

Unit Title	The Spy game
Topic	Didactics
Name and e-mail address of person submitting unit	Pavla Žufníčková olifa@seznam.cz
Aim of unit	To introduce a special part of mathematics - crypto analysis. To develop creativity and to support team-work. This project could be introduced as practice in using arbitrary subject, and to get more accustomed to the school building.
Indicative Content	3-4 lessons To take part in spy game that is prepared by teacher.
Resources needed	Papers, pencils, some ciphers and clues, “treasure”; if you want you can use costumes as decoration.
Teachers notes	This project is very time-consuming, but most students love this activity.

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Preparation

Teacher

- Choose the topic of the Spy game and story of this game (for example: competition nowadays spies, searching of the treasure in middle age, pursuit of the secret being,).
- Prepare the secret letters used different ciphers. In each letter is noted where the next one is or where they will look for other task/target.
- Hide this letters somewhere in the school building or around according the information in the secret letters.
- Think out task and helps (maybe some groups will not be able to decipher some letters).
- One can use costumes, decoration...

Game

Teacher

- Tells the story of the game
- Divides students into the groups
- Explains rules of the game
- Helps and controls

Students

- Seek for letters, fulfil the tasks
- If they lost their way, they can ask teacher for the help

Examples of some ciphers:

- Using every second or third letter (TCHIKPAHSEDR).
- Write the second part of text between the letters of the first part (CHIEPR).
- Caesar's cipher: Each letter moves (DJQIFS) C = D, J = I, ...
- Using pictures instead of letters (picture of dog = D)

Examples of tasks:

- Do the same number of steps to the left as the result of this exercise is: $10 + 7,5 + 5,625 + 4,21875 +$. There is the next letter.
- The risky games with dice, matches, coins which are based on probability and combinatory theory
- Setting Tangram together
- To find the centre of triangle without pens and rulers (use folding)