



# EXPLORING COMPUTATIONAL THINKING WITH ABSTRACTION

Take a look at the room around you. It is filled with details, some important and some not so important. Important details might include the size and shape of the room or who is in the room with you. Less important details might include the color of a chair in the room, the shape of the legs on that chair, or whether or not there are pads on the bottom of the legs.

In computational thinking, this practice of ignoring small details to focus on what is most important is called abstraction. By narrowing the scope of our problems and identifying the primary obstacles and objectives, we can become more effective problem solvers.

In this activity, you'll reflect on your existing abstraction skills by reflecting on and summarizing the details in a news article.



## GET READY: FIND A NEWS ARTICLE

Newspaper reporters abstract real events and relay the most important details in articles. In a sense the articles are already “second hand news.”

Get started by finding a favorite print or online newspaper or magazine.

- Choose an article that interests you.
- Read the article.
- Note any details you think the author might have left out.
- **Think:** Why do you think the author omitted them? What factors might affected the journalist's decision to include or not include a detail?

## ACTIVITY CARD 3





## TRY IT: SUMMARIZE YOUR ARTICLE

1. On a separate piece of paper, list the most important details of your news article. What happened? When and where did it happen? Who was involved? Why is it important?
2. Summarize the article. Your written summary must:
  - a. Use your own words;
  - b. Include only the most important facts;
  - c. Include details in a logical order; and,
  - d. Be, at most, five sentences long.
3. In computer programming, parameters are extra pieces of information passed along with a function that make it execute—or run—slightly differently. Tag your summary with a parameter indicating which section of the newspaper it belongs in (i.e., news, politics, sports, etc.).

Exchange summaries with a peer. After reading your summary, can your classmate retell the main ideas of your news article?



Scan to access *The Computer Journal*.

## GO FURTHER

Try one of the following to reflect further on abstraction and computational thinking.

Read an abstract	Evaluate newsworthiness	Develop a template
<p>It's no coincidence that academic journals use the term "abstract" to refer to summaries of research articles. Read the abstracts from the latest issue of <a href="#">The Computer Journal</a> to see if you get the main ideas of recent research in the industry.</p>	<p>In your opinion, what makes an event newsworthy? List your criteria and discuss with your classmates.</p>	<p>Computers and artificial intelligence are doing a lot of summarizing for us. Create a template for a computer to fill in the details of an article for you. Use blanks to indicate details to be completed the computer. Pretend that you are the computer and test out your template.</p>

# EXPLORE COMPUTATIONAL THINKING: ABSTRACTION