



**National
Immunization
Poster Contest
2016
Concours national
d'affiches sur
l'immunisation**

TEACHER'S KIT

**Integrating immunization
education into the Grade 6
curriculum**

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Introduction: Step-by-Step Poster Entry Plan

Every other year, Immunize Canada organizes a National Immunization Poster Contest. This contest provides Grade 6 students across Canada with an opportunity to submit works of art reflecting their ideas on immunization for good health. The winning posters are subsequently reproduced and distributed in many formats. To view past contests and winners, please visit <http://immunize.ca/en/events/imm-poster-contest.aspx>.

This kit provides teachers with resources and ideas organized by curriculum subject matter that may be used for preparing Grade 6 students with their poster contest entries.

Teacher's Plan

1. Introduce students to the poster contest. Discuss the rules, prizes and deadline for submission.
2. Introduce students to the concept of immunization by offering reading references, and organize class curriculum to include immunization information.
3. Discuss various themes and ideas with your students.
4. Encourage and support students with the preparation of their entries.
5. Mail your class entries by October 14, 2016 to:
National Immunization Poster Contest
c/o Canadian Public Health Association
404 – 1525 Carling Avenue
Ottawa, Ontario K1Z 8R9

For additional assistance, please contact Immunize Canada at immunize@cpha.ca .

Good luck – and thank you for participating!

This contest has been made possible through funding from the Public Health Agency of Canada.

Biology

How our bodies respond to invading bacteria and viruses is an important component of biology. Discuss with your students how our bodies work to expel unwanted invaders and how vaccines can help us do it.

Ideas for biology-related discussions:

How do our bodies get sick?

Bacteria and viruses are all around us. They live in our natural environment and on our bodies. These bacteria and viruses are usually harmless unless they enter our bodies. It is then that they can make us sick.

Bacteria and viruses can enter our bodies in several different ways:

1. through our nose and eyes,
2. through our mouth when we eat, drink and share other items such as toys with someone who is sick, or
3. through cuts, scrapes, or animal bites.

What is immunity?

When you get sick, your body generates antibodies to fight the disease and help you get better. These antibodies stay in your body even after the bacteria or virus has gone, and they protect you from getting infected with the same bacteria or virus again. This is called immunity. You don't have to get sick to develop immunity; you can be given a vaccine.

Immunity through immunization

Immunization (or vaccination) protects people from disease by introducing a vaccine containing an antigen (a killed or greatly weakened form of a virus) into the body. Vaccines work because they trick your body into thinking it is being attacked by a bacteria or virus and trigger your body's immune system to respond. Memory cells in the body are formed and help to prevent re-infection by making antibodies if they encounter that bacteria or virus in the future. Immunity through immunization happens without the consequence of being ill and without the risk of potential life-threatening complications from the bacteria or virus.

Discussion questions

1. How do bacteria and viruses enter your body?
2. What system in your body protects you from bacteria and viruses?
3. How do vaccines teach your body to fight bacteria and viruses that cause disease?
4. Bacteria and viruses are all around us. Do all of them make us sick?

Science

Bacteria and viruses live naturally all around us. They are very tiny and require a microscope should you wish to see them. Most bacteria and viruses pose no harm to humans – but some can make us very sick.

Vaccines help prevent us from becoming sick when we come into contact with some bacteria and viruses. They trick your body into thinking it is being attacked by a virus or bacteria, and trigger your body's immune system to respond. Memory cells in the body are formed and help to prevent re-infection by making antibodies if they encounter that bacteria or virus in the future.

Ideas for science-related activities:

Give your students an idea of what bacteria and viruses look like. Display collages of illustrations of germs, or assign science projects on vaccine-preventable diseases of the students' choice.

Materials: Paper, tracing paper, glue, coloured pencils or markers, encyclopedias, science magazines, computers with Internet access (optional)

Instructions for collages:

1. Have the students find and trace images of germs in reference books or magazines. If the magazines are expendable, allow students to cut and paste the images. Other images to look for are the human body as seen medically (e.g., a picture of the nervous system or the skeletal system), pictures of “healthy” people, pictures of “sick” people, pictures of medical equipment, etc. Artistically skilled students may wish to draw pictures rather than tracing or cutting them out.
2. Have the students paste the pictures onto plain pieces of cardboard. The teacher may wish to supply pieces that are cut into large letter shapes (VIRUS or VACCINE for a small class, or IMMUNIZATION for a large class) and have those letter shapes be the basis for the collage.

*Please note that collages will **not** be accepted as entries for the poster contest.*

Instructions for science projects:

1. Choose a vaccine-preventable disease, such as:
 - measles
 - varicella (chicken pox)
 - pertussis (whooping cough)
 - tetanus (lockjaw)
 - influenza
2. Have the students work alone or in groups to research basic aspects of the virus or bacteria they choose to study, such as: *Are bacteria contagious? Where they can be found?* and other interesting facts. Each student or group should now create a project on a piece of Bristol board incorporating all of the facts that they have found, with appropriate pictures, photocopies, or drawings.

Adaptations for special needs:

1. Students with fine motor skills problems may have difficulty cutting pictures out. If available, a computer art program will allow students to take graphics from the Internet and make an electronic collage.
2. Less visually-orientated students may find a collage difficult. Consider allowing in-class presentations or audio recordings as alternative products.

Social Studies: Civics

Vaccines used in Canada are very safe – much safer than the diseases they prevent. They are developed with the highest standards, and are continuously monitored and tested around the world and in Canada before they are approved for use.

Ideas for Civics-related activities:

Materials: Computer, Internet

Instructions:

1. With your students, consult the following websites:

Public Health Agency of Canada

<http://www.phac-aspc.gc.ca/im/safety-securite-eng.php> :

- [Are vaccines safe?](#)

Health Canada

<http://www.hc-sc.gc.ca/dhp-mps/brgtherap/activit/fs-fi/vaccin-reg-eng.php> :

- [The Regulation of Vaccines for Human Use in Canada.](#)

Discover and discuss:

- how vaccines are made
- how vaccines are licensed in Canada
- vaccine safety in Canada

2. With your students, consult the [provincial/territorial health ministry's website in your province or territory](#).
3. Discover and discuss how vaccines are delivered in your province or territory, and at the local/regional level.

Social Studies: History

Both vaccines and diseases have a long history. Throughout the world's history, different places have battled the spread of different diseases. The College of Physicians of Philadelphia (United States) has created a web site – <http://www.historyofvaccines.org/> – dedicated to the history of disease and vaccines. This web site offers accurate information on the timelines of diseases across history, and the development of vaccines.

Ideas for History-related activities:

Materials: Books about vaccines, encyclopedias, computer and Internet

Instructions:

1. Choose a vaccine-preventable disease, such as:
 - measles
 - varicella (chicken pox)
 - pertussis (whooping cough)
 - tetanus (lockjaw)
 - influenza
2. Have the students work alone or in groups to research the history of vaccine-preventable diseases. They should look for information about:
 - who was the first to identify the disease?
 - what was the impact of the disease?
 - when was the vaccine developed?
 - when did the vaccine become available in Canada?
3. Students can present their findings in the classroom with a history report, a presentation or work together in a history lesson.

Adaptations for special needs:

Encourage students to do in-depth research about the history of one disease that we now immunize people against. Students may hand in a report instead of presenting aloud to the class, or create a video.

Social Studies: Geography

Over time, countries and communities have experienced disease outbreaks. Unfortunately, diseases know no boundaries and can often be transported from one country to another without detection. This importation of disease facilitates its spread across continents. The geography of disease poses a challenge for governments and medical professionals who work tirelessly to stop the spread of disease – through vaccination.

Ideas for Geography-related activities:

Materials: Atlas, computer, LCD projector (optional), video equipment (optional), geographical maps

Instructions:

1. Choose a vaccine-preventable disease, such as:
 - measles
 - varicella (chicken pox)
 - pertussis (whooping cough)
 - tetanus (lockjaw)
 - influenza

2. Have the students work alone or in groups to research outbreaks of vaccine-preventable diseases all over the world.

They should look for information about:
 - the history of the disease and where it has originated
 - through a historical context, how the disease spread across countries or regions

3. Students can present their findings in the classroom with a geography report, a presentation or work together in a geography lesson.

Adaptations for special needs:

Encourage students to do in-depth research about the geography of one disease that we now immunize people against. Students may hand in a report instead of presenting aloud to the class, or create a short video.

Physical Education

Diseases can spread very quickly. Use a physical education environment to show how quickly diseases can spread.

Ideas for Physical Education-related activities:

Materials: A large clear area such as a gymnasium or field.

Instructions for “Contagious Disease”:

1. Have two students face each other and join their hands to form a small circle. They are the “disease”. The disease must chase other members of the class and try to catch them. A person “catches the disease” when the “disease” students capture him or her within the circle of their arms by lifting their joined hands over the “victim’s” head. The students being the disease may not let go of each other’s hands during the chase or the capture.
2. When a student is captured, he or she joins the disease by entering the circle, making it three students holding hands in an inward-facing circle. They then try to capture another student. The last student free of the disease is “healthy” and wins the game.
3. Play the game again, but this time, choose a second pair of students to be “immunizers”. The second pair competes with the first to capture students. Any student caught by the second pair of students joins the immunizer group. There should be no students remaining at the end of the game. Count the number of students in each group and see if the “disease” or the “immunizers” won.
4. Play the game again, choosing three pairs of students to be the “disease”. Explain that all of the students have been immunized except for one secret “victim”. Only the “victim” should know who he or she is. They do NOT have to join the group that caught them. The game ends when the one “unimmunized” student (i.e. the “victim”) is caught by a group and the disease cannot grow anymore.
5. Play one more round of the game, by the same rules as last time, but without a “victim”. Allow the students acting the disease to switch with others who haven’t had a chance to play if the runners seem to be over-tired.
6. Afterwards, discuss how much harder it is for the disease to grow when some people are immunized against it, and how it is close to impossible for the disease to grow if everyone is immunized. Point out that when no one was immunized, almost the whole class was caught by the disease. While people were getting immunized, only half of the class was caught. When all but one person were immunized, the disease could grow by that one person; and when everyone was immunized, the disease could not grow at all.

Adaptations for special needs:

If this game is played in wheelchairs, use only one person as the “disease”, and use a tag method rather than constant contact. After three or four students have been tagged, they may encircle their “victims”.

Mathematics

Introduce the basic concepts of series or powers using simple and more complex word problems.

Ideas for Mathematics-related activities:

Materials: Chalkboard, chalk, paper, pencils, coloured pencils or markers (optional)

Instructions:

1. Have the students start with simple problems and work up to harder ones. Examples:
 - (a) If I had mumps, and I gave it to 2 friends, how many people did I infect?
 - (b) If I had mumps, and I gave it to 2 friends, and they each gave it to 2 friends, how many people did I infect?
 - (c) If I had mumps and gave it to 2 friends, who gave it to 2 friends, and so on, how many people were infected by me when we are five layers down?

(First-level friends = 2; second = 4; third = 8; fourth = 16; fifth = 32. Answer = 62.)
2. Use several problems of this nature written out the long way, to introduce the idea of powers. Teach notation $2^3 = 2 \times 2 \times 2 = 8$.
3. If this notation is too advanced, use the original “levels” concept, and vary the number of people infected at each level. Note how quickly one small illness could spread.

Adaptations for Special Needs:

1. For students with problems with Mathematics, allow each level of multiplication to be drawn in a different colour. Thus “I” would be yellow, “my 2 friends” orange, “their 2 friends” each in red, etc. Students then count physical objects rather than relying on mental math.
2. Consider allowing special-needs students to learn how to use the powers button on a calculator.
3. For students who excel in Mathematics, add a time limit, or a population limit. Example: Every time a sixth level of infection is reached, the first level (smallest, uppermost level) is cured. How many are infected at any one time? In a population of x , how many levels does it take before everyone has been infected? If there is a population of 100, and the people recover after two levels, but half of them can be re-infected, how many levels before the number of infected people drops to 1?

Language Arts

Use literature as a means for creating and writing short stories, poems, plays, reports and articles about vaccine-preventable diseases.

Ideas for Language Arts-related activities:

Materials: Computer, Internet, videos, books, short stories, or news articles

Instructions:

1. Encourage students to read stories in which disease or outbreaks influence the story. Historical novels, such as the *Little House on the Prairie* series, are more likely to have examples of such diseases than more modern novels. News articles or grandparents' stories about influenza epidemics, polio, and so on are also useful.
2. Ask students to describe the disease, how it affected the story, and whether the impact was permanent or temporary.
3. Have students write a news article about the disease that they looked at, explaining to the public its dangers and whether or not it can be prevented by vaccine.
4. Other student activities could include:
 - filming a video
 - writing and performing a play
 - designing a brochure

Adaptations for special needs:

1. Offer the option of writing diary entries or a short story from the point of view of the virus as it makes people ill.
2. Creative students may prefer doing a radio show about germs with commercials for immunization and "interviews" with prominent germs and even "missing persons" bulletins for extinct viruses such as smallpox, or endangered ones like wild poliovirus, which has been eliminated in the Americas.
3. Students with fine motor skills problems may use the Internet to compile a list of reputable pages with information on immunization.

Creating a Poster

Now it is time for your students to create their posters and show what they have learned through the activities you used to introduce them the concept of immunization.

Objective:

Students will:

1. Explore what vaccines are and understand how vaccines work.
2. Create posters about the benefits of immunization for the National Immunization Poster Contest for Grade 6 students.

Background information:

Consult the reference list at the end of this kit for useful information that can be shared in the classroom.

Materials needed:

11"x17" paper
Markers, paint or coloured pencils

Procedure:

1. Provide art materials for poster creation.
The posters must:
 - be original artwork only
 - be on 11"x17" paper
 - address immunization
2. Ensure that each completed poster has its own entry form, **glued** to the reverse side of the poster, clearly identifying the school, teacher, and student. All forms must be **signed** by a parent or guardian (giving permission to reproduce the winning posters and winners' names).
3. Mail your students' posters. The deadline is October 14, 2016.

Activity: Word Find

Find the words listed below and circle each letter individually. The words can go up, down, diagonally, or backwards. The first one is already in bold for you. After you have found all of the words on the list, collect the remaining letters from left to right, top to bottom, and you will get this puzzle's message. Good luck!

S	E	L	S	A	E	M	S	A	F	E	T	Y	I	D	M
U	I	K	I	D	S	G	E	O	M	Y	U	N	V	I	R
N	I	C	E	L	L	E	R	I	I	S	P	A	Z	P	U
A	N	N	K	I	I	R	U	N	U	L	C	P	A	H	B
T	F	A	F	G	F	M	M	R	A	C	O	L	A	T	E
E	E	I	A	A	E	S	I	T	I	T	A	P	E	H	L
T	C	R	C	R	N	V	L	N	L	R	G	K	E	E	L
S	T	E	E	O	I	T	A	D	S	U	E	A	F	R	A
I	I	T	L	T	O	T	S	R	B	D	L	T	E	I	R
S	O	C	L	C	E	W	E	L	L	T	A	H	S	A	S
S	N	A	U	O	B	R	O	T	H	E	R	D	R	I	Y
U	E	B	L	D	D	A	L	Y	M	O	M	E	U	T	S
T	R	E	A	T	O	A	Z	N	E	U	L	F	N	I	T
R	A	E	R	A	S	H	N	E	R	D	L	I	H	C	E
E	A	D	O	L	E	S	C	E	N	T	S	P	M	U	M
P	O	X	I	M	M	U	N	I	Z	A	T	I	O	N	S

ACELLULAR
 ADOLESCENTS
 AREA
 BACTERIA
 BROTHER
 BUG
 CELL
 CHILDREN
 DAD

DIPHThERIA
 DOCTOR
 DOSE
 GERMS
 HAPPY
 HEALTHY
 HEPATITIS
 IMMUNIZATION
 INFANTS

INFECTION
 INFLUENZA
 KIDS
 LIFE
 MEASLES
 MOM
 MUMPS
 NURSE
 PAL

PERTUSSIS
 POLIO
 POX
 RARE
 RUBELLA
 SAFETY
 SERUM
 SICK
 SISTER

SYSTEMS
 TETANUS
 TREAT
 VACCINATE
 VIRUS
 WELL

Leftover letters:

Activity: Quiz

Immunize Canada has developed a quiz for Grade 6 students called [20 Questions about Immunization](#). The quiz can be downloaded from Immunize Canada's website and used in the classroom. [20 Questions about Immunization: Understanding the Correct Answers](#) is the answer key.

References

WEBSITES:

Immunize Canada

<http://immunize.ca>

<http://immunize.ca/en/specific-groups/childactivities.aspx>

Public Health Agency of Canada

[Immunization and Vaccines](#)

[How are vaccines made and licensed in Canada?](#)

[Vaccine Safety: Frequently Asked Questions](#)

Health Canada

[The Regulation of Vaccines for Human Use in Canada](#)

ONLINE RESOURCES:

Immunize Canada

[Immunize Your Kids!](#)

[Immunization Information on the Internet: Can you trust what you read?](#)

[Immunization: Get the Facts](#)

[‘20 Questions about Immunization’ quiz +](#)

[‘20 Questions about Immunization: Understanding the Correct Answers’ answer key](#)

[ImmunizeCA app](#)

Canadian Public Health Association

[Immunization history timeline](#)

Public Health Agency of Canada

[What is a vaccination and how does it work?](#)

[A Parent’s Guide to Immunization](#)

[Frequently Asked Questions about Immunization](#)

[Vaccine FAQs by Disease](#)

[How are vaccines made and licensed in Canada?](#)

Health Canada – First Nations & Inuit Health Branch

[Don’t wait – vaccinate! A Guide to Immunization for First Nations Parents and Caregivers](#)

[Don’t wait – vaccinate! A Guide to Immunization for Inuit Parents and Caregivers](#)

Other

[List of provincial/territorial ministries of health](#)

[Impact of Vaccines in Canada](#) (Toronto Public Health infographic)

[History of Vaccines](#) (United States)

[Vaccine timeline](#)

[BIOTECanada: Vaccines in Canada](#)

SOCIAL MEDIA:

[Immunize Canada’s Facebook page](#)

[Immunize Canada’s Twitter account](#)

VIDEOS:

Immunize Canada's YouTube channel <http://www.youtube.com/immunizecanada>

BOOKS:

Immunize Canada's website provides a [list of books recommended for children](#), including:

- *Achoo! The Most Interesting Book You'll Ever Read About Germs*, by Trudee Romanek, Kids Can Press, 2003
- *Choosing Health*, by Alan Collinson, in the Facing the Future series, Steck-Vaughan Library, 1991
- *Everything You Need to Know About: Measles and Rubella*, by Trisha Hawkins, The Need to Know Library, The Rosen Publishing Group, Inc., 2001
- *Germ Killers: Fighting Disease*, by Sally Morgan, Science at the Edge Series, Reed Educational & Professional Publishing, 2002
- *The Miracle of Immunity*, by William Donnellan, from the "Story of Science" series by Benchmark Books, 2003
- *My Health: Vaccinations*, by Alvin Silverstein and Virginia Silverstein, Franklin Watts, 2002
- *My Health: What Are Germs?* by Laura Silverstein-Nunn, Alvin Silverstein and Virginia Silverstein, Franklin Watts, 2003
- *Outbreak: Disease Detectives at Work*, by Mark Friedlander Jr., Lerner Publications, 2003
- *Small Steps: The Year I Got Polio*, by Peg Kehret, Albert Whitman, 2006

[Your Child's Best Shot: A Parent's Guide to Vaccination](#), 3rd edition, by Ronald Gold, MD, MPH. Published by the Canadian Paediatric Society.

RESOURCES ON MEDIA LITERACY AND INTERNET SAFETY

Media Smarts: Canada's Centre for Digital and Media Literacy

Media Literacy Fundamentals

<http://mediasmarts.ca/digital-media-literacy-fundamentals/media-literacy-fundamentals>

Resources for Teachers: Internet & Mobile

<http://mediasmarts.ca/internet-mobile/resources-teachers-internet-mobile>

Teaching Your Children Safe Surfing Habits

http://mediasmarts.ca/sites/default/files/pdfs/tipsheet/TipSheet_%20Safe_Surfing_Habits.pdf

Jo Cool or Jo Fool

<http://mediasmarts.ca/game/jo-cool-or-jo-fool-grades-6-8>

This interactive online module takes students through a cybertour of twelve mock websites to test their savvy surfing skills. It includes a 20-question online quiz that provides additional food for thought about the Web issues that the brother and sister team Josie and Joseph Cool encounter. *Jo Cool or Jo Fool* is accompanied by an extensive [Teacher's Guide](#) that contains background information for teachers, and questions and classroom activities for students, about online issues such as marketing, privacy, safety, responsible Internet use and authenticating information.

INFORMATION ON VACCINE-PREVENTABLE DISEASES

Public Health Agency of Canada

[What are the recommended vaccines for children?](#)

[What diseases do immunizations prevent?](#)

[Vaccine FAQs by Disease](#)