# Unit 3 Lesson 3: Associations and Relative Frequency Tables <br> <br> 1 Estimation (Warm up) <br> <br> 1 Estimation (Warm up) <br> Student Task Statement <br> What percentage of the graph is labeled $C$ ? 



1. Record an estimate that is:

| too low | about right | too high |
| :--- | :--- | :--- |

2. Explain your reasoning.

## 2 Relative Frequency Tables

## Student Task Statement

The relative frequency tables display data collected from 230 students.

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

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

| 2. | aspiring professional <br> athlete | aspiring STEM <br> career | total |
| :---: | :---: | :---: | :---: |
| prefer physical <br> education | $77 \%$ | $23 \%$ | $100 \%$ |
| prefer math | $18 \%$ | $82 \%$ | $100 \%$ |

a. What percentage of students who prefer math aspire to have a career in STEM?
b. What percentage of students who prefer physical education aspire to have a career in STEM?
c. Are these two percentages close?
d. Is there evidence of an association between students' career aspirations and subject preference? Explain your reasoning.

|  | 9th grade | 12th grade |
| :---: | :---: | :---: |
| curfew | $95 \%$ | $90 \%$ |
| no curfew | $5 \%$ | $10 \%$ |
| total | $100 \%$ | $100 \%$ |

a. Of the students in 12th grade, what percentage have a curfew?
b. Of the students in 9th grade, what percentage have a curfew?
c. Is there evidence of an association between students' grade level and whether they have a curfew? Explain your reasoning.

## 3 Associate Your Variables

## Student Task Statement

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.
