

## Section 3.1 Two-Variable Data Sets

- For each situation, determine whether the data represents one-variable or two-variable data. Justify your answer. Then write, in your own words, a summary of the properties of one- and two-variable data.
    - A class surveys grade 12 students on their time spent watching television and using a computer.
    - A market research company compiles data on the number of laptops sold by each computer company.
    - A group of friends records the distance travelled by car and the volume of gas used when they go on vacation.
    - A pharmacy manager records the volume of shampoo sold from each shampoo company.
  - Michelle researched some of the languages commonly spoken in Ontario. She found this information.
  - Aidan researched the time Canadians spend watching Canadian and foreign television programs. He found this information.
- | Type of Television Program             | Canadian Programs (% of viewing time) | Foreign Programs (% of viewing time) |
|--|---------------------------------------|--------------------------------------|
| News                                   | 18.4                                  | 6.0                                  |
| Documentary                            | 1.3                                   | 1.9                                  |
| Academic instruction                   | 1.7                                   | 1.5                                  |
| Social and/or recreational instruction | 0.4                                   | 0.6                                  |
| Religion                               | 0.2                                   | 0.1                                  |
| Sports                                 | 2.9                                   | 3.6                                  |
| Variety and games                      | 4.6                                   | 10.7                                 |
| Music and                              | 0.8                                   | 0.2                                  |

| Language          | Number of Ontario Speakers (100 000s) |
|-------------------|---------------------------------------|
| English           | <br>                                  |
| French            |                                       |
| Chinese languages |                                       |
| Italian           |                                       |
| Portuguese        |                                       |

- Convert each tally to its correct frequency.
- What do you know about each language?
- Is this a one- or two-variable data set?  
Explain.
- Identify the variable(s).
- Draw an appropriate graph.

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|--|---------------------------------------|--------------------------------------|
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| Social and/or recreational instruction | 0.4                                   | 0.6                                  |
| Religion                               | 0.2                                   | 0.1                                  |
| Sports                                 | 2.9                                   | 3.6                                  |
| Variety and games                      | 4.6                                   | 10.7                                 |
| Music and dance                        | 0.8                                   | 0.2                                  |
| Comedy                                 | 1.6                                   | 8.4                                  |
| Drama                                  | 5.3                                   | 22.1                                 |
| Recorded programs                      | 0                                     | 4.9                                  |
| Other                                  | 0                                     | 2.9                                  |

- What do you know about each type of programming?
- To help Aidan analyse the data, what type of graph would be appropriate? Explain.
- Pose a question that would require one-variable data analysis.
- Pose a question that would require two-variable data analysis.

