# COMMUNICATING IN 1s AND 0s:
BINARY NUMBERING SYSTEM

Visit Intel's website at:

http://www.intel.com/content/www/us/en/education/k12/the-journey-inside/explore-the-curriculum/digital-information.html

Read the section on DIGITAL INFORMATION (Lessons 1-7), and answer the following questions in complete sentences.

1. Define **TRANSISTORS**.

2. Why do computers use binary code?

3. What do the numbers 0 and 1 represent in binary code?

4. Define VGA and explain how this device displays an image on a computer screen.

5. What is the difference between the binary (base 2) numbering system and the decimal (base 10) numbering system?

6. Using the converter in **LESSON 4: Activity 1**, convert the following decimal numbers to binary:
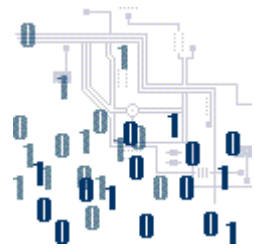
20	9	112
99	187	208

7. Why is the converter unable to convert any number greater than 255 into binary?

8. Convert the following binary numbers to decimal:

001	11	10010
101	10101	11111

9. Add the following binary numbers and convert the answer to decimal:

QUESTION	ANSWER	CONVERSION
(a) 1101 + 110		
(b) 101 + 1 0110		
(c) 1 0111 + 1 0110		
(d) 101 1011 + 111 0011		

10. Define ASCII.

11.   Using the ASCII converter in **LESSON 6: Activity 1**, write your name in binary code.

12.   What is the difference between an **AND** condition and an **OR** condition?