## Lesson 3: Associations and Relative Frequency Tables

* Let’s explore relative frequency tables

### 3.1: Estimation

What percentage of the graph is labeled C?



1. Record an estimate that is:

|  |  |  |
| --- | --- | --- |
| * too low
 | * about right
 | * too high
 |
| *
 | *
 | *
 |

1. Explain your reasoning.

### 3.2: Relative Frequency Tables

The relative frequency tables display data collected from 230 students.

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1. participates in afterschool activity
 | 1. no afterschool activity
 | 1. total
 |
| 1. arrives home within 2 hours of school dismissal
 | 1. 3%
 | 1. 40%
 | 1. 43%
 |
| 1. arrives home 2 or more hours after school dismissal
 | 1. 42%
 | 1. 15%
 | 1. 57%
 |
| 1. total
 | 1. 45%
 | 1. 55%
 | 1. 100%
 |

* 1. What percentage of students participate in after-school activities? How many students participate in after-school activities?
	2. What percentage of students arrive home 2 or more hours after dismissal? How many students arrive home 2 or more hours after school dismissal?

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1. aspiring professional athlete
 | 1. aspiring STEM career
 | 1. total
 |
| 1. prefer physical education
 | 1. 77%
 | 1. 23%
 | 1. 100%
 |
| 1. prefer math
 | 1. 18%
 | 1. 82%
 | 1. 100%
 |

* 1. What percentage of students who prefer math aspire to have a career in STEM?
	2. What percentage of students who prefer physical education aspire to have a career in STEM?
	3. Are these two percentages close?
	4. Is there evidence of an association between students’ career aspirations and subject preference? Explain your reasoning.

|  |  |  |
| --- | --- | --- |
|  | 1. 9th grade
 | 1. 12th grade
 |
| 1. curfew
 | 1. 95%
 | 1. 90%
 |
| 1. no curfew
 | 1. 5%
 | 1. 10%
 |
| 1. total
 | 1. 100%
 | 1. 100%
 |

* 1. Of the students in 12th grade, what percentage have a curfew?
	2. Of the students in 9th grade, what percentage have a curfew?
	3. Is there evidence of an association between students’ grade level and whether they have a curfew? Explain your reasoning.

### 3.3: Associate Your Variables

1. Invent a pair of variables that you think will have an association. Explain your reasoning.
2. Invent a pair of variables that you think will not have an association. Explain your reasoning.



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