

Lesson 4.4: Assessment Exercises



Objectives

After completing this lesson, students will:

- ❖ Have an understanding of how much they learned and understood during Unit 4

Agenda

- | | |
|-----------------------|---------|
| 1. Student Activity | 30 mins |
| 2. Review and Wrap Up | 20 mins |

Preparation

- Print student activity worksheet (one per student)

Resources & Links

- None



1. Student Activity: Assessment Exercises

Optionally do a quick review of material covered in Unit 4 or you can use the exercise solutions discussion as a means to review the material.

Distribute one assessment puzzle worksheet per student. This is an assessment activity for material covered in Unit 4. Explain the activity to students. Leave enough time at the end to go over the answers.

2. Review Activity Solutions



Engage students in an interactive discussion and review of the answers to each of the exercises.

- 1) True
- 2) A - c) Pixel
B - True
- 3) B and C
- 4) True

5)	Binary Number	Decimal Number
	1 0 1 0 0	20
	1 0 0 0 1	17
	0 1 0 1 1	11

6)	Decimal Number	Binary Number
	16	1 0 0 0 0
	3	0 0 0 1 1
	10	0 1 0 1 0

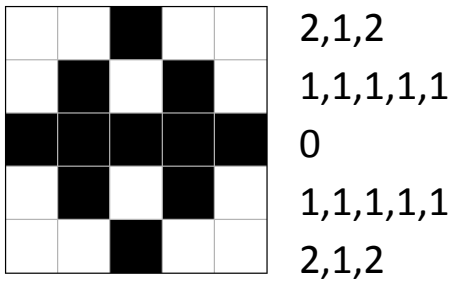


HMMM ?



7) There is no single answer for this exercise. You can call out students to show their compression method and then test it as a class exercise.

This solution is based on the compression method (run-length coding) used in class:



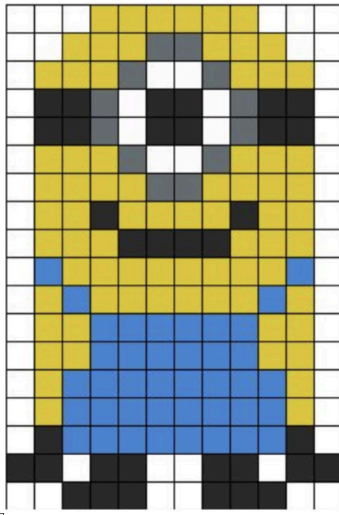
Student Activity: Check Your Knowledge



1. Everything inside a computer is stored as a sequence of 0s and 1s.

- True
- False

2. What can you tell me about this image? Circle the correct answer.



A. Each square of the image is called a:

- a. Dot
- b. Image square
- c. Pixel
- d. Light bulb

B. Inside the computer, the image is represented as a sequence of 0s and 1s.

- True
- False

Despicable Me Minion by king yatesy,

<http://www.minecraftpixelarttemplates.com/2013/11/despicable-me-minion.html>

3. Pictures are often **compressed** to a much smaller size of their original size.
This means : (circle all true statements)

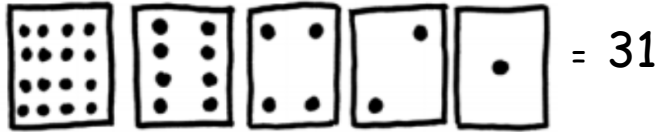
- A. Pictures are bigger
- B. Many more pictures can be stored on a computer
- C. Sending the picture to my friend will take less time
- D. The picture will be deleted after some time

4. If an image is compressed, it uses less storage space.

- True
- False



5. Convert the binary numbers into decimal numbers. Remember your cards.



Binary Number	Decimal Number
1 0 1 0 0	_____
1 0 0 0 1	_____
0 1 0 1 1	_____

6. Convert the decimal numbers into binary numbers.

Decimal Number	Binary Number
<u>16</u>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<u>3</u>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<u>10</u>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

7. Use any compression method to represent the image using only numbers next to each row of the image. The same rules must apply to every row.

