

3. The following article was posted on *The Globe and Mail's* web site on Sunday, February 2, 2003, one day after the space shuttle *Columbia* exploded during re-entry.
- (a) Read the article.
  - (b) Using a highlighter, identify all the observations reported in the article.
  - (c) In the article, what inference is being made about the cause of the accident?
- (d) Before investigators can suggest a theory to explain an event, they need to gather as much evidence (empirical knowledge) as possible. According to this article, what other empirical knowledge will investigators try to gather?
- (e) "Mr. O'Keefe emphasized that the space agency was being careful not to lock onto any one theory too soon." Give reasons why it is important to gather as much empirical knowledge as possible first, and then formulate a theory.
- (f) Reconstructing accidents is an example of modelling. Using the space shuttle *Columbia* accident as your example, explain how modelling helps when formulating a theory.