5+ a Day

As part of a study on nutrition, a teacher asked her class to record everything they ate on a particular day. When they submitted the information anonymously, the class then looked through the data to find how many servings of fruit and/or vegetables each student in the class had consumed that day. The results were:

Room 12 Food 5+ on Tuesday?		
Servings of f+v	Tally	Frequency
0	I	1
1	III	3
2	IIII I	5
3	IIII I	5
4	IIII	4
5	III	3
6	II	2
7	I	1
8		0
		24

What is the chance, if any two students in the class are picked at random, that they both ate their 5+ servings of fruit and/or vegetables that day?

1. How many students are in the class?
2. How many students had 5+ fruit and/or veges that day?
3. What proportion of students had 5+ fruit and/or veges that day?
4. What is the probability that a student chosen at random from this class had 5+ fruit and/or veges that day?
5. Model this probability. You could use coloured counters, with one colour for each of the students who ate 5+ servings of fruit and/or veges and another colour for each of those who didn/t. Select two counters at random and record their colours. Replace the counters and repeat. Carry out at least 20 trials.
6. Use the results of your model (simulation) to answer the question: What is the chance, if any two students in the class are picked at random, that they both ate their 5+ servings of fruit and/or vegetables that day?