

A hand holding a white cloth with colorful dice on a table.

(ENG) Roll the dice

Introduction

Step 1 - Motivational Stage

Step 2 - Investigational Stage

Step 3 - Consolidation Stage

Introduction



#Online activity #In-class activity #Inquiry-based learning
#Experiential learning #Paintings

Pupils experiment probability with tossing a coin and counting the results

Learning Objectives



understand and test the basic concept of probability

ACTIVITY DETAILS

Activity Details

Connection of the activity with Art

Painting of Alfred Wheeler <https://crossgategallery.com/artist/alfred-wheeler/>

Painting by Almanach (fl. 2nd half 17th cent.)

The Card Players I



Link to local, national School Curriculum

Accounting operations and their properties/ Skilfully calculating



Equipment required —

- Two dices
- Internet connection



Duration of activity —

45 minutes



Sources —

Almanach (fl. 2nd half 17th cent.)

The Card Players I, (3rd qr. 17th cent.)

oil, canvas, 163 x 281 cm

© National Gallery of Slovenia

Step 1 - Motivational Stage





When you roll two dice and add up the outcomes, there are a number of ways of calculating which ones you are most likely to get.

Step 2 - Investigational Stage



STUDENTS' TASKS

1

Task 1

List all the possible combinations in a matrix (1,1) (1,2) (1,3) (1,4) (1,5) (1,6) (2,1) etc.

Add them up and write down the outcomes. This will show what the most likely outcomes are (6, 7 and 8).
This is a slow way of figuring them out, resulting in 36 different combinations and requiring accuracy.

2

Task 2

Create a table where the faces of the first dice are listed vertically and those of the second horizontally.

Write down the sums in their intersections.

This is a faster approach.

Extra assignment

It is easy to predict the probabilities of dice rolls because the dice roll is hard to intervene. If the dice are not fake, and you have not been practicing the rolling for ages, it is a chance what you get.

If you were to predict the probability for a more complex gamble, like a horse race (a popular theme for artists like Alfred Wheeler), what kind of information would you need?

<https://crossgategallery.com/artist/alfred-wheeler/>

What about when playing cards, as in a painting by Almanach (below)?



Step 3 - Consolidation Stage



Discuss the probabilities of winning in gambling. What is a reasonable way to gamble?

End of the activity

EXIT