

## “Struck by Lightning” Supplementary Materials

### Introductory small groups assignment

Form a group by finding the person with the same card number as yours, in the suit CLUBS. Arrange your chairs so you can work well together.

Introduce yourselves to each other. Find out each group member’s name, and two facts about them.

Take a fresh sheet of paper, and write all group members full names at the top. Then, working together as a group, answer the following questions as best as you can. (It’s okay if you’re not sure of all the answers, just give your best guess and the reasons for it.)

**1.** List some ways in which you have encountered randomness / uncertainties / probabilities in your lives. (Try to come up with at least six.)

**2.** Suppose a friend has three cards: one red on both sides, one black on both sides, and one red on one side and black on the other. She mixes them up in a bag, draws one at random, and places it randomly on the table. Suppose there is a red side showing. What do you think is the probability that the other side of that card is also red?

**3.** Suppose a stick is tossed at random onto a floor containing parallel lines spaced exactly the same as the stick’s length. What do you think is the probability that when the stick comes to rest, it will be passing over a line?

**4.** Suppose you select a random eleven-digit number (like “23847562811”), and do a World Wide Web search in Google. Out of the hundreds of billions of Web pages around the world, about how many do you think will contain your number?

**5.** Rank the following events, from most probable to least probable:

- A.** Your next choice of seven numbers will win the Super 7 lottery jackpot.
- B.** The next time you drive across town to buy a lottery ticket, you will die in a traffic accident.
- C.** The next time you play poker, your first five cards will be a Royal Flush.
- D.** If you select a Canadian resident uniformly at random, you will choose the current Prime Minister.

**6.** Rank the following causes of death in Canada, from most to least frequent:

- A.** Being murdered by a stranger.
- B.** Being murdered by your spouse.
- C.** Drowning.
- D.** Dying in an automobile accident.

**7.** On July 31, 2005, the *Globe and Mail* newspaper’s online site, theglobeand-mail.com, conducted an on-line survey, in which they asked, “Which medium do you rely

on most to keep abreast of the news?” They received 1623 responses, and the results were: Television, 194 votes (12%); Radio, 110 votes (7%); Newspapers, 298 votes (18%); Internet, 1013 votes (62%); Magazines, 8 votes (0.5%). To what extent does this survey “prove” that most Canadians receive most of their news from the Internet?

**8.** When I was a child and played basketball with my father, we would ALWAYS score our last shot of the day. How were we able to achieve this? To what extent does this fact “prove” that we were great basketball players?

**9.** How are the two previous questions related to the issue of whether or not to trust a medical study that a pharmaceutical company has conducted to “prove” that their drug is beneficial and safe?