

## Supplement to Chapter 3 of *The Science of Digital Media* – Digital Image Processing

### Worksheet – Digital Imaging > LZW Compression<sup>1</sup>

---

Before completing this worksheet, you should view the on-line interactive tutorial “LZW Compression.” This tutorial can be accessed at the website for *The Science of Digital Media*.

1. What types of image files are associated with LZW Compression?

2. Is LZW a lossy or lossless compression algorithm?

3. Given the following simulation of red, green, and blue pixels, determine the code table and output created by the LZW algorithm.

r	g	g	b	r	g
---	---	---	---	---	---

Code	0	1	2	3	4	5	6
Pattern							

Output:

4. How many times is a file scanned during the LZW algorithm?

---

<sup>1</sup>This material is based on work supported by the National Science Foundation under Grant No. DUE-0340969. This worksheet was written by Annie Lausier and Jennifer Burg.

**Please give us feedback so that we can continue to refine the curriculum material:**

1. What concepts were the most difficult for you in this tutorial and worksheet?

2. What particular explanations or types of explanations did you find most effective in this learning unit?

3. Rate the helpfulness of the text and tutorial in explaining the concepts. Circle the response.

chapter in *The Science of Digital Media*

very helpful    helpful    a little helpful    not helpful at all

interactive on-line tutorial

very helpful    helpful    a little helpful    not helpful at all

completing the worksheet exercise

very helpful    helpful    a little helpful    not helpful at all

4. What suggestions do you have for adding to or improving this learning unit?