspring
- can only reproduce once every month
- can only reproduce once they are one month old
- never die

The puzzle that Fibonacci posed was...

How many pairs will there be at the end of one year?

1. In the first month, there is only 1 pair of baby bunnies.
2. In the second month, the pair of bunnies are now adults and can mate.
3. In the third month, The pair of bunnies give birth to another pair of baby bunnies.
4. In the fourth month, there are now 2 pairs of adults, and 1 pair of baby bunnies.

	1st	2nd	3rd	4th	5th	5th	7th	**8th**	9th	10th	11th	12th	13
	Jan	Feb	Mar	Apr	May	Jun	Jul	**Aug**	Sep	Oct	Nov	Dec	Jan
Adults	0	1	1	2	3	5	8	**13**	21	34	55	89	144
Babies	1	0	1	1	2	3	5	**8**	13	21	34	55	89
Total	1	1	2	3	5	8	13	**21**	34	55	89	144	233

In the attached bunny pictures, there are 39 pairs of adult bunnies, and 24 pairs of baby bunnies. This is enough to create the bunnies' family tree to the 8th month.

Give each group an envelope with a set of bunnies. Groups should be 4 people.

Divide class into 6 groups of 5 ROY-G-BIV

Rectangle Survey

Which rectangle do you find the most pleasing to the eye?

2

1

4

3

Fibonacci Bunnies Data Sheet

For each month, write in the number of pairs of adult and baby bunnies.

	1st	2nd	3rd	4th	5th	5th	7th	**8th**	9th	10th	11th	12th
	Jan	Feb	Mar	Apr	May	Jun	Jul	**Aug**	Sep	Oct	Nov	Dec
# of Pairs of Adults												
# of pairs of Babies												
Total:												