Unit 6 · Photos, Sound and Video

WORKSHEET

Full marks 35

Name _____ Class _____ Roll no. ____ Date _____ Marks _____ / 35

1 Key words [4]

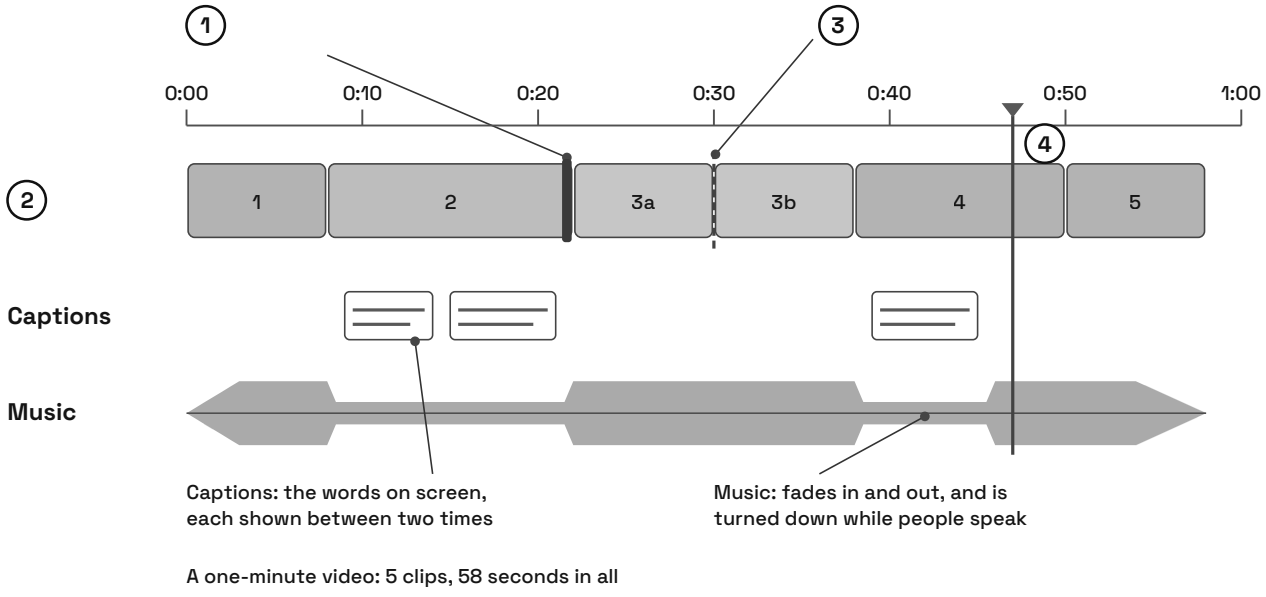
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

aspect ratio	captions	clipped	compression artifacts	histogram	Lossless	lossy	saturation	thumbnail	timeline

A graph of how many pixels have each brightness, from black on the left to white on the right, is a photo's _____. When an edit pushes pixels' numbers past 255, they stop there, and the highlights are _____. A photo's shape, written as width : height, such as 16 : 9, is its _____. A JPEG saved at a very low quality shows smudges and small square blocks called _____. _____ compression keeps every pixel exactly, but _____ compression throws away detail you can never get back. A video editor shows your clips in a row, with time running from left to right, on a _____. The words spoken in a video, shown on the screen as text, are its _____.

2 Label the diagram [2]

The diagram shows a video editor's timeline. Write what belongs in place of 1 to 4: for 1 and 3, the tool's name and what it does. Each carries 0.5 mark.



1. _____ 2. _____

3. _____ 4. _____

3 Multiple choice [5]

Choose the correct option for each of the following questions.

i. You increase a photo's contrast. What happens to a pixel that was 200, 200, 200 (light gray)? [1]

a. It becomes 128, 128, 128.

b. Its numbers go up, so it becomes lighter.

c. Its numbers go down, so it becomes darker.

d. It doesn't change: contrast only changes colors.

ii. A photo's histogram has all its pixels bunched in the middle, with none near black or white. What does the photo look like? [1]

a. very colorful

b. dull and gray, like a hazy day

c. too dark

d. blurred

iii. A phone photo is 4,000 × 3,000 pixels. Which change makes the file smallest while keeping it clear enough for a form? [1]

a. Save it as PNG.

b. Keep all its pixels and set the quality to 5.

c. Resize it to 1,200 pixels wide and save it as a JPEG at quality 80.

d. Take a screenshot of it.

iv. Which file should a school's logo be kept in, so it can be printed on a badge and on a banner? [1]

a. JPEG

b. PNG at 200 × 200 pixels

c. SVG

d. MP4

v. Music is shared under CC BY-NC. In which of these may you use it, with credit? [1]

a. a video for your school club's page that earns nothing

b. an advertisement for a shop

c. a video you sell copies of

d. a video that earns money from ads

4 True or false [3]

Write True or False after each sentence.

i. Each time a JPEG is opened, changed and saved again, a little more detail is thrown away. ☐

ii. A screenshot is a good way to make a photo's file smaller. ☐

iii. On most phones, zooming in past the lens's own zoom only crops the photo and blows up the pixels that are left. ☐

iv. Moving the phone farther from the speaker makes the room's noise quieter in the recording. ☐

v. Music under CC BY-ND may not be used as a video's soundtrack, however carefully it is credited. ☐

vi. Putting the photographer's name under a photo gives you permission to use it. ☐

5 Calculations [6]

Show your working. (1 KB = 1,024 bytes; 1 MB = 1,024 KB.)

a. A photo is 3,000 × 2,000 pixels. i. What is its raw size in MB, at 3 bytes a pixel? ii. It is resized to 750 pixels wide, keeping its shape. How many pixels high is it, and what fraction of its pixels are left? iii. What is its raw size now, in KB? [4]

Answer: _____

b. A song of 3 minutes is saved as an MP3 at 128 kilobits a second (128,000 bits for each second of sound). How many KB does the file take? [2]

Answer: _____

6 May you use it? [5]

Complete the table: may you use the music as the soundtrack of a video posted online, with credit? Write Yes or No, and a reason.

Music's license	Your video	Allowed? (Yes or No, and why)
CC BY	a school project	
CC BY-NC	an advertisement for a shop	
CC BY-ND	a school project	
CC0	anything	
no license shown	a school project	

7 Short answers [4]

Write short answers to the following questions.

Choose the best format for each, and give a reason: i. a photo to upload to a job application, ii. the class routine, made in a word processor, to print for every student, iii. a recording of a poem, iv. a screenshot showing how to change a phone's setting.

8 Long answer [4]

Write a long answer to the following question.

Explain the steps you would follow to make a photo from your phone fit an online form's limit of "JPG, under 200 KB", without making it hard to see.

9 Think [2]

Think, then answer.

A friend says: "I found a great photo of Annapurna on a photographer's website. I put her name under it on our club's page, so it's fine." Is it? What would you tell your friend?

10 Activity: A photo for a form (not marked)

Ask a friend to take a passport-style photo of you against a plain light wall, with the light on your face. Make it fit a form that asks for **a square JPEG, 600 × 600 pixels, under 200 KB.** Keep the original. After each step, write down the photo's size in pixels and its file size, and zoom in to check it is still clear.

Step	Size in pixels	File size	Still clear when zoomed in?
the original photo			
cropped to a square			
resized to 600 × 600			
saved as JPEG, quality about 80			