Activity Guide - File Formats and Compression

Formats Comparison

JPG, MP3, and PNG are three popular formats for representing information in a computer. These formats have some important key differences. Work with a partner to research the three formats and fill in the table below.

	JPG	MP3	PNG
List the sources (URLs) for your information here			
Type of file (image / audio / video)?			
What year was it created? Who (person / organization) created it?			
Is it free to use or do you need to buy a license?			
Lossy or lossless compression? How much can it compress?			
Advantages to this format or good situations for using it.			
Disadvantages to this format or bad situations for using it			

Assessment Questions

1. Which of the following is true of lossy and lossless compression techniques?
   a. Lossless compression throws away unimportant details that a human being will likely be unable to detect.
   b. Lossy compression is only possible on files that are at least one gigabyte in size before compression.
   c. Lossy compression techniques are no longer commonly used.
   d. Lossless compression is fully reversible, meaning the original file can be recreated bit for bit.

2. Which of the following is true of lossy and lossless compression techniques?
   a. Lossless compression is only used in situations where lossy compression techniques can't be used.
   b. Lossy compression is best suited for situations where some loss of detail is tolerable, especially if it will not be detectable by a human.
   c. Both lossy and lossless compression techniques will result in some information being lost from the original file.
   d. Neither lossy nor lossless compression can actually reduce the number of bits needed to represent a file.

3. In general, what are reasons that someone would choose to use lossy compression? When would they choose to use lossless compression? Write a brief response below.