

MATHS

# “The challenge of multiple intelligences”

Ref. 20005











# THE CHALLENGE OF MULTIPLE INTELLIGENCES

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## 1. CONTENTS

The game consists of 64 octagonal pieces (9.2 x 9.2 cm) and 64 puzzle pieces that make up 8 octagons (9.2 x 9.2 cm). The 64 octagonal pieces contain different challenges for each of the 8 intelligences:

	<b>Verbal-Linguistic Intelligence</b>		<b>Bodily-Kinesthetic Intelligence</b>
	<b>Logical-Mathematical Intelligence</b>		<b>Intrapersonal Intelligence</b>
	<b>Visual-Spatial Intelligence</b>		<b>Interpersonal Intelligence</b>
	<b>Musical Intelligence</b>		<b>Naturalist Intelligence</b>

## 2. RECOMMENDED AGE

5 to 10 years.

## 3. EDUCATIONAL OBJECTIVES

- Finding out that there is more than one type of intelligence.
- Learn about the 8 types of intelligence with the Theory of Multiple Intelligences (Howard Gardner).
- Develop interest in the learning about the different intelligences.
- Identify the types of intelligence that predominate in each person and develop self-knowledge.
- Promote collaboration, cooperation and team work.
- Learn the advantages of interdisciplinary teams.
- Stimulate creativity and imagination.

## 4. DESCRIPTION OF CHALLENGES FOR EACH INTELLIGENCE TYPE

Before beginning the game we recommend giving brief explanation of the 8 intelligences and the type of challenge for each one.

ABC

### Verbal-Linguistic Intelligence

- **Consists of:** Being able to express and understand ideas effectively through language. Having the ability to use words in both oral and written language.
- **Challenge type 1 (cards 1 to 4):** Make up an original story with elements that appear in the card.
- **Challenge type 2 (cards 5 to 8):** Look at the images, and indicate which of the one is different to the others. Give reasons for your answer. (Eg. the carrots, because they grow under the ground).



Eg. challenge type 1      challenge type 2

123

### Logical-Mathematical Intelligence

- **Consists of:** Being able to do mental calculations quickly, solving mathematical problems, using scientific methods, using inductive and deductive reasoning and identify numeric or logical patterns.
- **Challenge type 1 (cards 9 to 12):** Get the number or amount indicated at the bottom of the card from the numbers or quantities shown at the top of the card. You can use the operations you want.
- **Challenge type 2 (cards 13 and 16):** Choose an option to continue the series and give reasons for your answer.



Eg. challenge type 1      challenge type 2



### Visual-Spatial Intelligence

- **Consists of:** Being able to solve spatial problems, recognise different perspectives of the same image or object and having the ability of rotating objects mentally. Having the ability to visualise ideas and design or draw them in three dimensions.
- **Challenge type 1 (cards 17 to 20):** Which piece fits into the space in the shape? Give reasons for your answer. (E.g. Figure C, by turning it to the left)
- **Challenge type 2 (cards 21 to 14):** Follow the arrow and find the letter it takes you to in the maze. (E.g. leads to B).



Eg. challenge type 1      challenge type 2



### Musical Intelligence

- **Consists of:** Being able to perceive, differentiate and express oneself through music, singing, playing instruments, reading and composing musical pieces with ease. Ability to differentiate different notes, tones; learn songs and follow a rhythm.
- **Challenge type 1 (cards 25 to 28):** Reproduce the rhythm represented. Each point represents a clap, and each line represents a tap on the table with both hands
- **Challenge type 2 (cards 29 to 32):** Sing a song relating to the image (E.g. birthday song)



Eg. challenge type 1



challenge type 2



### Bodily-Kinaesthetic Intelligence

- **Consists of:** Being able to use the body to perform movements and precise activities to achieve a goal. This involves bodily abilities such as strength, speed, flexibility, coordination and balance.
- **Challenge type 1 (tabs 33 to 36):** Perform the movement shown in the card and repeat the number of times indicated (E.g. "x3" = must be repeated 3 times).
- **Challenge type 2 (tabs 37 to 40):** Imitate the character's posture and try to stay in that position for 5 seconds.



Eg. challenge type 1



challenge type 2



### Intrapersonal Intelligence

- **Consists of:** Being able to know all aspects of ourselves and how we think, feel and act. This is the knowledge that we have of ourselves.
- **Challenge (cards 41 to 48):** Which of the two images do you identify with the most? Try to explain what you look like, or what it is you like about the option chosen. You can start by saying: "I identify more with...", or "I like..." E.g. I identify more with the dog because, like him, I like to be surrounded by people and I always feel like playing and I am quite obedient.



Example of a challenge



### Interpersonal Intelligence

- **Consists of:** Being able to interact with others in an optimal manner taking into account how they feel, leading a team and catering to their needs.
- **Challenge (cards 49 to 56):** With the help of several players (from 2 to 8): represent the letter, number or sign shown on the card. You must be able to coordinate all of the players chosen to represent the symbol.



Example of challenge



### Naturalist Intelligence

- **Consists of:** Being able to perceive, differentiate, and categorise the relationships that exist between different living beings, natural phenomena or features of different environments or habitats. Having knowledge of the natural environment and surroundings.
- **Challenge (cards 57 to 64):** Find what the different elements of the card have in common (E.g. they are animals that live in cold climates)



Example of challenge

## 5. METHOD OF PLAY

### Method of play 1 - Interdisciplinary Mode

The goal is to complete the octagonal intelligences puzzle with a piece of each colour (one piece for each intelligence). You can play individually or with teams of 2 to 5 players.

1. The different intelligences are explained, and the icons or colours for the cards associated with each intelligence.
2. Place the pieces upside-down in 8 different stacks, one for each intelligence.
3. The turns for the players or teams are decided.
4. The first player or team takes a piece from the pile and says aloud what intelligence relates to the challenge they are going to do. We then return to the card and attempt to complete the challenge. If you are playing as a team, decide whether to do the challenge together or just one member of the team.
5. If the challenge is completed you get a piece of the puzzle relating to the intelligence you were working with. If not, try to do so the next turn.
6. The next player or team takes their turn.
7. The player or team that first completes the puzzle with a piece for each intelligence is the winner.

### Game method 2 - Expert in an Intelligence

The objective is for each player or team to work with a single intelligence in each game.

1. Place the pieces upside-down in 8 different stacks, one for each intelligence.
2. Each team takes a card for each intelligence from the pile and tries to complete the challenge. If the challenge is successfully done a piece of the puzzle is taken in the colour for that intelligence.
3. The next team then takes their turn, and so on.
4. The team that first completes the 8 intelligence pieces and the octagonal puzzle, wins.

\*Observations: The intelligence assigned to each team can be free choice or be the decision of whoever is running the activity. The goal is to change intelligence in each game and go through different intelligences.

You can also work alone to get to know your own strengths or intelligences, as well as to enhance and practice the weaker ones.



## 6. SOLUTION FOR THE CHALLENGES

Many challenges have open-ended responses, which are intended to help kids develop their creativity and reasoning. A response which coherently reasoned will always be considered correct. There are challenges that have as many answers as we are able to create and reason. The players decide if the challenge has been completed. Disagreements will be subject to a democratic vote between the players.

On the other hand, some challenges only have a single possible answer.

Below are the possible answers:

**Challenge 1 to 4:** The stories are correct if you include all the elements.

**Challenge 5:** A **bike** because it is the only means of transport that has no engine, or a **helicopter** because it's the only one that flies through the air, or a **car** because it's the only one that has four wheels, etc

**Challenge 6:** A **hen** because it is oviparous and lays eggs, or because it is the only one that has two legs, or because it has feathers. Or, a **sheep** because it provides wool, etc

**Challenge 7:** A **carrot** because it grows under the ground, or **nuts** because they are the only fruit with a shell, and so on.

**Challenge 8:** **Kayaking and canoeing** because they are the only water sport, or because it is the only sport that doesn't need a ball, or **baseball** because it is the only sport that is played with a bat, etc

**Challenge 9:**  $5+3$ ,  $2 \times 4$ ,  $5+6-3$ , etc (sums resulting in 8)

**Challenge 10:**  $2+1$ ,  $5-2$ , etc (sums resulting in 3)

**Challenge 11:**  $4+1$ ,  $6-2+1$ , etc (sums resulting in 5)

**Challenge 12:**  $5-1$ ,  $2 \times 3$ , etc (resulting in 6)

\* Responses to challenges 9 to 12 are only an example. There are many more sums resulting in the number given on the card.

**Challenge 13: A, Challenge 14: B, Challenge 15: B, Challenge 16: C**

\* The answers to challenges 13 to 16 are not the only ones possible, just the most common. An answer which is well-reasoned and coherent will always be considered valid. Disagreements will be subject to a democratic vote between the players.

**Challenge 17: C, Challenge 18: B, Challenge, 19: C, Challenge 20: B**

\* The answers to challenges 17 to 20 are not the only ones possible, just the most common. An answer which is well-reasoned and coherent will always be considered valid. Disagreements will be subject to a democratic vote between the players.

**Challenge 21: D, Challenge 22: B, Challenge 23: C, Challenge 24: B**

\* The answers to challenges 21 to 24 are the only possible answers.

**Challenge 25 to 32:** The players decide if the challenge has been completed. Disagreements will be subject to a democratic vote between the players.

**Challenge 33 to 40:** The players decide if the challenge has been completed. Disagreements will be subject to a democratic vote between the players.

**Challenge 41 to 48:** All responses are valid as long as they explain the chosen option.

**Challenge 49 to 56:** The players decide if the challenge has been completed. Disagreements will be subject to a democratic vote between the players.

**Challenge 57:** they are round, **Challenge 58:** they live in a cold climate, **Challenge 59:** they provide food for other living beings, **Challenge 60:** they are red, **Challenge 61:** they are natural energies, **Challenge 62:** they are living beings, **Challenge 63:** they have a defensive system, **Challenge 64:** they can produce sound.

\* The answers to challenges 57 to 64 are not the only ones possible, just the most common. An answer which is well-reasoned and coherent will always be considered valid. Disagreements will be subject to a democratic vote between the players.