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| |  |  |  |  | | --- | --- | --- | --- | |  | **“GREAT ROUTES IN THE MIDDLE AGE AND THEIR SYMBOLOGY”**  **Nr. 2016-1-ES01-KA219-025035\_3** | Erasmus Middle Routes profila bilde |  |   Ilze Šulca |  |  |

**LEARNING UNIT**

**DISEASES**

**Age**: 13 – 17

**Subject: biology**

**Objective**:

The diseases in the Middle Ages and nowadays and their prevalence

**Tasks**:

Introduce the various types of diseases in the Middle Ages and nowadays,  
know the symptoms and triggers,  
know the ways of spreading,  
simulate the prevalence of the disease today

**Materials**:

Prepared and copied texts, pictures/photos of the disease, map, paper, pen, computer with the project websites

**Teaching methods forms of work**: frontal, pair, group work, dialogues, reading, listening, watching, and discussion.

**The plan of the first lesson – medieval plague studies**

**Content and activities:**

1. teacher asks students to make groups of 4-5 students(according to the class)
2. students pick up paper with the information about the disease

(teacher has to prepare paper format or allow students to use i-net )

[*http://greatmiddleroutes.x10host.com/*](http://greatmiddleroutes.x10host.com/)

[*http://greatmiddleroutes.x10host.com/2018/04/26/activities-presented-in-jastrzebie-zdroj-5/*](http://greatmiddleroutes.x10host.com/2018/04/26/activities-presented-in-jastrzebie-zdroj-5/)

[*http://www.historytoday.com/ole-j-benedictow/black-death-greatest-catastrophe-ever*](http://www.historytoday.com/ole-j-benedictow/black-death-greatest-catastrophe-ever)

[*https://www.google.lv/search?q=black+pox+in+the+middle+ages&client=firefox-b&dcr=0&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjDxoXRyPDWAhWhE5oKHWSQAhsQsAQIPg&biw=1920&bih=940#imgrc=aYZ2kuNbY9uelM*](https://www.google.lv/search?q=black+pox+in+the+middle+ages&client=firefox-b&dcr=0&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjDxoXRyPDWAhWhE5oKHWSQAhsQsAQIPg&biw=1920&bih=940#imgrc=aYZ2kuNbY9uelM)*:*

<https://historicengland.org.uk/research/inclusive-heritage/...history/.../time-of-leprosy/>

[*https://www.medicinenet.com/plague\_facts/article.htm#what\_are\_plague\_symptoms\_and\_signs\_what\_are\_the\_different\_types\_of\_plague*](https://www.medicinenet.com/plague_facts/article.htm#what_are_plague_symptoms_and_signs_what_are_the_different_types_of_plague)

[*https://www.healthline.com/health/smallpox*](https://www.healthline.com/health/smallpox)

1. students in groups read the information, look carefully at the pictures/photos of disease

and on the paper make a kind of poster with the main information

1. posters are put on the wall and other groups get introduced with all diseases
2. teacher prepares papers with the name of disease, symptoms, triggers and other key words, pictures (cut them)

* each student picks up one
* all students find their place behind the student with the name of illness
* after that each group reads out the main information
* they could be asked to mime/show the information in interesting way(by making role play, dialogues, videos(Teacher can show the students’ made video from the project webpage as a pattern)

Worksheet:

|  |  |  |
| --- | --- | --- |
| **black death** | **small pox** | **leprosy** |
| Saistīts attēls | Image result for smallpox pictures scar | [Attēlu rezultāti vaicājumam “leper foto”](https://www.google.lv/imgres?imgurl=http://www.johnbmacdonald.com/df_media/W1siZiIsIjIwMTcvMDkvMTkvMTAvMjgvMDUvMDUxMTI5NDktMjExYi00ZjQ2LWI2MmEtMDI4ODFhYTljMTc0LzE0NzU4MTIwOTU1XzA0Y2ExMmZlZWQuanBnIl0sWyJwIiwibGFyZ2UiXV0/14758120955_04ca12feed.jpg?sha=a4218a692948378b&imgrefurl=http://www.johnbmacdonald.com/blog/lessons-from-a-leper&docid=1bniY53dUGr7bM&tbnid=M-O-IGjNYrqGtM:&vet=10ahUKEwih89rF4-bZAhXRxaYKHY-GDjkQMwhaKBowGg..i&w=450&h=507&client=firefox-b&bih=766&biw=1440&q=leper%20foto&ved=0ahUKEwih89rF4-bZAhXRxaYKHY-GDjkQMwhaKBowGg&iact=mrc&uact=8) |
| plague in general is an insect-borne disease. | extremely contagious and deadly disease  that causes spots which leave marks on your | serious infectious disease in which the flesh and nerves are gradually destroyed. |
| **Spreading:**  Attēlu rezultāti vaicājumam “bubonic plague foto” | **Spreading:** it’s an airborne disease. Coughing, sneezing, or direct contact with any bodily fluids could spread the virus. Sharing contaminated clothing or bedding could lead to infection. | **Spreading**:  occurs through a cough or contact with fluid from the nose of an infected person |
| disease **caused by** the bacterium Yersinia pestis that circulates among wild rodents | [90 percent](http://www.bt.cdc.gov/agent/smallpox/overview/disease-facts.asp) of all cases were **caused by** variola major, | a [long-term](https://en.wikipedia.org/wiki/Chronic_(medicine)) infection **caused by** by the [bacterium](https://en.wikipedia.org/wiki/Bacterium) [*Mycobacterium leprae*](https://en.wikipedia.org/wiki/Mycobacterium_leprae) or [*Mycobacterium lepromatosis*](https://en.wikipedia.org/wiki/Mycobacterium_lepromatosis) |
| **incubation period** takes three–five days to incubate in people before they fall ill | **incubation period** is between seven and 17 days | **incubation period:** Initially, infections are without symptoms and typically remain this way for 5 to 20 years |
| more three–five days before, in 80 per cent of the cases, the victims die | variola major type killed [30 percent](http://www.bt.cdc.gov/agent/smallpox/overview/disease-facts.asp) of those infected. | only shorten man’s life and lowers the quality of life |
| **symptoms** enlarged, painful, tender lymph nodes called buboes. Accompanying symptoms are fever, chills, [headaches](https://www.medicinenet.com/headache/article.htm), and weakness. | **symptoms**:  high fever, chills, headache, severe back pain, abdominal pain, vomiting. These symptoms would go away within two to three days. Then the patient would feel better. However, just as the patient started to feel better, a rash would appear. The rash started on the face and then spread to the hands, forearms, and the main part of the body. | **symptoms** that develop include [granulomas](https://en.wikipedia.org/wiki/Granuloma) of the [nerves](https://en.wikipedia.org/wiki/Peripheral_nervous_system), [respiratory tract](https://en.wikipedia.org/wiki/Respiratory_tract), skin, and eyes. Weakness and poor eyesight may also be present. |
| **http://www.historytoday.com/sites/default/files/blackdeathmap.jpg** |  |  |
| **Image result for black pox in the middle ages** |  |  |

**The plan of the second lesson – nowadays plague studies**

**Content and activities:**

1. questions „brainstorm” – the ways of spreading diseases nowadays

why diseases spread quicker nowadays

1. teacher asks students to make groups of 4-5 students(according to the class)
2. students pick up paper with a disease
3. students in groups find on the i-net and project home-page information, pictures/photos of disease

and make a poster with the main information

1. posters are put on the wall and other groups get introduced with all diseases
2. teacher prepares papers with the name of disease, symptoms, triggers and other key words, pictures (cut them)

* each student picks up one
* all students find their place behind the student with the name of illness
* after that each group reads out the main information
* they could be asked to find videos about the disease to show them next lesson before the test.

Worksheet:

|  |  |  |
| --- | --- | --- |
| **AIDS/HIV** | **Zika virus** | **Ebola virus** |
| is a retrovirus that infects the vital organs and cells of the human immune system. | mosquito-borne disease | is a rare but deadly virus that causes fever, body aches, and diarrhea, and sometimes bleeding inside and outside the body, the virus spreads through the body, it damages the [immune system](https://www.webmd.com/cold-and-flu/cold-guide/10-immune-system-busters-boosters) and organs. Ultimately, it causes levels of [blood](https://www.webmd.com/heart/anatomy-picture-of-blood)-clotting cells to drop. This leads to severe, uncontrollable bleeding |
| Since the beginning of the epidemic, more than 70 million people have been infected with the the virus and about 35 million people have died of it. | **fatality** rate is 8.3%-10,5% | **fatality** rate is around 50%. Case fatality rates have varied from 25% to 90% in past outbreaks. |
| **incubation period**  symptoms may not appear for 10 years or more after virus first enters the body in adults, or within two years in children born with infection. Around [80 percent](https://www.nhs.uk/conditions/hiv-and-aids/symptoms/) may develop symptoms similar to [flu](https://www.medicalnewstoday.com/articles/15107.php) 2–6 weeks after catching the virus. | **incubation period**  virus remains in the blood of an infected person for about a week | **incubation period**  21 -42 days. |
| **Symptoms**  The symptoms of early infection may include:  [fever](https://www.medicalnewstoday.com/articles/168266.php), chills , oint pain, muscle aches, [sore throat](https://www.medicalnewstoday.com/articles/155412.php), sweats (particularly at night), enlarged glands, a red rash, [tiredness](https://www.medicalnewstoday.com/articles/248002.php), weakness, unintentional , eight loss, thrush. | **Symptoms**  Many people infected with Zika virus won’t have symptoms or will only have mild symptoms. The most common symptoms of Zika are fever, rash, headache, joint pain, conjunctivitis (red eyes), muscle pain. | **Symptoms**  <https://www.youtube.com/watch?v=I2_eRWQU09g>  *Attēlu rezultāti vaicājumam “ebola virus pictures”* |
| **Transmission:**  **sexual transmission,**  **perinatal transmission,**  **blood transmission** | **Transmission:**  avoid contact with the person’s blood and body fluids and surfaces with these fluids on them | **Transmission:**  I virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission. by contact with the [skin](https://www.webmd.com/skin-problems-and-treatments/picture-of-the-skin) or bodily fluids of an infected animal, like a monkey, chimp, or fruit bat. Then it moves from person to person the same way. |
| **Attēlu rezultāti vaicājumam “hiv aids map world”** | **Attēlu rezultāti vaicājumam “zika virus pictures”** | **Attēlu rezultāti vaicājumam “ebola virus pictures photos”** |
| **Treatment:**   * Behavioral strategies designed to increase condom usage, delay sexual activity among young people, and reduce sexually transmitted infections. * Microbicides—gels, creams, or foams—that women could use to protect themselves. * Developing a safe, effective vaccine against infection. * Drug abuse intervention and treatment programs to prevent transmission among injection drug users. | **Treatment:**  There is no specific medicine or vaccine for this virus.  Treat the [symptoms](https://www.cdc.gov/zika/symptoms/symptoms.html):  get plenty of rest,  drink fluids to prevent dehydration,  take medicine such as acetaminophen (Tylenol®) to reduce fever and pain,  do not take aspirin and other non-steroidal anti-inflammatory drugs (NSAIDS) until dengue can be ruled out to reduce the risk of bleeding. | **reatment:**  There’s no cure for Ebola, though researchers are working on it. Treatment includes an experimental serum that destroys infected cells.  Doctors manage the symptoms of Ebola with: fluids and [electrolytes](https://www.webmd.com/drugs/drug-3399-oral+electrolytes+oral.aspx), oxygen, [blood pressure](https://www.webmd.com/hypertension-high-blood-pressure/guide/diastolic-and-systolic-blood-pressure-know-your-numbers) medication, blood transfusions, treatment for other infections. |
| Saistīts attēls | Attēlu rezultāti vaicājumam “zika virus pictures” | http://www.md-health.com/images/10900017/ebola_virus.jpg |
| https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRjURjbWNSb5HdVwRVdY4jUnwc_nRWF1myKGda8-uoG3225JTbMqw | https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcT6um7gjdpidhaTxXKUHsksD_Su6JBMH5DWINRcSiG4QswPOMggmA | https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQldEKFYqBF-RXLQFEpReYhYIcFPBAvnURFpp_XNAuLPdbbuN_k |
| <https://medlineplus.gov/magazine/issues/>  <https://www.google.com/search?q=hiv+aids+map+world&client=firefox-b&tbm=isch&source=iu&ictx=1&fir=2p7v_3jfgunOVM%253A%252Cjg4JpwOmNHuxdM%252C_&usg=__jIP0IQKRb1hOHmapbO7EYETjrlg%3D&sa=X&ved=0ahUKEwje0ZiJpLLbAhWCFZoKHZqlD1EQ9QEIKTAA#imgrc=2p7v_3jfgunOVM>: | <https://www.google.com/search?q=ebola+virus+pictures&client=firefox-b&tbm=isch&source=iu&ictx=1&fir=R8M4TcGVrrURrM%253A%252Cnk7Y0Lt8qSxVzM%252C_&usg=__R8m0ggRFO4mwSUTf3PgbSXOkPtA%3D&sa=X&ved=0ahUKEwja2_fRnLLbAhWiyqYKHTsoCQsQ9QEIPzAL#imgrc=R8M4TcGVrrURrM>: | <https://www.youtube.com/watch?v=XCrOde-JYs0>  <https://www.webmd.com/a-to-z-guides/ebola-fever-virus-infection>  <http://www.who.int/features/ebola/storymap/en/> |

[*http://www.historytoday.com/ole-j-benedictow/black-death-greatest-catastrophe-ever*](http://www.historytoday.com/ole-j-benedictow/black-death-greatest-catastrophe-ever)

[*https://www.google.lv/search?q=black+pox+in+the+middle+ages&client=firefox-b&dcr=0&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjDxoXRyPDWAhWhE5oKHWSQAhsQsAQIPg&biw=1920&bih=940#imgrc=aYZ2kuNbY9uelM*](https://www.google.lv/search?q=black+pox+in+the+middle+ages&client=firefox-b&dcr=0&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjDxoXRyPDWAhWhE5oKHWSQAhsQsAQIPg&biw=1920&bih=940#imgrc=aYZ2kuNbY9uelM)*:*

<https://historicengland.org.uk/research/inclusive-heritage/...history/.../time-of-leprosy/>

[*https://www.medicinenet.com/plague\_facts/article.htm#what\_are\_plague\_symptoms\_and\_signs\_what\_are\_the\_different\_types\_of\_plague*](https://www.medicinenet.com/plague_facts/article.htm#what_are_plague_symptoms_and_signs_what_are_the_different_types_of_plague)

[*https://www.healthline.com/health/smallpox*](https://www.healthline.com/health/smallpox)