



(ENG) Tiles on sale

Introduction

Step 1 - Motivational Stage

Step 2 - Investigational Stage

Step 3 - Consolidation Stage

Introduction



#Online activity #In-class activity #Experiential learning
#Artwork #Gamified learning #Artwork #Paintings

When shopping, we are often faced with the following situation: We have a full price of an item. The particular item is on a specific discount. At the discount tag, it is written that the discount price will be calculated when finalising the payment. At the moment of deciding whether to buy this item or not, we don't have an actual price, that has the discount already included. It would be useful if we could calculate the price ourselves, before going to the checkout. In this activity, pupils will learn how to use a pocket calculator when

calculating percentages in everyday situations, such as how to calculate prices with different amounts of discount share.

Learning Objectives

- ☐ Predict the result.
- ☐ Apply gained knowledge to the usage of pocket calculators.
- ☐ Implement knowledge of percentage to different situations.

ACTIVITY DETAILS

Activity Details

Connection of the activity with Art —

Puppet video, mosaic artworks, mosaic art making



Link to local, national School Curriculum —

Percentage/Use of pocket calculator



Equipment required —

- pocket computer
- internet connection,
- computer,
- paper,
- colored pencils,
- scissors,
- paper glue



Duration of activity —

45 minutes



Sources —

Photo 1:

Mosaic floor panel,
ancient roman art, 2nd century,
stone, tile, and glass,
226,1 x 251,5 cm

Excavated from a villa at Daphne near Antioch in Roman Syria (modern Antakya, Turkey)

Public domain

The Metropolitan Museum of Art, New York City

Source:

<https://www.metmuseum.org/art/collection/search/253565>

The Metropolitan Museum of Art, New York City

Photo 2:

Mosaic with a Peacock and Flowers,
Roman or Byzantine art, 3rd–4th century,
Tesserae mounted in metal frame,
49 x 57,7 x 3 cm

Public domain

The Metropolitan Museum of Art, New York City

Source:

<https://www.metmuseum.org/art/collection/search/466653>

The Metropolitan Museum of Art, New York City

Photo 3:

Antonio Gaudi (1852-1926)

Sun mosaic, the first half of the 20th century
mosaic

Park Güell, Barcelona

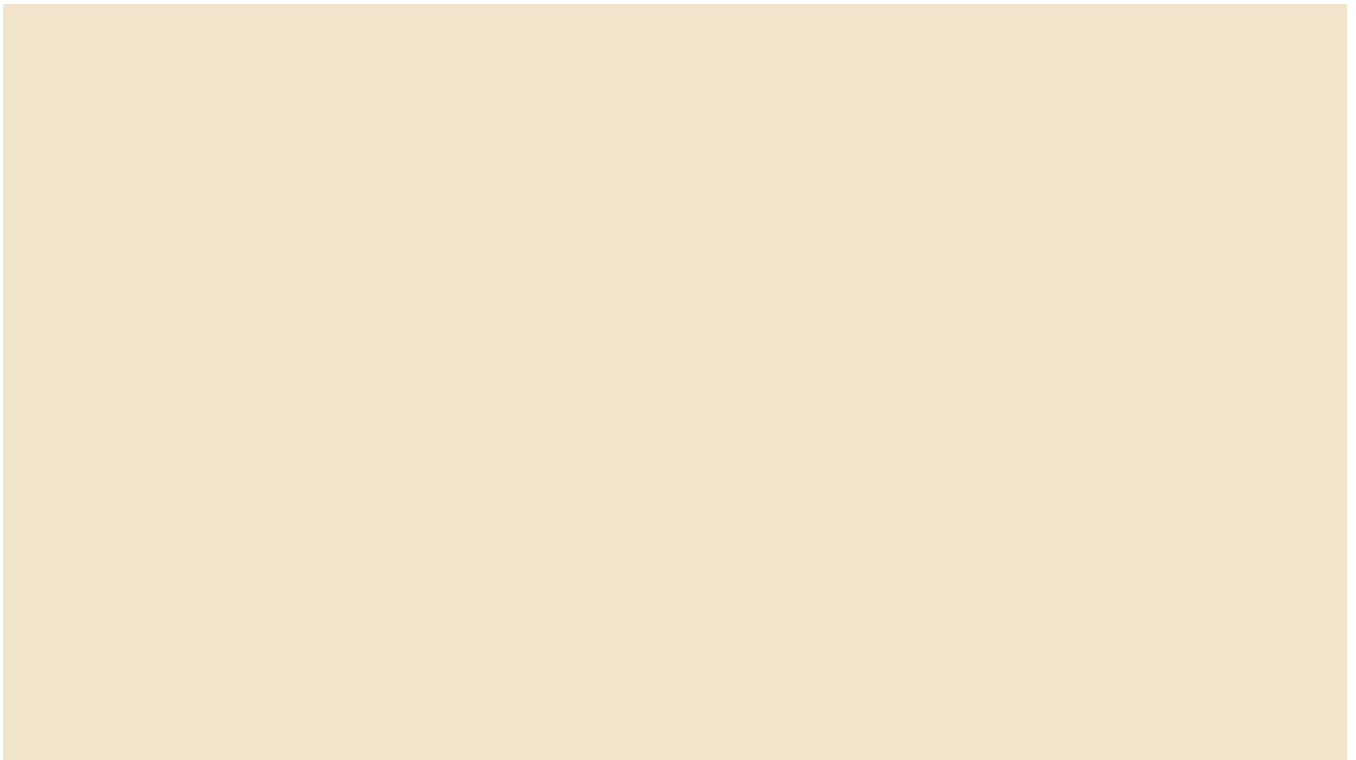
Source: www.pixabay.com

Photo 4: Own

Step 1 - Motivational Stage



Ask your pupils to watch a short puppet video where Oto the Scientist buys new tiles for his laboratory.



Oto wants to buy the cheapest tiles and he also wants to know how much of a discount the last pile of tiles has in percentage. Pupils need to help Oto figure out which tiles he should buy.

Step 2 - Investigational Stage



STUDENTS' TASKS

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Task 1

Firstly, they predict the tile which they think is the cheapest according to the information they have.

They predict the discount prices for the first and second tile, then they predict the percentage share for the third tile.

Task 2

They test their prediction by using a pocket calculator. Help pupils carefully examine the example below, connected to the pile of tiles no. 1 in the video.

Important:

Oto needs 25 pieces of tiles.

Full price is 3 €/piece

Discount share is 25 %

Procedure:

Example for the pile of tiles no.1

Price for all the pieces: $25 \times 3 \text{ €} = 75 \text{ €}$

25 % discount on the price 75 €

(Recall: 25 percentage -> 25 of 100 -> $25/100$)

Full price x percentage / 100

$$75 \text{ €} \times 25 / 100 = 18,75 \text{ €}$$

Don't forget:

Full price – discount price =

$$75 \text{ €} - 18,75 \text{ €} = 56,25 \text{ €}$$

Solution: 56,25 €

Check:

Discount price / Full price x 100 = result

100 – result = discount share (in percentage)

Task 3

Pupils should use the same procedure to calculate individually the discount price for pile no. 2 in the video and the final amount Oto would have to pay if he purchases this pile.

Answer: 53,125 €

Task 4

In pile no. 3 pupils have different information. There is a full price given and discount price per piece.

Oto wants to know what a discount share in percentage is and what would be the final amount of his paycheck. Pupils help him. (answer: 30 %, 61,25 €)

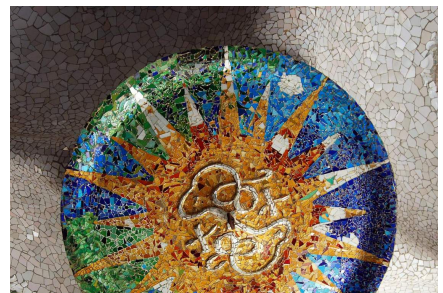
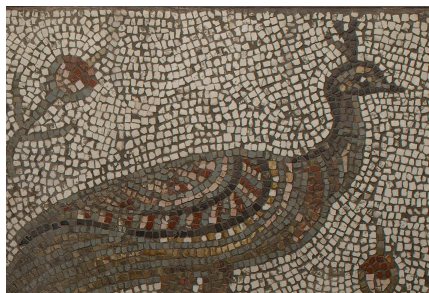
(Hint: Discount price / full price x 100 = result)

To get the amount of discount share in percentage, we have to subtract the result from 100.

For the final amount we have to multiply the discount price of one piece with 25.)

Task 5

Pupils observe the artworks.





Mosaic floor panel, ancient roman art, 2nd century, stone, tile, and glass, The Metropolitan Museum of Art, New York City



Mosaic with a Peacock and Flowers, Roman art, 3rd–4th century, Tesserae mounted in metal frame, The Metropolitan Museum of Art, New York City



Antonio Gaudi, Sun mosaic, first half of the 20th century, Park Güell, Barcelona
Source: www.pixabay.com

If they look carefully, they will see the artworks are compiled from many tiny pieces. These are thin pieces of different shapes and colours. They form a special artwork, called mosaic. Mosaic is a form of art, structured from many pieces and it often forms a pattern or an image. Pieces can be of different materials, such as ceramic, glass, coloured stone. Shapes of pieces can be regular or irregular. Shape is often square, such as we've seen in Oto's video.

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Task 6

Ask your pupils:



"Could you calculate the percentage share of each individual colour present on these three famous mosaics?"

Task 7

Pupils colour the net in random colours in a way, that 1 number represents one colour which is spread in the whole column below the number.

You can give your pupils this hint: First count or calculate how many squares are in the net altogether. Then count or calculate how many squares are in each used colour.

Task 9

Pupils cut out all squares and create their own mosaic. They should be creative, may draw some sketches before glueing squares to form a pattern or image of their choice. They don't have to use all squares.

Step 3 - Consolidation Stage



Ask pupils to use their pocket calculator to calculate what percentage of all squares they used in comparison with the whole net. Then, they calculate the percentage share of each used colour compared to all squares you used for your mosaic. If you used all squares, choose a random area of your artwork and solve the same task for the chosen area.

i They should send their artwork to the teacher.

Alternative if the activity is carried out in a classroom: the teacher collects all artworks and together with pupils' collaboration, they make an exhibition in the classroom.

Evaluation

Pupils express in percentage, how much do they feel this lesson will be useful for them later in life.

End of the activity

EXIT