Lossy vs Lossless Compression Guided Notes KEY

1. Why would we want to compress a file?

The file size would be smaller. It would take up less memory and be easier to move the data across a network.

2. What is lossy compression?

A compression algorithm that can significantly reduce the number of bits stored or transmitted but only allows the reconstruction of an approximation of the data. Some data is lost.

3. What is lossless compression?

A compression algorithm reduces the numbers of bits required for storage or transmission and guarantees complete reconstruction of the original data. NO DATA IS LOST.

4. Why would someone choose to use a lossy compression algorithm knowing that some of the original data will be destroyed?

Answers will vary. One example is a person wanting to store images on a phone. I would be more concerned with how many images I could store rather than the top-quality image. So, I might choose jpg images because their file size is smaller than a png and I could store more images.

The tradeoff is between the quality of the file and the size of the file. Large file sizes require more memory storage and increased bandwidth to transport them. A smaller file requires less memory and less bandwidth. The user must decide what is most important for their situation.

5. Complete the following chart. Place the following filetypes into the correct category.

PNG JPEG FLAC GIF MP3 MP4 AAC WAV

TYPE OF DATA	**LOSSY**	**LOSSLESS**
Image	JPEG	PNG, GIF
Audio	MP3, MP4, AAC	WAV, FLAC

6. Would you want a text file to be compressed using a lossy or lossless compression algorithm?

Lossless. You don't want to lose characters.