

Grade 6

Blood-Borne Infections



Learner Outcomes

W-6.6 Examine and evaluate the risk factors associated with exposure to blood-borne infections – HIV, AIDS, Hepatitis B and C; e.g., sharing needles, body piercing, tattooing, helping someone who is bleeding, being sexually active

W-6.2 Determine the health risks associated with the sharing of personal care items; e.g. articles of clothing, food/drinks, brushes, lip gloss

W-6.9 Evaluate the impact of personal behaviour on the safety of self and others

W-6.10 Demonstrate responsibility for, and skills related to, the safety of self and others

This lesson addresses all of the specific outcomes listed above. Instruction in human sexuality (***bolded and italicized*** outcomes) requires schools to provide notice to parents about the learning outcomes, topics and resources.

How To Use

This lesson plan contains several activities to achieve the learner outcomes above. You may choose to do some or all of the activities, based on the needs of your students and the time available. Some of the activities build on the ones that come before them, but all can be used alone.

For a quick lesson, combine activities A, C and G.

If you choose not to do all the activities, use your professional judgement to assess which outcomes you have covered and which may need additional activities.

Classroom Activities & Timing

- A. Ground Rules (5-10 minutes)
- B. Introduction to Blood-Borne Infections (10-15 minutes)
- C. Evaluating Risks Card Activity (10-15 minutes)

Grade 6 Blood-Borne Infections

- D. Avoiding Risks Scenarios (20-25 minutes)
- E. Blood-Borne Infections Kahoot! Quiz (15-20 minutes)
- F. Ask an Adult Interview
- G. Question Box (5-10 minutes)

Required Materials

For the demonstration:

- Cornstarch
- Water
- 2 glass beakers or clear containers
- Iodine
- Sewing needle or safety pin

CARDS: BBI Risk Factors

HANDOUT: BBI Decision Making

HANDOUT: BBI Scenarios

[KAHOOT! QUIZ](#) and ANSWER KEY: Blood-Borne Infections

HANDOUT: Ask an Adult

All the student handouts are also available in the [Grade 6 Workbook](#).

Background Information

Blood-Borne Infections

HIV and hepatitis B and C are preventable communicable diseases and blood-borne infections (BBIs). Prevention depends on knowledge of risk factors and prevention measures.

Infection: invasion of the body by microorganisms such as bacteria, viruses or parasites. Infections may or may not have symptoms, and can be transmitted in various ways.

Disease: a disorder that produces specific signs or symptoms. Can be communicable or non-communicable.

Communicable disease: disease that is passed from one person to another (e.g. cold, flu, chicken pox).

Non-communicable disease: diseases that are caused by a combination of genetic, physiological, environmental and behavioural factors. Non-communicable diseases can't be passed from one person to another, except genetically or indirectly by environmental hazards like second-hand smoke (e.g. asthma, cancer, diabetes).

Grade 6 Blood-Borne Infections

Blood-borne infection: passed from one person to another through an exchange of blood or other body fluids (e.g. semen, vaginal secretions).

- **Hepatitis B** is caused by the hepatitis B virus. It is spread through contact with the blood and body fluids of an infected person.
- **Hepatitis C** is caused by the hepatitis C virus. It is spread by contact with an infected person's blood.
- **HIV** is caused by the human immunodeficiency virus. You can get HIV from contact with infected blood, semen or vaginal fluids.

How can you get an infection?	Hepatitis B	Hepatitis C	HIV
You have sex with an infected person without using a condom	✓	*	✓
You help an infected person who is bleeding without using gloves	✓	✓	✓
You share needles with an infected person or have contact with an infected needle by accident	✓	✓	✓
You reuse drug, tattooing, or piercing equipment that have traces of infected blood	✓	✓	✓
You share personal items like razors, nail clippers or tooth brushes with an infected person	✓	✓	✓
From an infected mother to their baby during pregnancy or birth	✓	**	✓
From an infected mother to their baby while breastfeeding			✓

*Transmitting hepatitis C through sexual intercourse is rare. However, it can occur if there is infected blood present (such as during menstruation). The

Grade 6 Blood-Borne Infections

presence of HIV also increases the risk of transmitting hepatitis C through intercourse.

** In rare cases a mother with hepatitis C may spread virus to their baby at birth.

Although hepatitis B can be found in saliva, it is uncommon to transmit through saliva that is not visibly contaminated with blood.

BBIs are **not** spread through ordinary contact such as kissing, hugging, shaking hands, sharing food or water or objects (e.g. toilet seats, water fountains, towels, door handles).

HIV is the virus that causes AIDS. A person can be infected with HIV and not have AIDS. HIV weakens the immune system, the body's built-in defense against disease and illness. A person has AIDS when their immune system is so weakened by HIV that it can no longer fight off life-threatening infections. With proper care and treatment, most people with HIV can avoid getting AIDS and can stay healthy for a long time.

To prevent the spread of BBIs, a person can:

- Practice abstinence (not have any type of sexual intercourse or sexual contact)
- Practice safer sex. Always use condoms for vaginal and anal sex. Use a condom or latex barrier for oral sex.
- Use only sterilized and new needles or tattooing/piercing equipment
- Wear latex gloves when touching someone who is bleeding
- Avoid sharing toothbrushes, razors, or nail clippers

More information on HIV and hepatitis B and C can be found in the [Health Information Sheets](#).

Communicable diseases include:

- | | |
|------------------------|---|
| • C. difficile | • Pertussis |
| • Cholera | • Pink eye |
| • Chikungunya | • Rabies |
| • Common cold | • Rotavirus |
| • Ebola | • Smallpox |
| • E. coli | • STIs like chlamydia, gonorrhea and syphilis |
| • Fifth disease | • Strep throat |
| • Giardiasis | • Tetanus |
| • Hepatitis A, B and C | • Tuberculosis |
| • HIV | • Varicella (Chickenpox) |
| • Influenza | • West Nile Virus |
| • Malaria | • Zika |
| • Measles | |
| • Mumps | |

Grade 6 Blood-Borne Infections

Inclusive Language

Language is complex, evolving, and powerful. In these lessons, [gender-neutral language](#) is used to be inclusive of all students, including those with diverse gender identities and sexual orientations. This includes the use of ‘they’ as a singular gender-neutral pronoun. The lesson plans use the terms ‘male’ and ‘female’ when referring to biological sex (sex assigned at birth), such as when discussing reproductive anatomy. A person’s reproductive system can be male, female or intersex (not clearly defined as either male or female).

People are assigned a sex at birth based on their reproductive anatomy. Sex assigned at birth is independent of gender identity. Gender identity is a person’s internal sense of identity as female, male, both or neither, regardless of their biological sex assigned at birth.

For many people, their gender matches the sex they were assigned at birth (cisgender). Others may identify as being transgender or gender diverse if their gender identity does not match the sex they were assigned at birth. A person’s gender identity can be girl, woman, boy, man, transgender, gender fluid, gender queer, agender or others. The intention in this material is to use language that reflects these many possibilities.

A. Ground Rules

Ensure [ground rules](#) are established before beginning this lesson. For classes that have already established ground rules, quickly reviewing them can help ensure a successful lesson.

B. Introduction to Blood-Borne Infections

Students define ‘communicable disease’ and understand the concept of transmission of a disease.

1. Ask students to brainstorm a list of infections/diseases/conditions. Write down each suggestion for the class to see.
2. Explain to students the difference between communicable and non-communicable diseases.

Communicable – diseases that are passed from one person to another (e.g. cold, flu, chicken pox)

Non-communicable –diseases that are caused by a combination of genetic, physiological, environmental and behavioural factors (e.g. asthma, cancer, diabetes). Chronic diseases can’t be passed onto

Grade 6 Blood-Borne Infections

another person (except genetically or via the introduction of environmental hazards like second hand smoke).

3. Demonstrate the transmission of a communicable disease using the following procedure:
 - Place cornstarch inside two re-sealable bags and seal the top. Inform students that cornstarch represents the blood inside our bodies and the plastic bags represent the skin that protects our bodies.
 - Use a needle to make several holes in one of the bags. The holes represent parts of our bodies that could allow a virus through, such as cuts, piercings, or mucus membranes (such as those found in our genital area, back of throat, eyes, and in nose).
 - Place each bag into a glass beaker filled with water, ensuring the top of the bag remains out of the water to prevent leakage.
 - Inform students that the water represents the environment outside the body.
 - Put several drops of iodine into the water of each beaker. Inform students that the iodine represents a virus, like the ones that cause HIV or hepatitis B or C.
 - Remove the bags from the solution. The cornstarch inside the bag with the holes in it will have changed colour.
 - Inform students that this colour change represents the introduction of a virus such as HIV or hepatitis B or C to the bloodstream. The introduction of a virus (or other pathogen) into the body is called an infection.
4. Looking back at the list from step one, circle diseases that are communicable (see list in Background Information).
5. Explain that BBIs are one type of communicable disease that are passed from person to person through blood. Underline any BBIs in the list from step one. Introduce HIV and hepatitis B and C as examples of BBIs, if they are not on the list.
6. Debrief this activity using the following questions:

Which of the communicable diseases we identified can cause serious health problems? Among others that may have been identified, ensure students name:

- HIV/AIDS
- Hepatitis B and C

These diseases can cause severe health problems and death.

What emotions do people feel toward serious communicable diseases such as HIV, hepatitis B or C?

- Fear, anger, shame, embarrassment

C. Evaluating Risks Card Activity

Students identify what does or does not place a person at risk for BBIs.

1. Place the **BBI Risk Factors** cards in a box.
2. Write two headings on the board: **Risk Factor** and **Not a Risk Factor**.
3. Remind students how blood-borne infections are passed from one person to another.
4. Have one student at a time pick a card from the box and read it aloud.
5. As a class, determine which category the card belongs in. Place it under the appropriate heading.
6. Ask students to identify which cards in the Risk Factors category are the situations they are most likely to encounter. Ask the students to list several ways they could avoid the situation, or keep themselves and their friends safe in that situation.

Answers:

Risk Factors For BBI:

- Being born to a mother who has a blood-borne infection
- Body piercing or tattooing with unclean equipment
- Helping a bleeding person without using latex gloves
- Mixing blood between people
- Sexual activity
- Sharing needles with another person

Not a Risk Factor for BBI:

- Being coughed or sneezed on
- Bites from a dog or cat
- Bites from insects
- Drinking from a water fountain
- Getting a vaccination
- Giving blood
- Hugging or touching someone
- Kissing someone
- Shaking hands with someone
- Sharing bed sheets or towels
- Sharing food, cutlery, cups or dishes
- Swimming in a public pool
- Using a crowded elevator
- Using a public toilet

D. Avoiding Risks Scenarios

Students use problem-solving skills to determine how to avoid risk factors associated with exposure to BBIs. Knowledge of the risk factors for BBIs (such as from the previous activity) is necessary for this activity.

1. Distribute the **BBI Decision Making** handout to each student.
2. Divide students into small groups.
3. Provide each group with a **BBI Scenarios** card.
4. Allow groups to read the scenario.
5. Give groups time to discuss the scenario and fill in the **BBI Decision Making** handout.
6. Have each group present their scenario and response to the class. After each presentation, ask the class to determine if the response was appropriate, or if they have other suggestions.
7. There is no answer key for this activity, as there are many possible good decisions that can be made in these scenarios. The key message is to avoid the risk of BBI transmission by limiting exposure to the blood and bodily fluids of other people and using latex gloves when helping someone who is bleeding.

E. Blood-Borne Infections Kahoot! Quiz

This quiz can be a great review, wrap-up of the unit, or a fun energizer in between other activities. For more information on using Kahoot!, visit getkahoot.com

1. Open the Kahoot! Quiz: [Grade 6 Blood-Borne Infections](#)
2. As a class, answer the quiz questions and discuss the answers together. You can play the quiz in individual or team mode.

F. Ask an Adult Interview

Students discuss BBIs with a parent, guardian or trusted adult.

1. Distribute the **Ask an Adult** handout for students to complete at home.

Grade 6 Blood-Borne Infections

2. Explain that students can complete this interview with a parent, guardian, or other supportive adult.
3. Explain that this is not a graded assignment and there are no right or wrong answers.
4. Dedicate time to debrief this activity during the next lesson.

Keep in mind that not all students have equal opportunities for open discussion with family or other adults in their life. Although it is best for students to complete this assignment with a supportive parent or guardian, it may not be possible. Be sensitive to the needs of your students.

Due to the sensitive nature of human sexuality topics, it is recommended that homework is reviewed or discussed but not graded.

G. Question Box

Answer any questions from the question box in the previous lesson. Have students submit any new questions and address them next class.

Addressing the questions at the next class allows you time to review the questions and prepare responses.

Self-Reflection

During the lesson, were:

- ground rules being followed?
- good practices established regarding group work and discussion?

What will you change for future classes with this group?

What will you change for future use of this lesson?

Student Assessment

During the lesson, did students:

Knowledge:

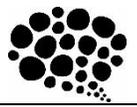
- define blood-borne infections?
- identify risk factors for the transmission of BBIs?
- identify safe practices to help prevent the transmission of BBIs?

Grade 6 Blood-Borne Infections**Skills:**

- use problem-solving skills to determine how to avoid risk factors associated with exposure to BBIs?
- participate in class discussion and exhibit appropriate listening and speaking skills?

Attitudes:

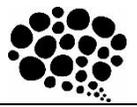
- acknowledge the implications of having a BBI?



**Sharing needles with
another person**

**Mixing blood between
people**

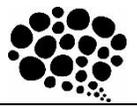
Sexual activity



Using a public toilet

**Helping a bleeding
person without using
latex gloves**

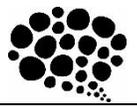
**Being born to a mother
who has a BBI**



**Body piercing or
tattooing with dirty
equipment**

**Bites from a
dog or cat**

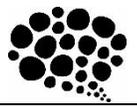
**Sharing food, cutlery,
cups or dishes**



Bites from insects

**Being coughed or
sneezed on**

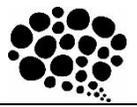
**Swimming in a
public pool**



**Using a crowded
elevator**

**Hugging or touching
someone**

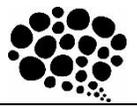
**Shaking hands with
someone**



Kissing someone

Giving blood

Getting a vaccination



**Drinking from a water
fountain**

**Sharing bed sheets or
towels**

BBI Decision Making

In your group:

1. Read the scenario card.
2. Come up with some solutions for the problem described on the scenario card.
3. Answer the questions below.
4. Share your scenario and solution with the class.

What is the problem presented in the scenario card?

List three possible solutions	List two consequences of each solution
	1. 2.
	1. 2.
	1. 2.

Choose the best possible solution and describe what happens:



BBI Scenarios

Scenario One

Bailey has moved into a new neighbourhood and is looking to make some new friends. Three kids invite Bailey to the park and point out a small hut hidden behind some tall bushes. The kids say for Bailey to become part of the group, everyone has to poke their thumb and put four drops of blood in the middle of the floor, and then everyone has to mix up the blood with the same thumb. What do you think Bailey should do?

Scenario Two

Landry is excited about their friend's birthday party. It is going to be a sleep over. Landry has never been allowed to sleep over at a friend's house before. At the party, after the friend's mom and dad have gone to bed, the kids decide to pierce each other's ears. One person said they helped their older cousin by using an ice cube and a sewing needle. Landry isn't allowed to get a piercing, but is worried the other kids will be putting themselves at risk if they do it on their own. What do you think Landry should do?



Scenario Three

Charlie is playing soccer with some friends after school. A player from the other team accidentally kicks the ball right into Charlie's face and Charlie's nose starts to bleed. What do you think Charlie should do? What should Charlie's friends do?

Scenario Four

Brett's friend is worried because their older brother and sister drink alcohol a lot. When they drink they act different and don't look after themselves. Brett's friend is afraid they will get HIV or hepatitis B or C. What do you think Brett should do?

Scenario Five

Zhenya has just found out some older kids are buying drugs and sharing needles at the mall near the school. Zhenya is very worried. What do you think Zhenya should do?



Scenario Six

A friend of Sam's older sibling found out that they are HIV positive. Sam knows that their sibling is scared and needs some support but doesn't want to be around their sibling's friend. What do you think Sam should do?

Scenario Seven

Sawyer has been saving up for months to get a new piercing. Last week's birthday money means Sawyer finally has enough money to get it done. Sawyer knows about a place in the mall across the street from school that advertises body piercing. What do you think Sawyer should do?

Scenario Eight

Satya is walking to the store with their little brother and they are kicking a ball down the street. Satya kicks the ball into a pile of garbage. Satya's brother kicks around the garbage trying to get to the ball and discovers a needle and syringe. What do you think Satya should do?

ANSWER KEY: Grade 6 Blood-Borne Infections Quiz

Correct answers are in bold text.

1. Blood-borne infections are spread through the exchange of blood.

- **True**
- False
- Unsure

HIV and hepatitis B and C are passed from one person to another through an exchange of blood. HIV and Hepatitis B can also be transmitted by exchanging body fluids such as semen and vaginal secretions and HIV is also spread through breast milk. Although the hepatitis B virus can be found in saliva, it is uncommon to transmit through saliva that is not visibly contaminated with blood.

2. HIV and hepatitis B and C are blood-borne infections.

- **True**
- False
- Unsure

HIV and hepatitis B and C are passed from one person to another through an exchange of blood. HIV and hepatitis B can also be transmitted by exchanging body fluids such as semen and vaginal secretions and HIV is also spread through breast milk. Although the hepatitis B virus can be found in saliva, it is uncommon to transmit through saliva that is not visibly contaminated with blood.

3. You can't get infected with a blood-borne infection if you are healthy and strong.

- True
- **False**
- Unsure

Anyone who exchanges blood with an infected person can get a blood-borne infection.

4. You can tell if a person is infected with a blood-borne infection by looking at them.

- True
- **False**
- Unsure

A person who has HIV, hepatitis B or hepatitis C may not look or feel sick.

5. You might get a blood-borne infection by:

- donating blood
- using a public toilet
- kissing an infected person
- **being born to a mother with a blood-borne infection**

Blood-borne infections are spread from an infected mother to her baby during pregnancy or birth. Individuals cannot become infected with blood-borne pathogens through ordinary day-to-day contact such as kissing, hugging, shaking hands, or sharing food or water.

6. You might get a blood-borne infection by:

- using the same water fountain as an infected person
- using a public swimming pool
- shaking hands with an infected person
- **having sex with a person who has a blood-borne infection**

HIV, hepatitis B and hepatitis C are spread from an infected mother to her baby during pregnancy or birth, by helping someone who is bleeding without using gloves, by sexual intercourse, and by reusing drug, tattooing, or piercing equipment that have traces of infected blood. Hepatitis B and C can also be spread by sharing razors, nail clippers or toothbrushes with an infected person.

Individuals cannot become infected through ordinary day-to-day contact such as kissing, hugging, shaking hands, or sharing personal objects, food or water.

7. You might get a blood-borne infection by:

- **helping someone who is bleeding, without latex gloves**
- getting a vaccination
- **getting an unsanitary tattoo or body piercing**
- touching someone who has a blood-borne infection

HIV, hepatitis B and hepatitis C can be spread by helping someone who is bleeding without using gloves and by reusing drug, tattooing, or piercing equipment that have traces of infected blood. Hepatitis B and C can also be spread by sharing razors, nail clippers or toothbrushes with an infected person.

People can reduce their risk of transmission by using only clean and new needles or tattooing/piercing equipment, and by wearing latex gloves if helping someone who is bleeding.

Individuals cannot become infected through ordinary day-to-day contact such as kissing, hugging, shaking hands, or sharing personal objects, food or water.

Ask an Adult

Blood-borne infections such as HIV or hepatitis B and C can be difficult to talk about, but it is important to share what we know with those around us. Increasing understanding about these viruses will help prevent them from spreading.

1. Take this handout home. Share it with a parent, guardian, or other supportive adult and ask that person if you can complete it together.
2. Schedule at least half an hour with the adult for the interview. Give the adult this handout so that they can think about the answers before the interview.
3. Interview the adult using the questions provided.

Questions

When you were my age:

- a) Did you know about diseases like HIV or hepatitis B and C? When did you first learn about them?
- b) Did your parents talk to you about disease prevention? What did they say?

How have HIV or hepatitis B and C affected you?

What would you like to tell me about HIV or hepatitis B and C or can I tell you what I learned in school?