3.2.3 Mill/Nine Men's Morris

Brief description, and rules of the game

Mill is a traditional two-player strategic board game played on a special board consisting of lines and connecting points. Each player has nine identical pieces of the same colour. The aim of the game is to place three of one's own pieces in a straight line (horizontally or vertically). This formation is called a mill. During the game, students engage in creative thinking as they gradually develop their own solutions step by step. They experiment with different ideas, observe which strategies work effectively, and adjust their approach when necessary. Creativity is reflected in the learners' willingness to try new solutions, recognise connections and patterns, and make decisions based on their own thinking. Although the rules of the game are fixed, students can develop a variety of different solution strategies. In this context, creativity is expressed primarily through flexible thinking, the recognition of new patterns and the continuous modification of strategies.

Skill focus

- **Primary Skill Focus**
  - Creativity
- **Complementary/Secondary Skill Focus**
  - Problem solving
  - Flexibility
  - Critical thinking

Age group	Student number	Duration
6-10 years old	Pair work or whole-class activity using multiple parallel game boards	5-10 minutes

How to play - brief game rules

1. Preparation: The teacher prepares a large Mill board, which can be placed on the floor (using adhesive tape or chalk), on a table (drawn or printed), or outdoors by drawing it on the playground surface. Each player receives the same number of game pieces (e.g. discs, bottle caps or stones) in two clearly distinguishable colours. The teacher briefly introduces the narrative frame of the activity: "This game is not only about winning, but also about trying out new ideas."
2. Game Process: The game follows the traditional rules of Mill, with the emphasis placed on decision-making. Players take turns placing their pieces on free points on the board. During this phase, placed pieces cannot be moved. If a player forms a mill, they may remove one of the opponent's pieces, provided it is not part of another mill (unless all opponent pieces are in mills). Once all pieces have been placed, players take turns moving one of their pieces to an adjacent point along the lines. The goal remains to form new mills and gradually remove the opponent's pieces.

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3. When a player has only three pieces remaining, a special rule applies: the player may "jump", meaning they can move a piece to any free point on the board. The game ends when one player has only two pieces left and can no longer form a mill or is unable to make a legal move because all their pieces are blocked. Before each move, students are given a short thinking time. The teacher may encourage them not to always choose the most familiar solution. Success is not measured only by whether a mill is formed, but also by how creatively students reach that outcome.
4. Incorporating Creative Variations: To strengthen creativity, the teacher may introduce additional rules, such as "free move", allowing one player per round to place a piece in an unusual position; "swap move", where two pieces may exchange places; "surprise round", during which the player explains why they chose a particular move. These variations do not overcomplicate the game, but they open up new directions of thinking.

Indoor/Outdoor Classroom layout notes

The game can easily be implemented in the classroom using table versions, in the gym using a large-scale board, outdoors using a chalk-drawn playing area. A larger board allows students to physically step into the game, which further enhances creative and embodied thinking.

How does this game develop the primary skill?

Mill develops creativity by allowing multiple strategies to be explored, not penalising experimentation, encouraging unexpected moves, supporting the recognition of new patterns. Students experience that mistakes are learning opportunities, the same situation can be solved in different ways, their ideas are valuable even if they do not lead to immediate success.

What do we want to achieve regarding primary skill development (student understanding and/or behaviour)?

As a result of the game, students become more willing to try new solutions, think more flexibly, are able to justify their decisions, recognise their own creative thinking processes. They understand that creativity is not about speed or technical skill, but about trying out ideas and developing them further.

Suggested use, and practical examples

- In language lessons, the game supports the verbalisation of thinking processes. After a move, students briefly explain their decision, strengthening awareness and expression of creative thinking as well as logical reasoning.
- In mathematics lessons, the game can be used to develop pattern recognition and systems thinking. Students observe recurring arrangements and explore how the same goal can be reached through different paths. The focus is not on calculation, but on the creative interpretation of structures.
- In clubs or gifted education, students can design new versions of the game by modifying board size, winning conditions or the number of moves. This approach strengthens creativity as constructive and systems-based thinking.
- For students with learning difficulties, a simplified, large-scale and highly visual version of the game is particularly suitable. Creativity emerges as students work at their own pace, gradually building strategies through experimentation.

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Materials and tools needed for implementation

- Mill board (drawn or printed)
- Game pieces in two colours
- Optional: timer, rule cards for creative variations

Guiding questions

- Why did you choose that move?
- What other solution could you have tried?
- Was there a move that surprised you?
- What would you try differently next time?

Tips and Tricks for dealing with challenges

- **Challenge:** Students always use the same strategy.
  Tip: Ask them to consciously try a different approach in one round.
  Trick: Introduce a "forbidden move" by temporarily excluding a familiar solution.
- **Challenge:** Fear of making mistakes
  Tip: Emphasise that this is an experimental game.
  Trick: Reward the "most interesting idea" rather than the winner.

Difficulty level tailoring

Beginners (6-7 years old): At beginner level, creativity appears in shared thinking and the safe exploration of ideas. Students can plan moves together, discuss possible solutions, and experience that the same situation can be approached in different ways. The emphasis is on discovering new patterns and connections without focusing primarily on "right" or "wrong" answers. More thinking time can be provided before each move, and shared move planning can be introduced, where pairs or small groups discuss options collectively. This supports pattern recognition, basic strategic thinking, and flexible problem-solving.

Advanced learners (8-9 years old): At advanced level, creativity is reflected in independent strategy-building and the conscious use of alternative rule interpretations. Students develop their own solution paths, recognise their opponent's patterns, and flexibly adjust their plans as the game progresses. Creative rule variations (e.g., "free move", "swap move", "surprise round") can be introduced to open new directions of thinking. Players explain their strategic decisions independently, briefly justifying why they chose a particular move. This level requires deeper critical thinking, conscious pattern recognition, and more complex problem-solving.

Experts (9–10 years old): At expert level, creativity emerges as complex strategic thinking and innovative approaches. Students think several moves ahead, construct alternative scenarios, and deliberately experiment with unconventional solutions. Rule variations can be combined or even modified by the players themselves, creating further space for individual and collaborative strategic innovation. Decision-making becomes more detailed and reflective, and players continuously adapt to new situations during the game. This level demands a high degree of flexibility, critical thinking, and creative problem-solving.

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Debriefing and reflection questions

- Which move are you most proud of, and why?
- Was there a situation where more than one solution came to mind? How did you choose?
- When did you have to change your original plan? Why?
- Did you recognise a new pattern or connection during the game?
- What did you learn from an idea that did not work?
- Did you try a strategy you had never used before?
- What would you do differently in a future game?
- How did it help your creative thinking that there was no single "correct" solution?

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