



Observing

Imagine the size of a virus by observing a grain of sand, and find out how a sick person spreads millions of viruses.

How do viruses spread and propagate?

The key to the whole process of getting a cold is our nose. By sneezing, a sick person spreads millions of viruses, and our noses serve viruses as the next place to attack.

Show how viruses spread from a sick person when they sneeze. Use a spray to simulate sneezing. Show the effect on colored paper placed a certain distance away – which becomes damp.

Put a few grains of sand onto a black/blue (or differently colored) sheet of paper. These represent the amount of viruses that may reach our nasal mucosa at the beginning. Sprinkle a greater amount of grains of sand (a pinch) onto another blank sheet of paper – this represents the amount of viruses in the nose after an hour. Pour out a much greater amount of grains of sand (a handful) onto a third sheet – this is the “gang” of viruses that results from multiplication over the course of a day, which live in our nose causing symptoms of the common cold.



Observing

Check how to sneeze correctly.

First, show various “incorrect” ways of sneezing. Use a water spray (to simulate sneezing) and sheets of colored paper.

- Sneezing into the air – students notice that water droplets with viruses can travel a long distance.
- Sneezing into your hands – children find out that hands become wet and touching anything with them can transfer viruses.

Ask students if they know another, better way of sneezing. It’s important that viruses don’t spread. Ask students to think creatively and come up with other ways of sneezing.

If students have not thought of this method, demonstrate it:

- Sneezing into a bent elbow. See more – you can watch this video with your students.

Clicking play will redirect you to YouTube website.





Movement game

Take part in a movement game, which will illustrate the battle between the human body and viruses in the course of a cold.

Students draw cards labelled with letters (from amongst the following):

- V (Virus - 10 people or more),
- G (Granulocyte - 4 people),
- L (Lymphocyte - 4 people).

There should be as many cards (letters) as there are students. Give out "equipment" to each group:

Viruses receive colored plastic capes. (You can use garbage bags as capes).

Granulocytes – which, as the first line of defense, raise the alarm at the sight of viruses – receive little bells (or other objects that makes a distinct sound).

The last group is lymphocytes, the soldiers of the immune system. They get special gloves, which they will use to pull off the capes – the viruses' coats.

Granulocytes and lymphocytes also receive dustpans and brushes.

Explain the rules and tasks:

Signal to the granulocytes that the game is beginning. The granulocytes should be standing at the ready in the middle of the room. Viruses are "lurking" at one end of the classroom. On my command, the viruses slowly start to creep into the middle of the room. The lymphocytes are waiting at the side. When the granulocytes notice the viruses, they begin to ring their bells and shout "Look out! Viruses!". The lymphocytes then join the group in the center and pull the viruses' capes off – thus rendering them harmless. Once all the viruses have been deprived of capes, the granulocytes, with the help of the lymphocytes, clean up the remains after the "battle" using dustpans and brushes.

Students are not allowed to hit other students or tug their clothes (they are allowed to touch capes).

Conclusions:

The game is supposed to show that as a result of such a "battle" between the immune system and viruses, we feel an itching sensation in our nose, we start to sneeze, our temperature rises, there is a "scratching" in the throat, and finally we have a runny nose – we have to clear our nose (which in the game is represented as cleaning up the remains after the "battle" using dustpans and brushes).