Since computers only have a limited amount of space to hold information, they need to represent information as efficiently as possible. This is called **compression**.

By coding data before it is stored, and decoding it when it is retrieved, the computer can store more data, or send it faster through the Internet.

This exercise illustrates how a children's rhyme can be compressed.
YOU CAN SAY THAT AGAIN!

PITTER PATTER
PITTER PATTER
LISTEN TO THE RAIN
PITTER PATTER
PITTER PATTER
ON THE WINDOW PANE

BEFORE: 78 letters
AFTER: 29 letters
YOU CAN SAY THAT AGAIN!

- The arrows and boxes are presented with 2 numbers.
- PITTER PA(7,4)
  - 7: count back 7 positions
  - 4: copy 4 letters/spaces
- Sometimes boxes point back to a box with a blank inside.

LIGHTEST & HEAVIEST

- Computers are often used to put lists into some sort of order (e.g. names into alphabetical order, appointments or e-mail by date, etc.)
  - If you use the wrong method, it can take a long time to sort a large list into order, even on a fast computer.
LIGHTEST & HEAVIEST


TWENTY GUESSES

- How much information is there in a 1000-page book? Is there more information in a 1000-page telephone book, or in Tolkien's Lord of the Rings?
  - If we can measure this, we can estimate how much space is needed to store the information.
- This activity introduces a way of measuring information content.
Can you read the following sentence?

Ths sntnc hs th vwls mssng.

You probably can, because there is not much "information" in the vowels.

I beg to differ...

BEAT THE CLOCK