



# Agents of Change Toolkit

## Serious Games to progress schools towards Sustainable Development Goals



### What am I?

This is a game about cultivating empathy in early years and primary-aged children using an experiential learning approach, which involves recognizing, enacting and conceptualizing emotions, as well as creating and narrating stories focusing on their emotional aspects. The game is provided in two designs to better address the needs and skills of the respective age categories: **Design A** for children P1-P3 / ages 4-7 and **Design B** for children P4-P6 / ages 7-11. The activity uses six basic emotions (joy, sadness, anger, fear, worry, and surprise), but it can be applied to a wider/more granular spectrum of feelings. Both designs adopt the same colour code for the emotions, as displayed in Figure 1.

This activity fits into the ACT change model Step 4 – Enactment.



#### Who?

Design A: children P1-P3 / ages 4-7

Design B: children P4-P6 / ages 7-11



#### Where?

In classroom



#### When?

During school hours



#### What?

Design A: a set of puzzles (see printable files)

Design B: a board game set (see printable files)

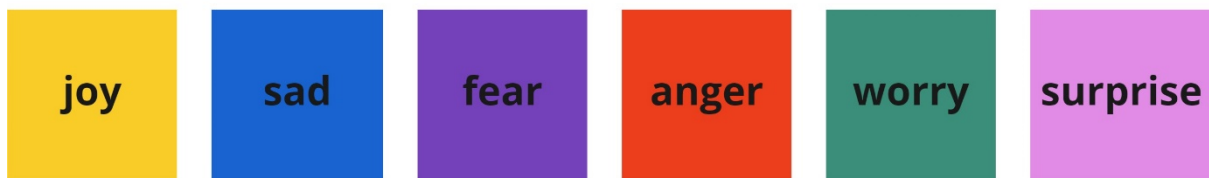


Figure 1 Emotional colour code for "What am I?" games

## Design A (children P1-P3 / ages 4-7): Activity Jigsaw

### You will need

This activity, as explained below in detail, is played in pairs of two, therefore you will need as many jigsaws as needed for the size of your class. Printable jigsaws are provided.

For each jigsaw, you will need to put together the following materials:

- background board or sheet with printed silhouette of the puzzle pieces (see Figure 2)
- colourful puzzle pieces
- opaque bag to store and use during the game

You will need to recreate the puzzle boards and their respective pieces using the design files provided in ready-to-print format for A4 paper size. You can print the files on card paper (up to 250gsm), glue them on cardboard, optionally add any sealing spray for durability and cut the puzzle pieces to shape. You will also need one opaque satchel for every jigsaw to keep the pieces in.

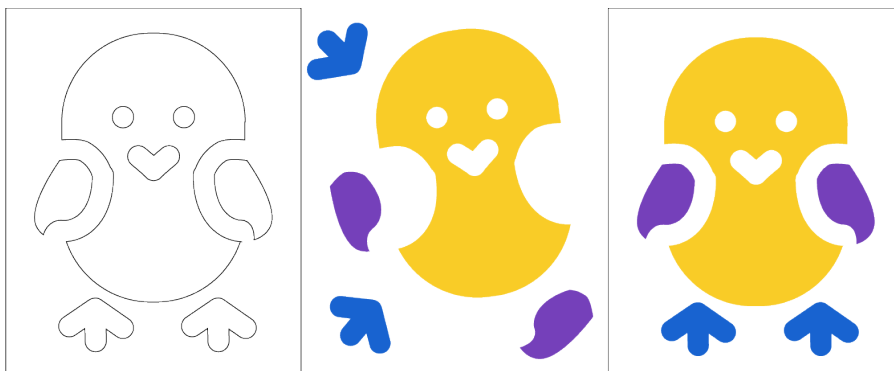


Figure 2 Sample puzzle board with printed silhouettes of the pieces (left), coloured jigsaw pieces (middle) and completed jigsaw (right)

### How to play

#### Setup

Split the class up in pairs of two and give each pair a jigsaw outline and the corresponding bag with its pieces. This game is played in rounds equal to the amount of the pieces of each puzzle. In each round, one child is enacting an emotion and the other child is trying to guess it. The children swap roles from round to round. As a teacher, demonstrate the game to all by playing one round as the enacting player and one round as the guessing player together with a student from the class and provide the colour code for the emotions somewhere visible to all by any means appropriate (coloured chalk on blackboard, printed card, etc.)

### Game round

One child goes first, taking a piece from the bag and keeping it hidden from the other child. The colour of the piece corresponds to an emotion. The child should enact the emotion and the other child should guess the emotion. If successful, the team places the jigsaw piece on the board at the appropriate location and the children swap roles (the guesser now acts). If unsuccessful, the children place the piece back in the satchel and they go again (keeping the same roles).

### Finishing the game

Repeat until the jigsaw is complete and coloured! The average amount of pieces per puzzle is 5 (corresponding to 5 rounds) in any combination of colours/emotions.

## Design B for children P4-P6 / ages 7-11: Board game

### You will need

You will need to put together the following materials for the board game:

- Game board (see printable files)
- Coloured 6-sided die
- Pawn/token set
- Card deck (36 cards, 6 sets of 6 cards)

The game board can be printed on card paper, glued on cardboard, optionally adding any sealing spray for durability and finally cutting it to shape using an art knife. You can use 6 pawns from other board games (ideally matching the colours of the colour scheme) or buy a standalone set from a game shop. The cards for the deck can be printed on card paper with two-sided printing and cut to shape. You will need to print 6 sets of 6 cards, as prepared in the accompanied ready-to-print file. The coloured die can be created by colouring a regular 6sided die with permanent marker pens of the appropriate colours.

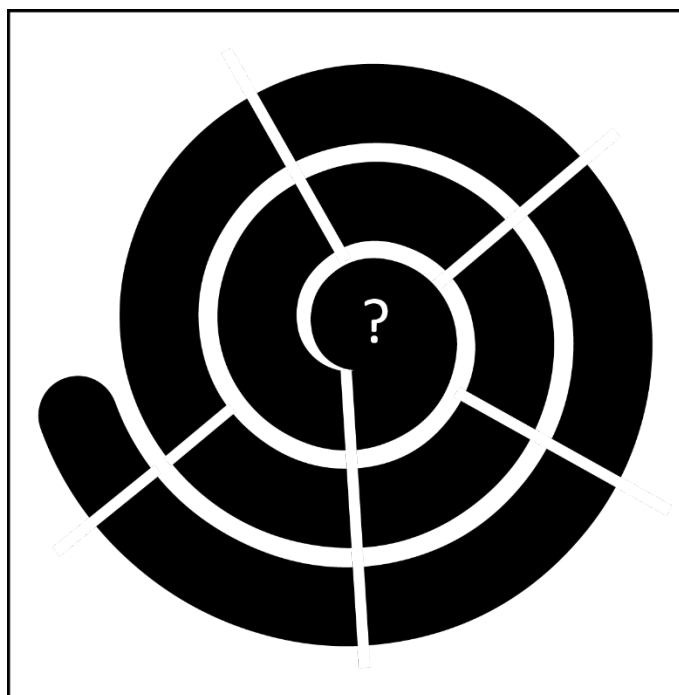


Figure 3 Game board



Figure 4 Hand-coloured 6-sided die

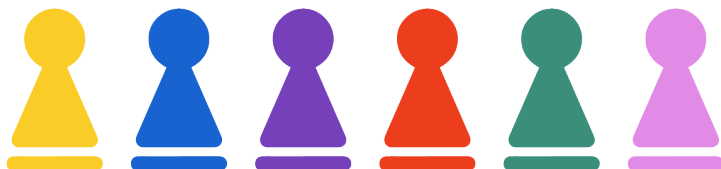


Figure 5 Colour coded board game pawn set (6 pieces)

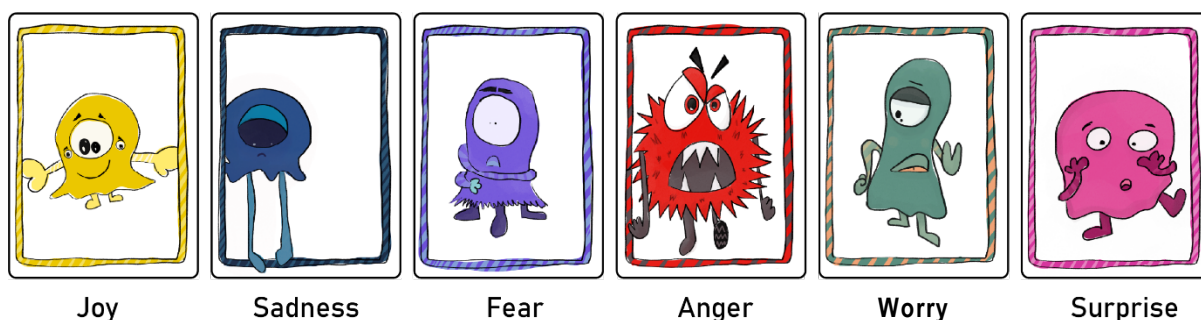


Figure 6 "Emotion Creature" card set (6 types)

## How to play

### Setup

Place the board in a central location and place all pawns at the starting tile (arm of the spiral). Split the class into 6 teams. If your class has more than 24 pupils it is recommended to divide the class in half and take turns to play the game. This ensures no more than 4 players on each team (2-4 is ideal). Hand each team a set of cards (6 cards, one for each emotion) and have the teams gather around the board. To initiate the game, have each team roll the coloured die – in this phase, each team will “play for” the emotion corresponding to the colour that they rolled (have subsequent teams reroll in case of duplicate results until all pawns have been distributed between the teams).

### Game round

#### Phase 1:

One student (chosen at random) from the entire class takes up the narrator’s role for this round and rolls the coloured die, hidden from the players but visible to the teacher. If required the teacher can model the narrator’s role at first. The narrator makes up a short situation or story (2-3 sentences) that they think could relate to that feeling and narrates the story in the first person i.e. from the protagonist’s point of view. The narrator ends the story with the hanging phrase “... what am I?” indicating that the answer is one of the corresponding emotion-denoting adjectives: happy, sad, afraid, angry, worried, surprised.

#### Phase 2:

Each team discusses among themselves and votes for the main emotion that they think is related to the story by placing that emotion’s card face down in front of them.

### *End of round:*

All teams reveal their cards simultaneously. If the team's emotion card matches the storytelling player's emotion, then that team moves their pawn forward, otherwise they move their pawn one tile back (unless it's in the starting tile, in which case it remains there). If a team wants to argue why their 'wrong' choice was really correct, the teacher should allow a very short justification and guide the class in making a judgement about whether this alternative emotion could also have been right. If others agree then the pawn stays where it is instead of moving back a space.

*Example: Betsy rolls 'joy' on the die and describes doing a successful grading at her karate class and getting her green belt. Ayaan's group chose 'fear' as their emotion and explain that they would be rather shy and worried about being tested and although they would be happy (and also surprised) to pass they would be nervous during the grading itself.*

### Finishing the game

The game is finished when a pawn reaches the ending tile (centre of the spiral). Optionally provide the winning team with a symbolic reward. The emotion which corresponds to the pawn that reached the end can become the focusing topic for other external (out of game) activities up to the next game session, such as activities on mindfulness (prompting the children to mark the occasions when they feel that emotion during the week) or any other educational or creative activity (e.g. discuss that emotion's role in a literary work or other media, portray that emotion in various ways and media).

### Replayability

The class has "won" the game, if they manage, over multiple replays, to have all 6 emotions reach the end at least once. Provide the whole class with a symbolic reward for their achievement.

## Game adaptations

### Design A (children P1-P3 / ages 4-7): Activity Puzzle

In the provided puzzle set, a coherent theme of animal faces was used for the provided illustrations. Feel free to expand the set or change the topic as appropriate by creating puzzles of your own with a similar method.

### Design B for children P4-P6 / ages 7-11: Board game

In order to facilitate the game, if deemed appropriate, the teacher (instead of a student) can perform the story telling and roleplaying at Phase 1. The game can be played without further adaptations with single players instead of teams for smaller-sized groups, if that works better for your pupils. To introduce game-based challenge for further engagement, you can substitute the rules at "End of Round" with a more elaborate version described below:

"All teams reveal their cards. If the team's emotion card matches the storytelling player's emotion, then that team has their pawn move forward. If the voted emotion also happens to be their own assigned emotion (Team Anger voted Anger and Anger was the right choice), move that pawn two tiles forward. If the team got the emotion wrong, they move their pawn one tile back. If the team got the emotion wrong having voted their own assigned emotion (Team Anger voted Anger and Anger was the wrong choice), move that pawn two tiles back".

# Understanding “What am I?” better

## Game purpose

This game’s purpose is to develop empathy in the primary years, falling under the ACT priority area “Communication and building relationships” and is aligned with UN’s Sustainable Development Goal 16: Peace, justice and strong institutions.

The aim, the outcome and the action plan to address this have been incorporated into the game’s design and the game is focused at bringing about change by providing players with targeted gameful and educational procedures, therefore within the ACT change model, this game falls under Step 4 – Enactment.

## Desired change

The game is designed to foster empathy in children as well as develop their emotional literacy. This is especially important, as “showing empathy and looking outwards is an important aspect of global citizenship”. For many teachers, teaching empathy is an area in which they feel less confident and therefore the game aims to support teachers with a resource which they can use within the classroom to develop empathy and promote global citizenship.

## Instructional design

This game’s instructional design is based on experiential learning of empathy in children by involving procedures such as roleplaying and storytelling.

## Intended Learning Outcomes

- Primary-aged children show signs of increased empathy

## Desired Learning Behaviour

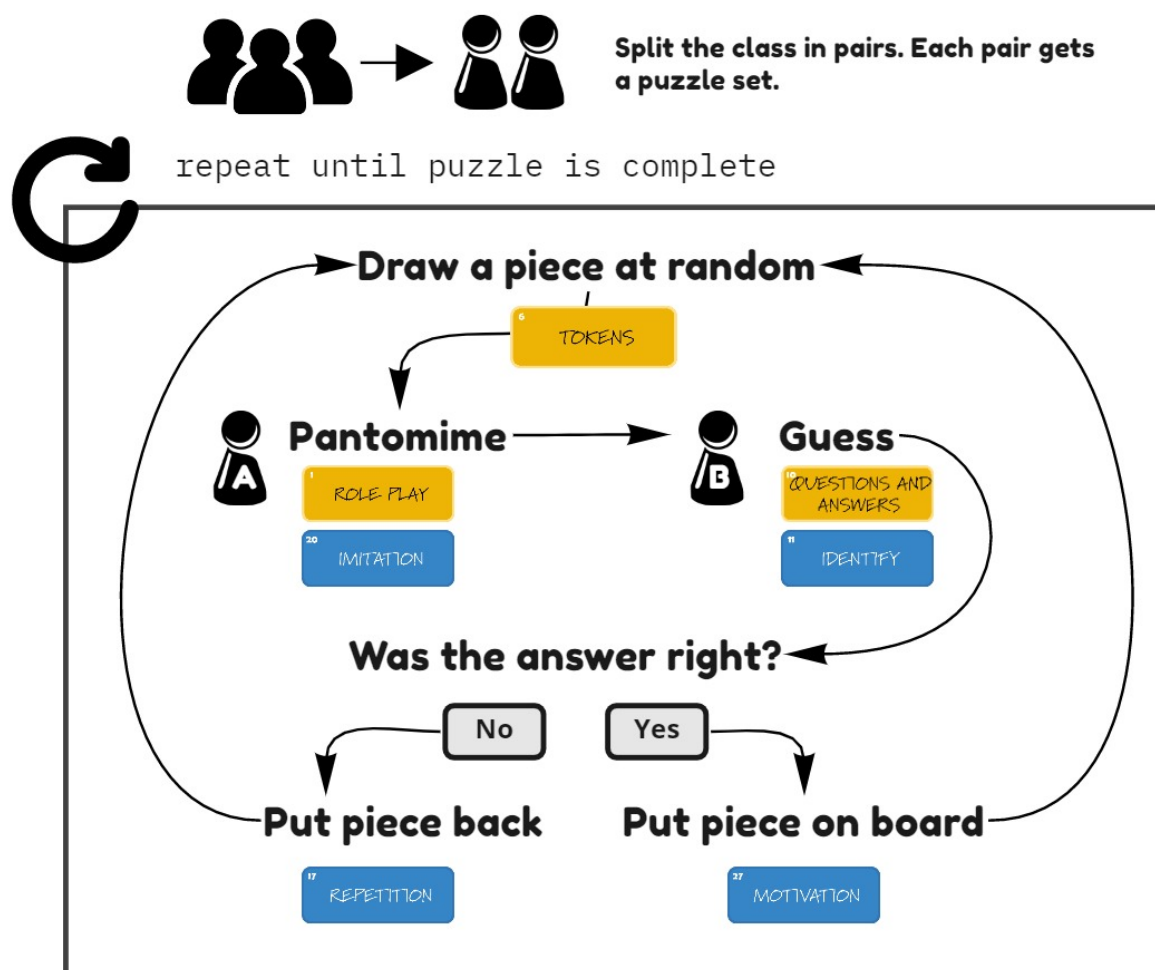
- To listen and observe others’ behaviours
- To identify others’ feelings
- To relate situations and circumstance with feelings that may arise from them

Specific learning mechanics are captured in the gameplay loop diagrams below.

## Gameplay loop

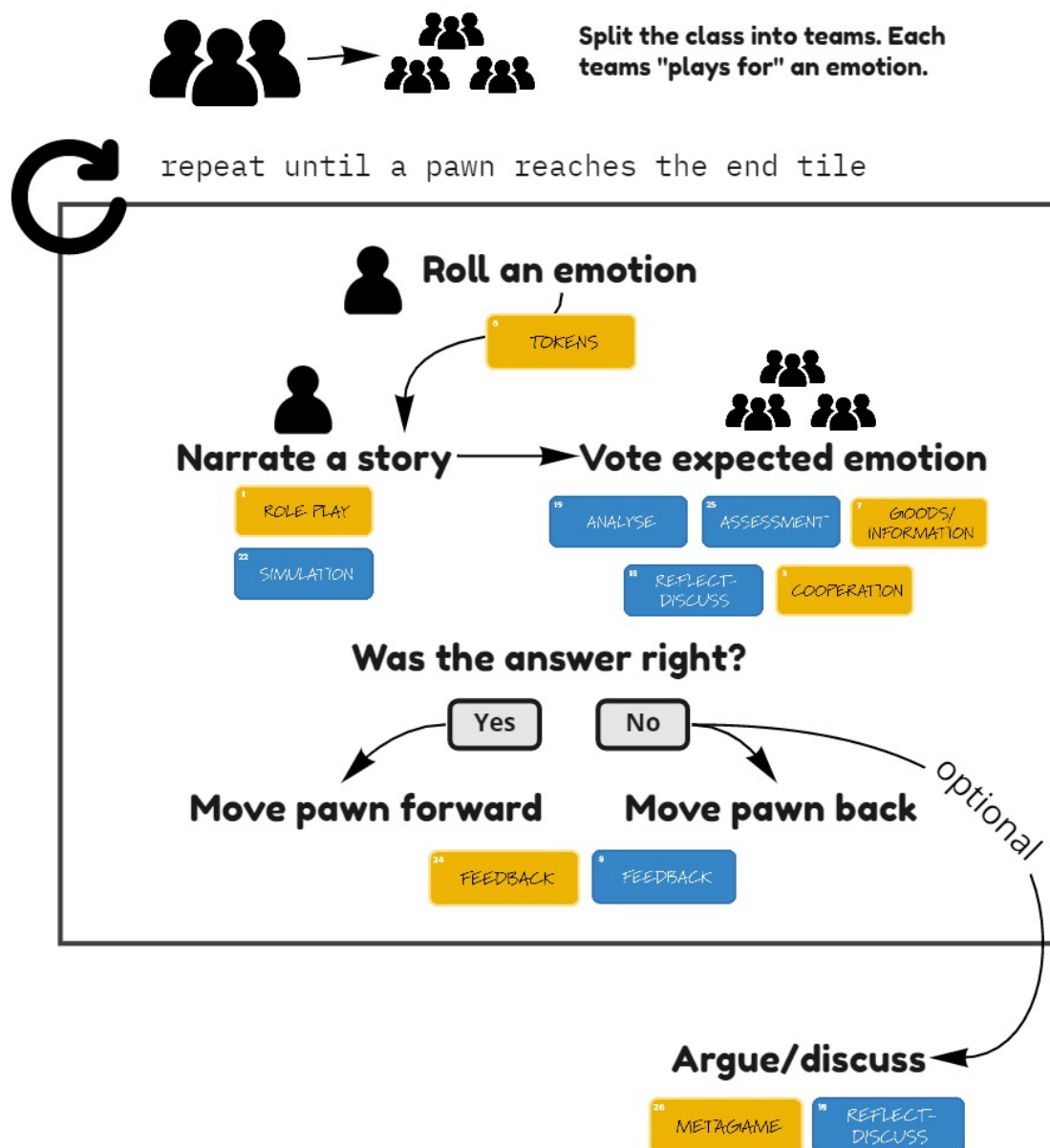
The below diagrams show the gameplay loop for these two games (including reference to relevant out-of-game activities for Design B). Specific learning mechanics are shown in blue and specific game mechanics are shown in yellow.<sup>1</sup>

Design A (children P1-P3 / ages 4-7): Activity Puzzle



The randomization element at the start of the round serves mainly game-based needs and is not tied directly to a learning mechanic. Roleplaying by imitating the expression of a feeling is the main behaviour supporting the experiential learning approach of the game, while identifying the feeling and providing an answer are aligned with a constructivist learning approach. For this reason, the roles are interchangeable every round making sure children engage with both approaches. As an exception, if the guessing player fails, the players progress to the next round keeping the same roles using a new random token – this repetition mechanic serves to reinforce learning by providing players with appropriate chances to practice in accordance to their skills.

<sup>1</sup> For more on the game design framework being used here, see Arnab et al (2015) Mapping learning and game mechanics for serious games analysis. British Journal of Educational Technology, 46, 391–411.



The roleplaying element in older ages is expressed with storytelling instead of directly enacting and the storytelling player needs to create narratives that simulate circumstances and conditions which may in their perspective relate to the emotion in question. The teams must analyse the provided information and make their assessment as to which emotional spectrum is related. Having one vote as a group, players need to cooperate and discuss their individual opinion until they reach a single decision. Learning and gaming feedback is aligned to each other and immediate. The option for elaboration and alternative viewpoints exists in an out-of-game context and can remove an in-game penalty – this is important to share diverse perspectives, reinforce that emotions can be complex and vary across the class (as well as within each group), and include players with minority emotional interpretations.



## Credits

This game was co-designed and developed by Jennifer Hutton, Olga Chatzifoti, and Daisy Abbott as part of the Agents of Change Toolkit project funded by the Scottish Universities Insight Institute. Explore the whole toolkit at <https://teacher-act.net/>

The puzzles for Design A made use of the following material:

- Bison by Eucalyp from the Noun Project
- Wolf by Eucalyp from the Noun Project
- Lion by Eucalyp from the Noun Project
- Koala by Eucalyp from the Noun Project
- Panda by Eucalyp from the Noun Project
- Elephant by Eucalyp from the Noun Project
- Gorilla by Eucalyp from the Noun Project
- Camel by Eucalyp from the Noun Project
- Rhino by Eucalyp from the Noun Project
- Raccoon by Eucalyp from the Noun Project
- Walrus by Eucalyp from the Noun Project
- Rat by Eucalyp from the Noun Project

The visuals for Design B made use of the following material:

- Dice by Alina Oleynik from the Noun Project
- Pawn by Gyan Lakhwani from the Noun Project

The Emotions Card Deck for Design B was created by Paulina Brosz (<https://www.paulinabrosz.com/>)

