

GRADE 6

GROWTH AND DEVELOPMENT

GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 1

THEME: BODY SYSTEMS

CONCEPT: THE EXCRETORY SYSTEM REMOVES HARMFUL MATERIALS FROM THE BODY

- PREPARATION:
1. A bag of garbage
 2. Prepare a child size body outline and detachable parts (Activity Sheets GD47A B C D)
 3. Prepare a class set of Excretory Maze (Activity Sheet GD48)
 4. Kidney beans
 5. An animal kidney a bladder float (if possible)
 6. Prepare a class set of My Excretory System worksheets (Activity Sheet GD49)
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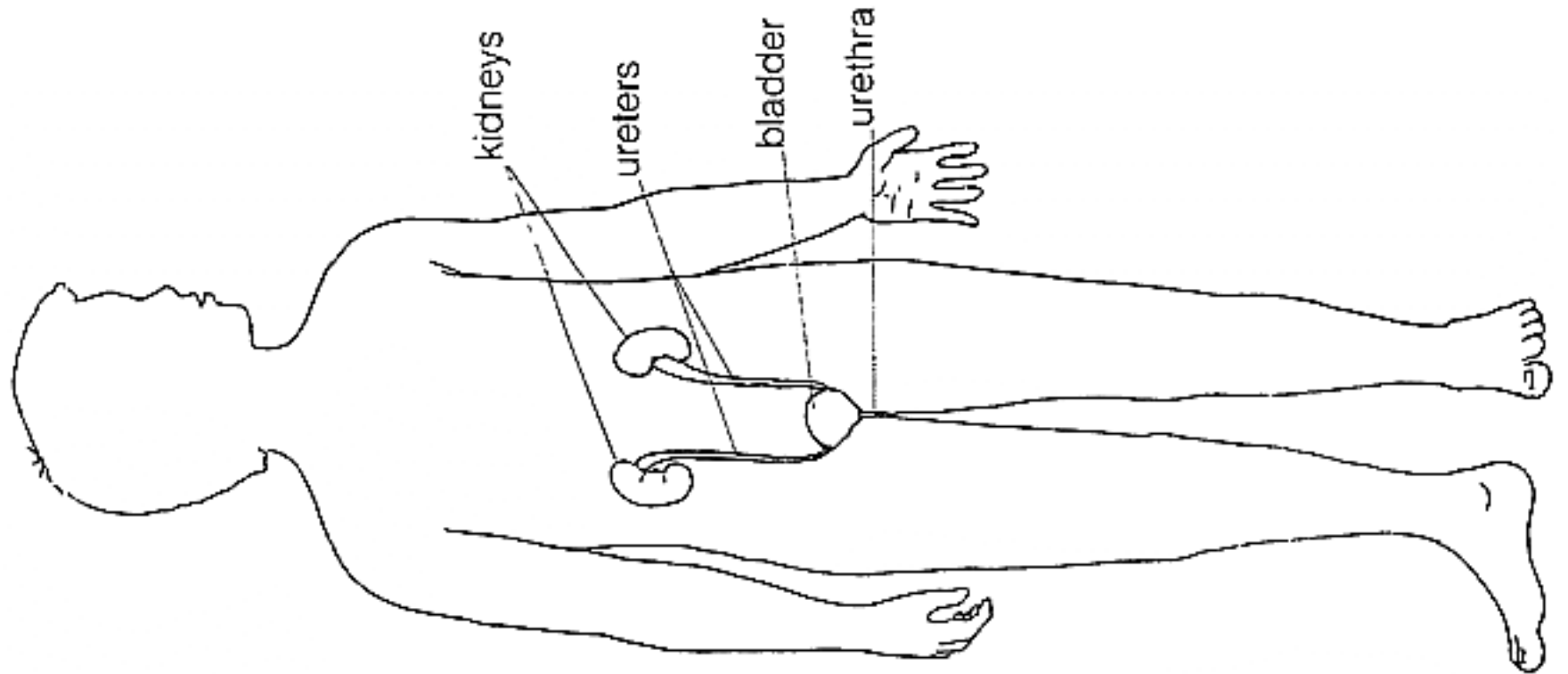
VOCABULARY: excretory kidneys bladder ureters urethra

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to: i) name and locate the main parts of the excretory system	Students: 1. Describe briefly what happens to the garbage in a community. 2. Review which parts of the digestive system get rid of waste. 3. Review which parts of the respiratory system get rid of waste air.	Background Information Page GD69 to GD71 Have a bag full of garbage available. Ask students to identify how the community gets rid of it. Explain that the body has waste to get rid of too. The intestines get rid of solid waste. The lungs breathe out waste air.

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES										
	<p>4. Define the term excretory system.</p> <p>5. Name and locate the main parts of the excretory system.</p>	<p>Use a dictionary and general discussion to define the term. Students should understand that the excretory system is the system which cleans the blood of wastes.</p> <p>Refer to Activity Sheets GD47A, B, C, D.</p> <p>Use a child size body outline and the detachable excretory system parts from the activity sheets. Put the child size body outline on the board. Have the students take turns naming and placing the main parts of the excretory system on the outline. The main excretory parts are:</p> <table border="1" data-bbox="1186 738 2016 1258"> <thead> <tr> <th data-bbox="1186 738 1598 776">Part</th> <th data-bbox="1598 738 2016 776">Location</th> </tr> </thead> <tbody> <tr> <td data-bbox="1186 776 1598 889">- kidneys</td> <td data-bbox="1598 776 2016 889">- ether side of the spine, behind intestines and above waist</td> </tr> <tr> <td data-bbox="1186 889 1598 1003">- ureters</td> <td data-bbox="1598 889 2016 1003">- tubes attach mid-kidney to bladder (raid-back to lower abdomen)</td> </tr> <tr> <td data-bbox="1186 1003 1598 1073">- bladder</td> <td data-bbox="1598 1003 2016 1073">- lower part of abdomen</td> </tr> <tr> <td data-bbox="1186 1073 1598 1258">- urethra</td> <td data-bbox="1598 1073 2016 1258">- males: tube from bladder through penis - females: tube from bladder to vulva</td> </tr> </tbody> </table> <p>Have students discuss the chart using the sentence pattern</p> <p>The (kidneys) is/are part of the excretory system.</p>	Part	Location	- kidneys	- ether side of the spine, behind intestines and above waist	- ureters	- tubes attach mid-kidney to bladder (raid-back to lower abdomen)	- bladder	- lower part of abdomen	- urethra	- males: tube from bladder through penis - females: tube from bladder to vulva
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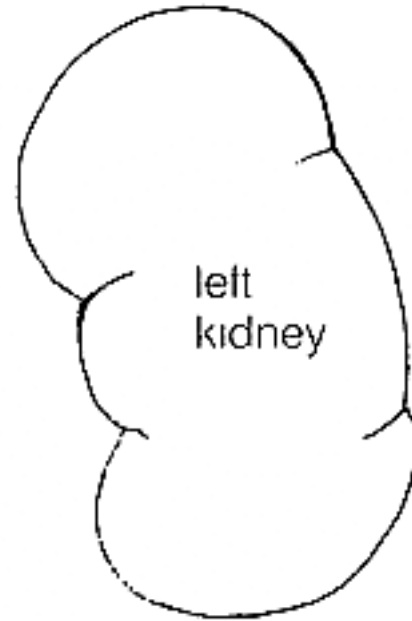
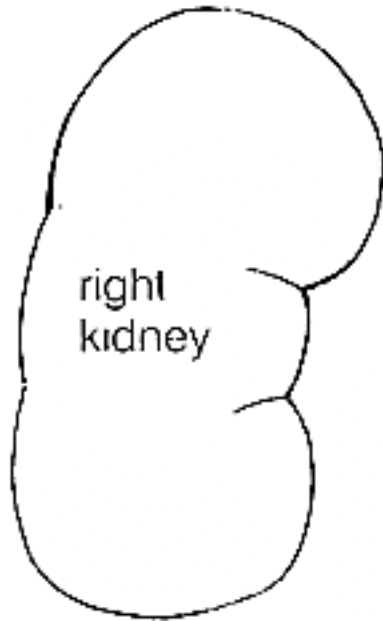
OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
	<p>6. Complete the Excretory Male.</p> <p>7. Observe kidney beans to determine the shape of the kidneys.</p> <p>8. Examine parts of the excretory system from animals.</p> <p>9. Complete the My Excretory System worksheet.</p>	<p>Refer to Activity Sheet GD48</p> <p>Have students complete the maze. They have to follow the line from the excretory part to the letter to spell out a word.</p> <p>Answer Guide: waste</p> <p>Ask a hunter to provide the class with the kidney of an animal. Dissect it. (Kidneys often smell!)</p> <p>Try to get a bladder float. The bladders of some animals were used as floats. Students may have seen these used this way.</p> <p>Refer to Activity Sheet GD49.</p> <p>Have students complete the sheet by writing the names of the parts of the excretory system.</p>

THE EXCRETORY SYSTEM



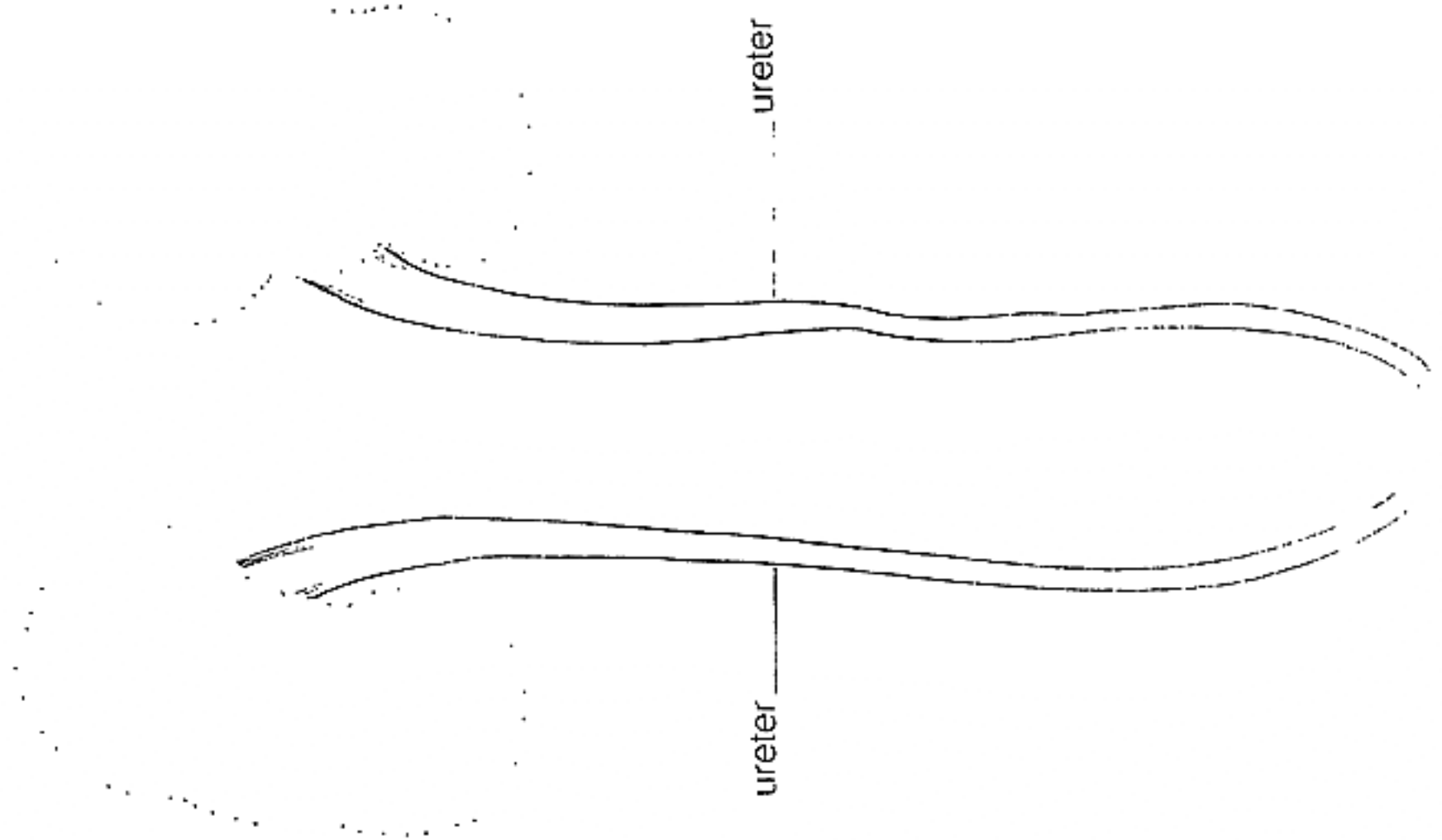
KIDNEYS

Colour the kidneys dark red.



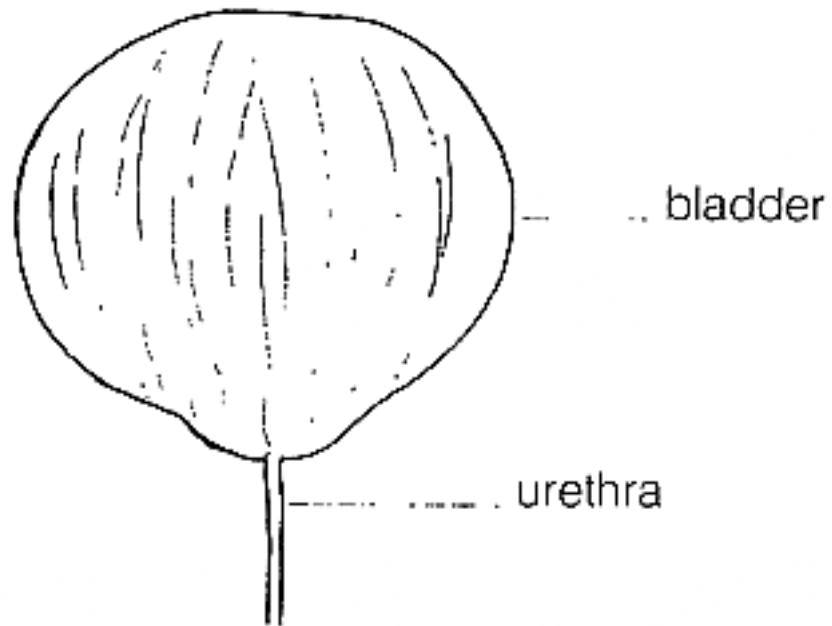
URETERS

Colour the ureters reel.



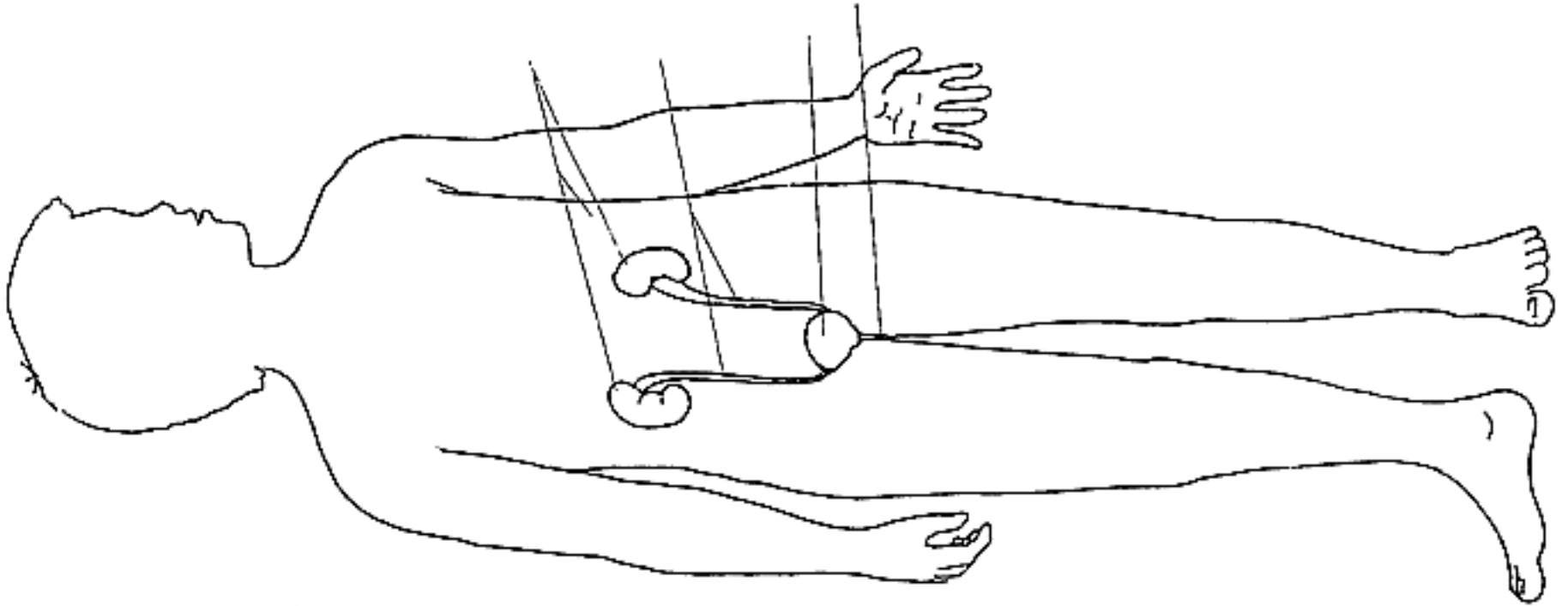
BLADDER AND URETHRA

Colour the bladder a yellow-brown colour



MY EXCRETORY SYSTEM

Label the parts of the excretory system.



GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 2

THEME: BODY SYSTEMS

CONCEPT: THE EXCRETORY SYSTEM REMOVES HARMFUL MATERIALS FROM THE BODY

PREPARATION: 1. Dirty water and a filter
2. Balloon and water
3. Make a set of cards with the function on one side and the excretory part on the other (Activity Sheet GD50)

VOCABULARY: urine, drain, filters, cleans

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES	
Students will be able to: i) describe the functions of the excretory system	Students: 1. Demonstrate the filtering process of the kidneys. Discuss briefly. 2. Demonstrate the storage function of the bladder.	Background Information Page GD69 to GD71	
		Throughout this lesson, teachers should continue reinforcing the term excretory.	
		Have students pour some dirty water through a filter. Examine the filter. Fill a balloon with water. Compare with a human bladder. Discuss.	
		Same - both stretch - both can hold only a certain amount	Different - bladder tells you when it is full

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
ii) state the importance of the excretory system	<ol style="list-style-type: none"> 3. Describe the functions of the different parts of the excretory system. 4. Match named function cards to the appropriate excretory parts on the child size body outline. 5. Brainstorm familiar expressions which describe the functions of the excretory system. 6. Discuss the importance of the excretory system. 	<p>Ask students what the function of each part of the excretory system is Have students respond using the sentence patterns</p> <p>The <u>(kidneys)</u> <u>(clean wastes out of the blood)</u></p> <p>The <u>(ureters)</u> <u>(drain urine from the kidneys to the bladder)</u></p> <p>The <u>(bladder)</u> <u>(collects and stores urine)</u></p> <p>The <u>(urethra)</u> <u>(drains urine to the outside of the body)</u></p> <p>Refer to Activity Sheet GD50.</p> <p>Prepare cards with the name of each excretory part on one side and its function on the reverse side.</p> <p>Include only those which reflect the function of the excretory system, e.g.,</p> <ul style="list-style-type: none"> - passing water - emptying your bladder - relieving yourself <p>Ask students why they think the excretory system is important. They should understand that the kidneys are vital organs. In the same way as a community has to deal with its waste, i.e., sewage treatment, so the body has to deal with its waste. Functions include:</p> <ul style="list-style-type: none"> - to filter and clean the blood - to get rid of body wastes - to regulate the amount of water in the body

EXCRETORY FUNCTION CARDS

Kidneys	clean the blood of wastes
Ureters	drain urine from kidneys to bladder
Bladder	collects and stores urine
Urethra	drains urine to outside of body

GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 3

THEME: BODY SYSTEMS

CONCEPT: THE EXCRETORY SYSTEM REMOVES HARMFUL MATERIALS FROM THE BODY

PREPARATION: 1. Prepare a class set of True or False worksheets (Activity Sheet GD51A)

VOCABULARY: transplant, kidney stones

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to: i) name problem conditions related to the excretory system	Students: 1. Name common problem conditions related to the excretory system.	Background Information Page GD69 to GD71 Throughout this lesson, teachers should continue reinforcing the term excretory. Ask students if they have ever had a problem with the excretory system. Discuss. Some symptoms they may have experienced are: <ul style="list-style-type: none">- burning sensation when urinating- having to urinate frequently- having no control over urinating Common problem conditions include <ul style="list-style-type: none">- bed wetting (enuresis)- infections (in both bladder and kidneys)- no control over urinating (incontinence)- kidney stones- kidney failure

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES				
ii) describe ways to care for the excretory system	<p>2. Tell why some people get kidney transplants.</p> <p>3. List ways to care for the excretory system. Discuss.</p>	<p>Ask students why people sometimes have to get new kidneys. Students should understand that kidneys do not function properly, so doctors may replace a kidney with one that works properly.</p> <p>Ask students how they take care of the excretory system. Have students respond using the sentence pattern:</p> <p style="text-align: center;">I take care of my excretory system by (not)_____.</p> <p>Record student responses using an experience chart as illustrated:</p>				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">✓</th> <th style="width: 50%; text-align: center;">X</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> - cleaning carefully after urinating (from front to back for females) - taking frequent showers - emptying bladder completely - developing regular bladder habits - drinking lots of liquids - exercising to improve blood circulation - using protective pads for contact sports - prompt treatment of infections - maintaining normal blood pressure - using cotton underwear rather than nylon </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> - wearing tight pants - eating too many spiced foods - letting the body get chilled - self-treating kidney problems - getting blows on the back </td> </tr> </tbody> </table>		✓	X	<ul style="list-style-type: none"> - cleaning carefully after urinating (from front to back for females) - taking frequent showers - emptying bladder completely - developing regular bladder habits - drinking lots of liquids - exercising to improve blood circulation - using protective pads for contact sports - prompt treatment of infections - maintaining normal blood pressure - using cotton underwear rather than nylon 	<ul style="list-style-type: none"> - wearing tight pants - eating too many spiced foods - letting the body get chilled - self-treating kidney problems - getting blows on the back
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<p>4. Complete True or False work sheets.</p>	<p>Refer to Activity Sheet GD51 A, B.</p> <p>Have students decide whether the statements are true or false. Discuss their answers.</p>					

TRUE OR FALSE?

Put a cross (X) in the TRUE column, if you think the statement is true. If not, put a cross (X) in the FALSE column.

	TRUE	FALSE
1. People who play sports like hockey should wear pads to protect their kidneys.		
2. The excretory system gets rid of waste air (oxygen poor)		
3. Wearing tight pants is good for the excretory system.		
4. If I have a kidney problem, I can treat it myself.		
5. Regular bladder habits help keep the excretory system healthy.		
6. I should protect my body from getting chilled.		
7. I should shower frequently.		
8. It's O. K. to hit people on the back		
9. Bed-wetting is a problem that affects only young children.		
10. Changing a baby's diaper frequently helps protect his/her excretory system.		

TRUE OR FALSE?

(Answer Guide)

	TRUE	FALSE
1. People who play sports like hockey should wear pads to protect their kidneys.	X	
2. The excretory system gets rid of waste air (oxygen poor)		X
3. Wearing tight pants is good for the excretory system.		X
4. If I have a kidney problem, I can treat it myself.		X
5. Regular bladder habits help keep the excretory system healthy.	X	
6. I should protect my body from getting chilled.	X	
7. I should shower frequently.	X	
8. It's O. K. to hit people on the back		X
9. Bed-wetting is a problem that affects only young children.		X
10. Changing a baby's diaper frequently helps protect his/her excretory system.	X	

GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 4

THEME: BODY SYSTEMS

CONCEPT: THE NERVOUS SYSTEM CONNECTS ALL BODY SYSTEMS

PREPARATION: 1. Overhead transparency of Activity Sheet GD52
2. The brain of a dead animal

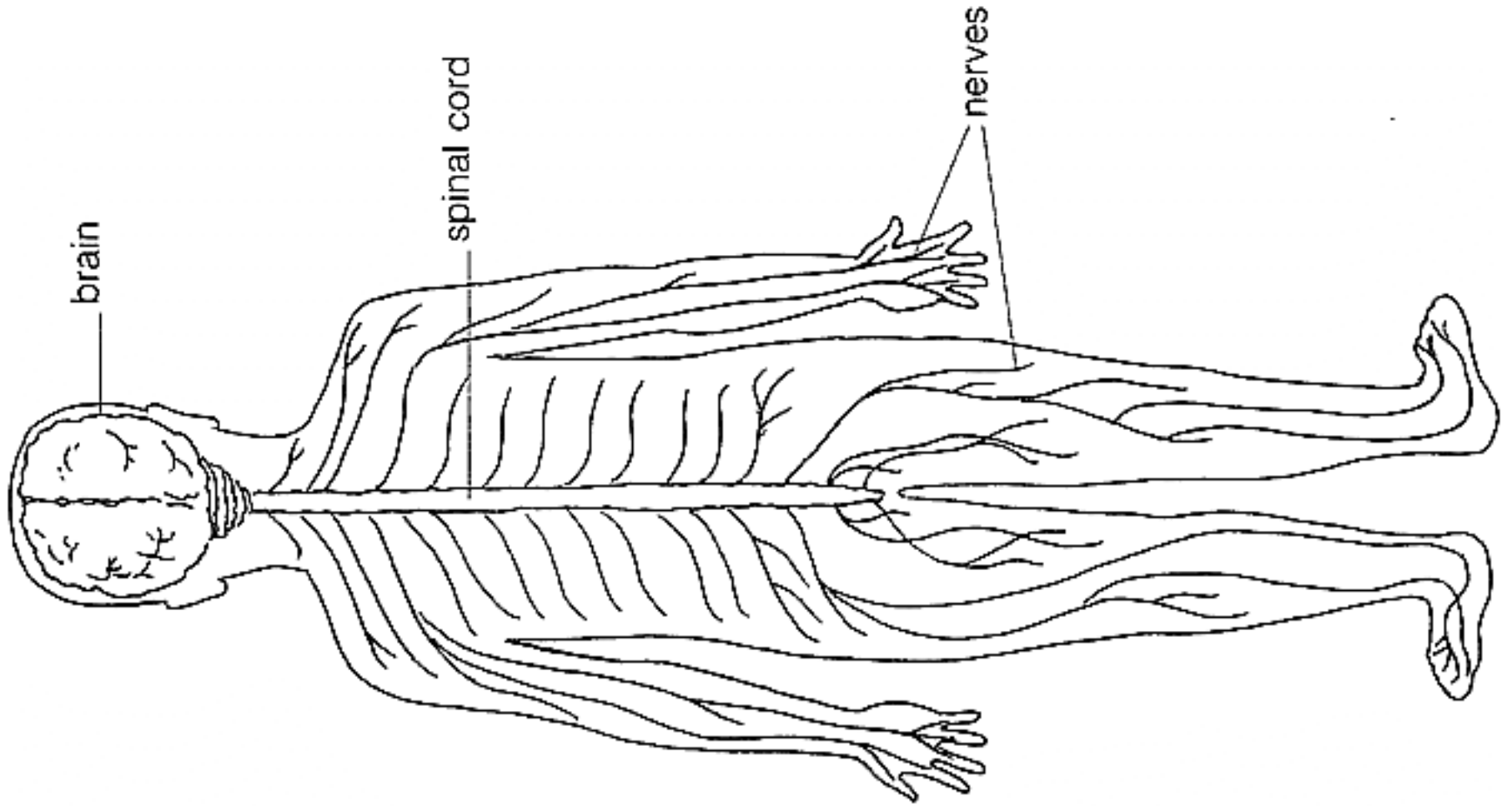
VOCABULARY: nervous, nerves, spine, spinal cord, spinal column

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
<p>Students will be able to:</p> <p>i) name and locate the main parts of the nervous system</p>	<p>Students:</p> <p>1. Review the body systems already studied.</p> <p>2. Define the term nervous system.</p>	<p>Background Information Page GD72 to GD78</p> <p>Refer to previous lessons in Grade 4, 5 and 6.</p> <p>Body systems include:</p> <ul style="list-style-type: none">- Digestive System (Grade 4, Lessons 1, 2 and 3)- Respiratory System (Grade 5, Lessons 1, 2, and 3)- Circulatory System (Grade 5, Lessons 4, 5 and 6)- Excretory System (Grade 6, Lessons 1, 2 and 3) <p>Ask students to identify how the body knows to breathe or the heart to beat. The nervous system keeps all organs functioning.</p> <p>Use a dictionary and discussion to define the term. Students should understand that the nervous system co-ordinates and controls all the activities of the body.</p>

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
	<p>3. Make a list of words or sayings related to nervous.</p> <p>4. Name and locate the main parts of the nervous system.</p>	<p>E.g., nerve, nervy, nervous, nerve-racking, to get on your nerves, what a nerve! etc.</p> <p>Refer to Activity Sheet GD52.</p> <p>Using the overhead transparency, name and locate the parts of the nervous system.</p> <p>The main parts of the nervous system are:</p> <ul style="list-style-type: none"> - the brain - the spinal cord - the nerves <p>Ask students about each part of the nervous system. Have students respond using the sentence patterns:</p> <p>The <u>(brain)</u> ___ is/are part of the nervous system</p> <p>Where is the <u>(brain)</u></p> <p>The <u>(brain)</u> <u>(is inside the head)</u> _____.</p> <p>The <u>(spinal cord)</u> <u>(is down the neck and back)</u> _____.</p> <p>The <u>(nerves)</u> <u>(are through the whole body)</u> _____.</p>

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
	<p>5. Make a mobile of the main parts of the nervous system. Say the name of each part.</p> <p>6. On a real model, locate the main area of the nervous system.</p>	<div data-bbox="1150 310 1894 456" data-label="Diagram"> <pre> graph TD A[nervous system] --- B[spinal cord] A --- C[brain] A --- D[nerves] </pre> </div> <p>Have students say the name of each part. (Teachers should ensure that the brain is in the centre. In the next lesson, students will add names to the brain section.)</p> <p>Have students in pairs feel their partner's head, the back of their neck and down their back.</p> <p>Have students note that the brain is protected by a bony structure called the skull. The spinal cord is protected by a hard bony covering called the spinal column.</p>

THE NERVOUS SYSTEM



GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 5

THEME: BODY SYSTEMS

CONCEPT: THE NERVOUS SYSTEM CONNECTS ALL BODY SYSTEMS

- PREPARATION:
1. Overhead transparencies of Activity Sheets GD53, 55A, 55B
 2. The brain of an animal
 3. Collect a number of cans, punch a hole in the bottom of each, string
 4. Prepare enough for one between two students of Help (Activity Sheet GD54)
 5. About twenty objects for Kim's game
 6. 3 cans labelled cerebrum, cerebellum, brain stem
 7. Prepare a number of sets of Control Centres Of My Brain (Activity Sheet GD56)
-

VOCABULARY: cerebrum, cerebellum, brain stem

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to: i) identify the main parts of the brain	Students: 1. Name and locate the main parts of the brain. 2. Examine the brain of an animal.	Background Information Page GD72 to GD78 Refer to Activity Sheet GD53. Using the overhead transparency, name and locate the main parts of the brain. Arrange with a hunter or a butcher to provide the class with the brain of an animal. Have students watch the dissection of the brain. Identify the parts of the brain.

OBJECTIVES

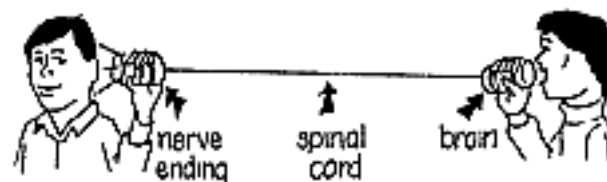
STUDENT ACTIVITIES

TEACHER NOTES

ii) describe the functions of the nervous system

3. Simulate the function of a nerve.

In pairs have students make a tin can message line. Punch a hole in the bottom of two tin cans. Feed a piece of string through to join the cans. Tie a knot at each end. Pull the string tightly.



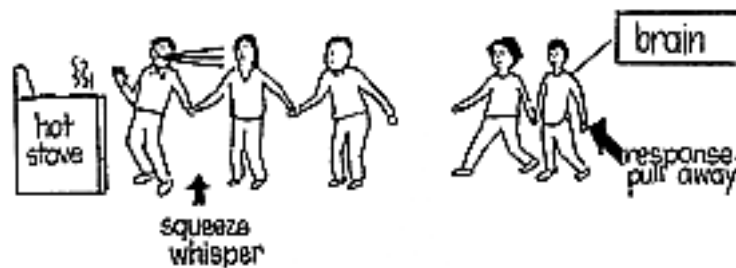
Refer to Activity Sheet GD54.

Give one student, who is the nerve ending, a copy of the activity sheet. The nerve ending has to look at the picture and send a message to the brain, e.g., "That stove is hot."

The brain has to quickly send a message back, e.g., "Take your hand away from it." Students should take turns at being the nerve ending and the brain. Emphasize that this happens in a split second.

4. Roleplay the function of a nerve.

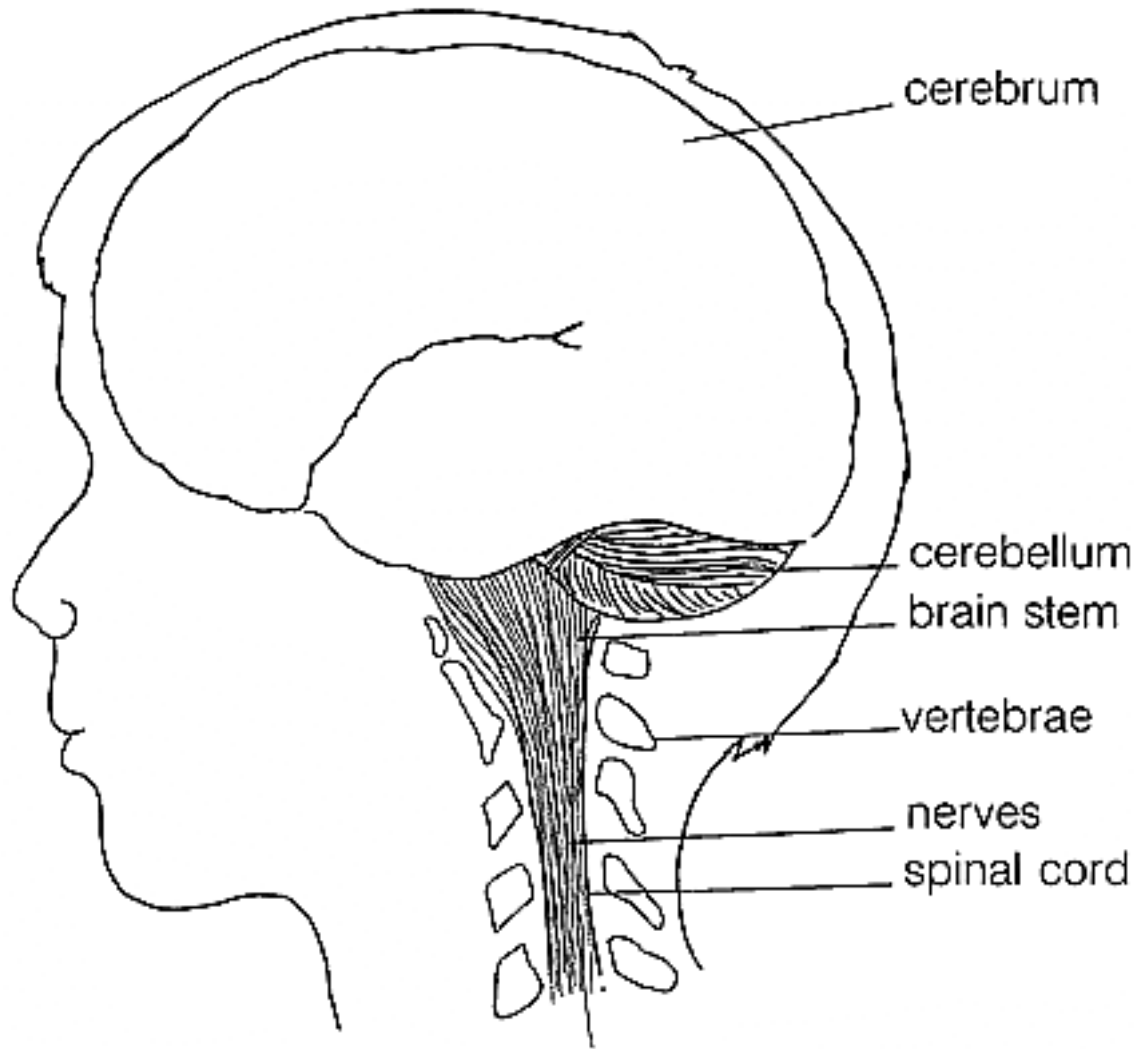
Divide the class into two groups, one for the message and one for the response. Each person has to join hands with the person next to them. The first person gets a message, e.g., hot stove, squeezes the hand of the next person, he/she quickly whispers the message, and so on, until it reaches the brain. The brain then pulls away taking the next person with him/her and so on down the line.



OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
	<p>5. Play Kim's Game to demonstrate the function of the cerebrum.</p> <p>6. Demonstrate the function of the cerebellum.</p> <p>7. Take their pulse to demonstrate the function of the brain stem.</p> <p>8. Describe the functions of the different parts of the nervous system.</p>	<p>Lay out approximately twenty objects on a table. Have students memorize them for one minute. Cover the objects. Have students write down all the objects they remember.</p> <p>The cerebrum is used to memorize things.</p> <p>Have students hold a pencil straight out in front of them. Have them try to balance a ruler on it. They will have to move the pencil backwards and forwards to keep the ruler balanced.</p> <p>The cerebellum does this for the body.</p> <p>Have students take their pulse. Ask them what is telling the heart to send the blood through the body.</p> <p>One of the functions of the brain stem is to signal the heart to pump blood.</p> <p>Refer to Activity Sheets GD55A and GD55B.</p> <p>Use overhead transparencies to discuss the functions.</p> <p>Ask students what each part of the brain does. Have students respond using the sentence patterns:</p> <p>The cerebrum controls <u>(learning)</u>.</p> <ul style="list-style-type: none"> - thinking - body movements - the senses <p>The cerebellum controls <u>(balance)</u>.</p> <ul style="list-style-type: none"> - muscle coordination

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
<p>iii) state the importance of the nervous system</p>	<p>9. Categorize the functions of the main parts of the brain.</p> <p>10. Discuss the importance of the nervous system.</p>	<p>The brain stems controls <u>(heart rate)</u>_____</p> <ul style="list-style-type: none"> - breathing - swallowing - hunger - thirst - fear - anger <p>The nerves <u>(carry messages from a person's surroundings to the brain)</u>_____.</p> <p>The spinal cord <u>(connects the nerves to the brain)</u>_____.</p> <p>Refer to Activity Sheet GD56.</p> <p>Divide the class into small groups. Give each group a set of cards with a number of different activities. Have them sort them into 3 tins - cerebrum, cerebellum and brain stem.</p> <div data-bbox="1291 974 1801 1201" data-label="Diagram"> </div> <p>Ask students what would happen if they had no brain or if they did not have nerves to send messages to the brain.</p> <p>The nervous system is the main control centre for all body activities.</p>

THE BRAIN

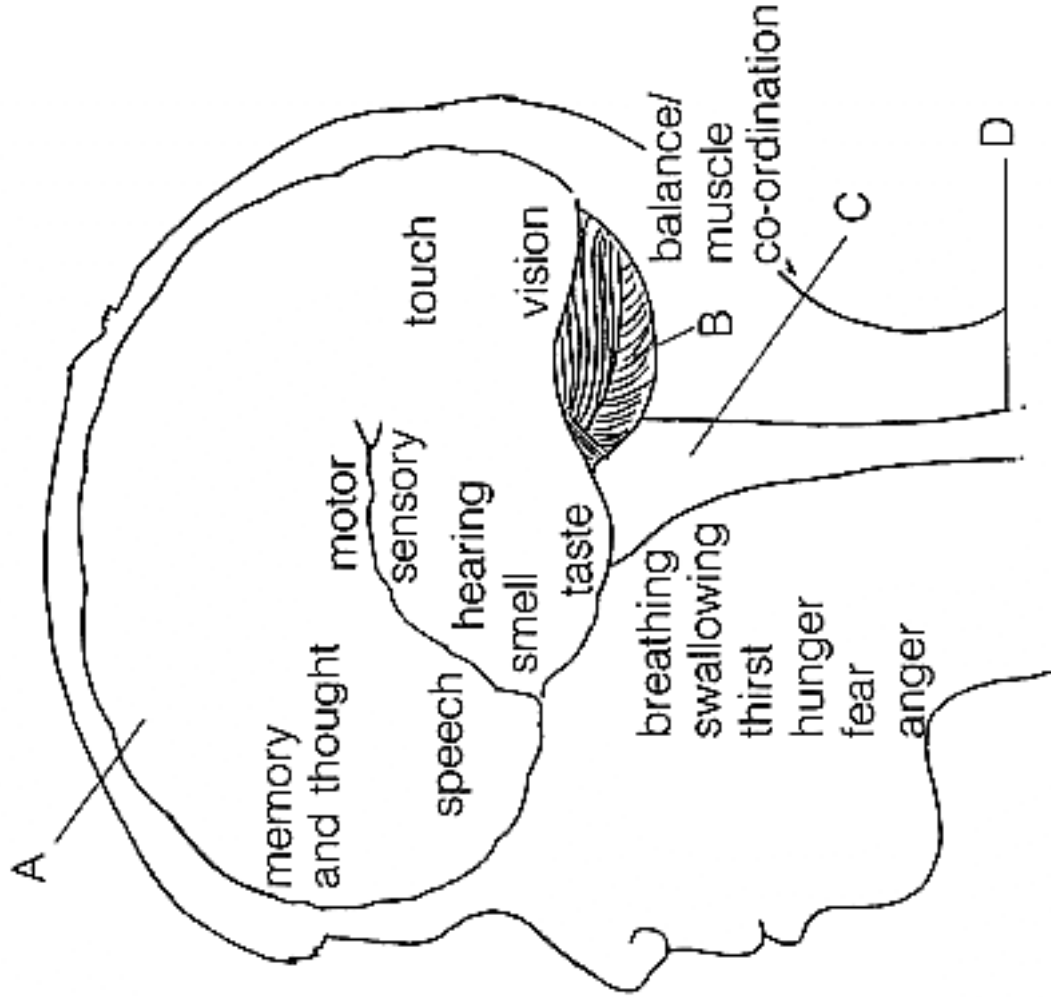


HELP!

The "nerve ending" has to look at the picture, and quickly send a message to the "brain".

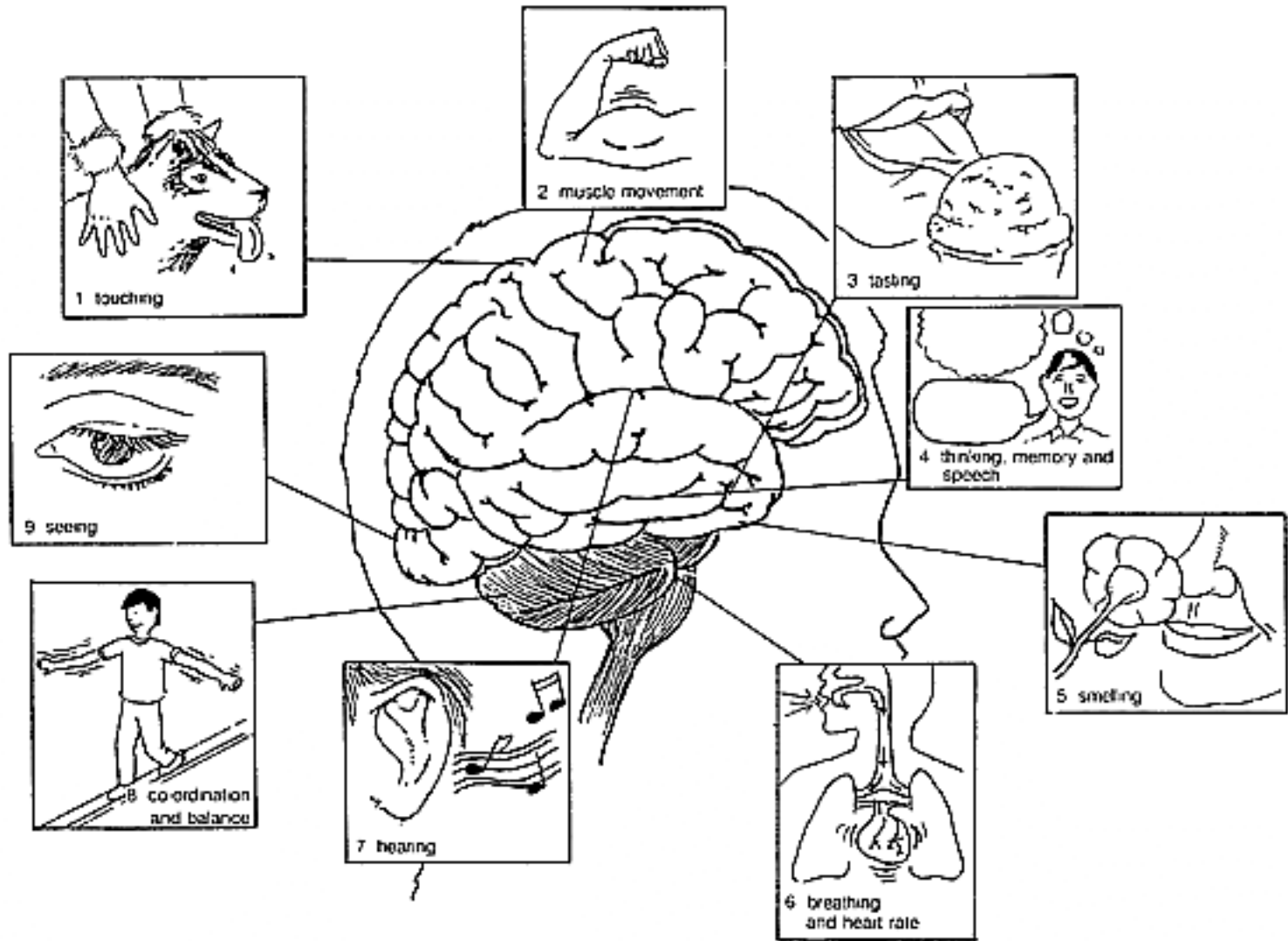
<p>Someone is going to touch a hot stove.</p>	<p>Someone is crossing the road and a truck is coming.</p>	<p>Someone in bare feet is going to walk on broken glass.</p>
<p>Someone fishing catches a fish.</p>	<p>Someone wakes in the middle of the night and smells smoke.</p>	<p>Someone puts a spoonful of burning hot food into his/her mouth.</p>

FUNCTIONS OF THE BRAIN








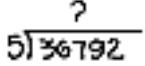









- A. cerebrum
- B. cerebellum
- C. brain stem
- D. spinal cord

MY BRAIN



CONTROL CENTRES OF MY BRAIN

Cut these into individual cards. Decide if the cerebrum, the cerebellum or the brain stem controls each activity.

<p>reading a book</p> 	<p>riding a bicycle</p> 	<p>sneezing</p> 
<p>smelling a flower</p> 	<p>breathing</p> 	<p>doing a math problem</p> 
<p>Skating</p> 	<p>heart beat</p> 	<p>walking to the store</p> 
<p>swallowing your food</p> 	<p>talking to your friend</p> 	<p>catching a ball</p> 
<p>standing up</p> 	<p>telling you that you are hungry</p> 	<p>tasting ice cream</p> 

GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 6

THEME: BODY SYSTEMS

CONCEPT: THE NERVOUS SYSTEM CONNECTS ALL BODY SYSTEMS

PREPARATION: 1. Resources for research project

VOCABULARY: concussion, epilepsy, meningitis

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
<p>Students will be able to:</p> <p>i) name common problem conditions related to the nervous system</p>	<p>Students:</p> <p>1. Name common problem conditions related to the nervous system. Briefly discuss.</p>	<p>Background Information Page GD72 to GD78</p> <p>Ask students if they have ever had a headache. Brainstorm other problems related to the nervous system. Make a list:</p> <ul style="list-style-type: none">- headache- fainting- concussions (head injuries)- sensory problems, e.g. hearing impairment sight problems- epilepsy (fits)- meningitis- drug impairment

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES	
ii) describe ways to care for the nervous system	2. List ways to care for the nervous system.	<p>Ask students how they take care of the nervous system. Use the sentence pattern:</p> <p>I take care of my nervous system by (not) _____.</p> <p>Use an experience chart:</p>	
		<p>✓</p> <ul style="list-style-type: none"> - wearing helmets when riding motor bikes, skidoos, A.T.Vs - driving these vehicles slowly and carefully - playing in safe places - wearing protective gear when playing contact sports - following safety rules around water, motor vehicles, play equipment, chemicals and medicines - working and playing in smoke free spaces - wearing seat belts in vehicles - getting plenty of rest and sleep - eating balanced meals from the four food groups 	<p>X</p> <ul style="list-style-type: none"> - using drugs/alcohol - falling - suffocating - getting an electrical shock - lack of oxygen i.e. carbon monoxide poisoning, smoking

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
	<p>3. Complete a research project on the nervous system.</p>	<p>Individually in pairs or small groups, have students undertake a research project. Ensure resources are available in the school for them to use. Projects might include:</p> <ul style="list-style-type: none"> - disorders of the nervous system - statistics of parts of the nervous system e.g., weight of the brain, brain growth, etc - brain dominance - experiments - comparison of animal and human brains - comparison of brains and computers - reflexes intelligence - tension stress - sleeping and dreaming

GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 7

THEME: DISEASE PREVENTION

CONCEPT: THERE ARE MANY WAYS THE BODY PROTECTS ITSELF FROM DISEASE

- PREPARATION:
1. Paper cup, paper, plastic bag
 2. Overhead transparency of How Germs Enter The Body (Activity Sheet GD57)
 3. Magnifying glasses
 4. Resources for research
-

VOCABULARY: bacteria, virus, mold, contact, contaminated, defence, mucous, membranes, secretions immune, antibodies

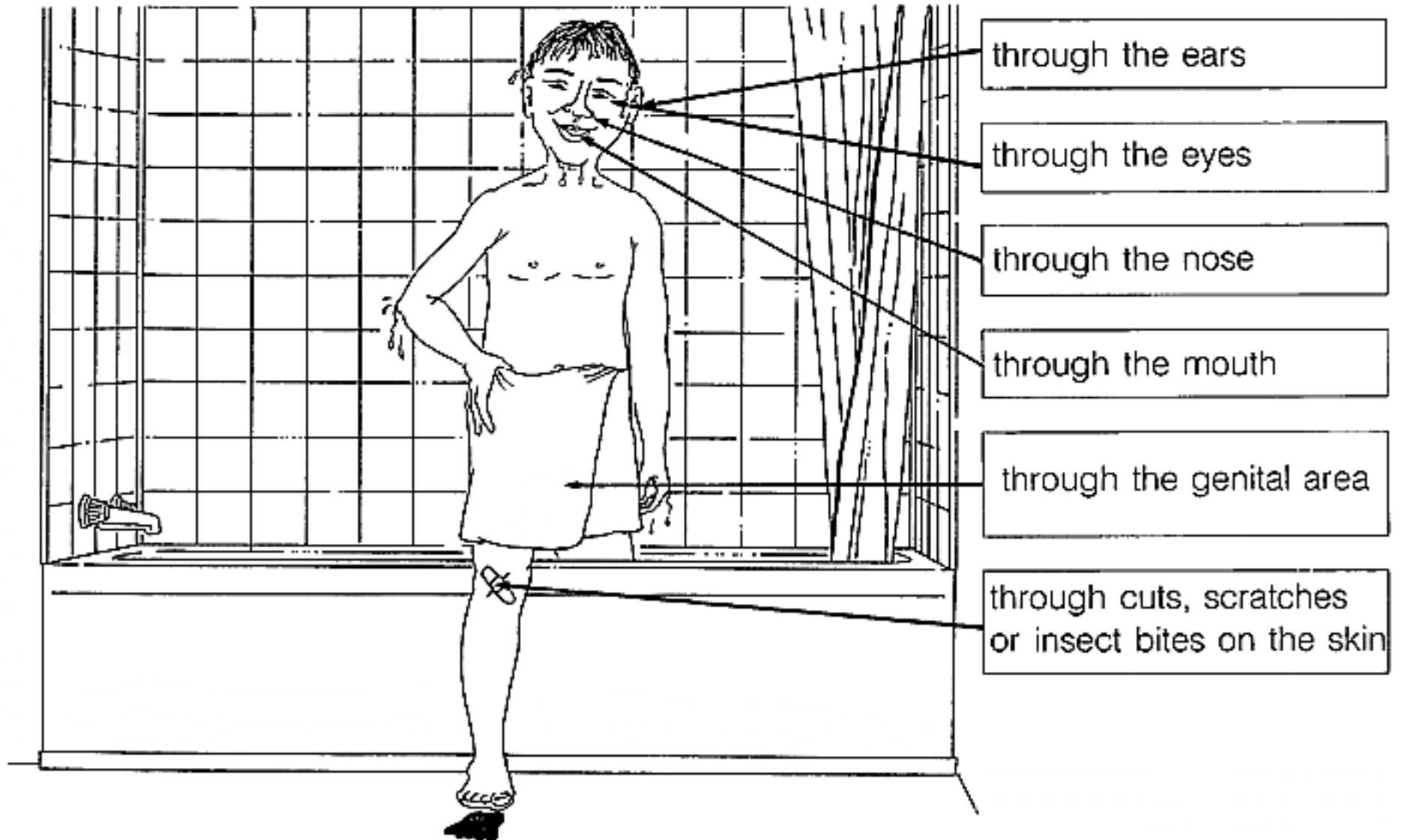
OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to: i) identify ways in which diseases are transmitted	Students: 1. Identify how a cold is passed from one person to another. 2. Define the terms germ, bacteria virus and moulds. 3. List how diseases are spread. Discuss.	Background Information Page GD79 to GD81 Ask students if they have ever had a cold. Ask them how they got a cold. Use a dictionary and discussion to define the terms. Students should understand that germs are tiny, invisible and living. They live in everything and may cause disease. Bacteria viruses and moulds are types of germs. Ask students how diseases are spread. Have students respond using the sentence pattern: Diseases are spread _____.

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES				
ii) name the routes of germ entry into the body iii) identify the body's three lines of defence that protect against disease	4. Simulate the airborne spread of diseases. 5. Identify how germs enter the body. 6. Play 6 pin bowling to simulate the body's lines of defence.	Record student responses using an experience chart as illustrated:				
		Through the air	By personal contact	Through water or food	By animals and insects	
		<ul style="list-style-type: none"> - by coughing - by breathing out - by sneezing 	<ul style="list-style-type: none"> - by touching the sick person - by touching something the sick person has touched, e.g., glass - by dirty hands 	<ul style="list-style-type: none"> - by unclean water - by contaminated water - by contaminated hands 	<ul style="list-style-type: none"> - by animals - by pets - by insects - by flies 	
<p>Have students cut paper into tiny pieces. Make a large hole in the bottom of a paper cup. Tape a plastic bag to the end of the cup. Put paper pieces inside the cup. Cough or sneeze into the cup. Observe the spread of germs' into the 'air'.</p> <p>Refer to Activity Sheet GD57.</p> <p>Using the overhead transparency, have students identify how germs enter the body.</p> <p>Set the pins up as follows:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">X</td> <td style="text-align: left;">3rd line of defence</td> </tr> <tr> <td style="text-align: center;">X X</td> <td style="text-align: left;">2nd line of defence</td> </tr> <tr> <td style="text-align: center;">X X X</td> <td style="text-align: left;">1st line of defence</td> </tr> </table>	X	3rd line of defence	X X	2nd line of defence	X X X	1st line of defence
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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES																
	<p>7. Examine the inside of the nose and ear to observe examples of the body's first line of defence.</p> <p>8. Observe the blinking of the eyes as an example of the body's first line of defence.</p> <p>9. Give examples of the body's three lines of defence and how they work to protect the body from disease.</p>	<p>Using magnifying glasses, have students examine inside a partner's nose and ears. They should observe hairs, wax and mucus. Ask the students how this defends the body from disease.</p> <p>Have one student wave something close to their partner's eyes. Observe the blinking reflex.</p> <p>The body is equipped with defences to prevent people from becoming sick. Ask students what other defences the body has.</p> <p>Record information using an experience chart as illustrated:</p> <table border="1" data-bbox="1041 737 2003 1341"> <thead> <tr> <th data-bbox="1041 737 1524 776">First line of defence</th> <th data-bbox="1524 737 2003 776">Function</th> </tr> </thead> <tbody> <tr> <td data-bbox="1041 776 1524 854">- skin</td> <td data-bbox="1524 776 2003 854">- physical barrier to keep germs out</td> </tr> <tr> <td data-bbox="1041 854 1524 932">- mucous membranes</td> <td data-bbox="1524 854 2003 932">- physical barrier to keep germs out</td> </tr> <tr> <td data-bbox="1041 932 1524 1042">- hair in the respiratory system (cilia)</td> <td data-bbox="1524 932 2003 1042">- fine hairs that work with mucus to trap germs and move them to the throat</td> </tr> <tr> <td data-bbox="1041 1042 1524 1149">- body secretions (tears, saliva, gastric juice, mucus)</td> <td data-bbox="1524 1042 2003 1149">- tears wash germs out of the eyes - other chemicals kill germs - mucus traps germs</td> </tr> <tr> <td data-bbox="1041 1149 1524 1260">- reflexes (coughing, sneezing, blinking, tears)</td> <td data-bbox="1524 1149 2003 1260">- get rid of germs from the body - wash germs away</td> </tr> <tr> <th data-bbox="1041 1260 1524 1299">Second line of defence</th> <th data-bbox="1524 1260 2003 1299">Function</th> </tr> <tr> <td data-bbox="1041 1299 1524 1341">- white blood cells</td> <td data-bbox="1524 1299 2003 1341">- surround and dissolve germs</td> </tr> </tbody> </table>	First line of defence	Function	- skin	- physical barrier to keep germs out	- mucous membranes	- physical barrier to keep germs out	- hair in the respiratory system (cilia)	- fine hairs that work with mucus to trap germs and move them to the throat	- body secretions (tears, saliva, gastric juice, mucus)	- tears wash germs out of the eyes - other chemicals kill germs - mucus traps germs	- reflexes (coughing, sneezing, blinking, tears)	- get rid of germs from the body - wash germs away	Second line of defence	Function	- white blood cells	- surround and dissolve germs
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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES	
	<p>10. Describe how the body is protected from disease.</p>	<p>Third line of defence</p> <ul style="list-style-type: none"> - special white blood cells which produce antibodies 	<p>Function</p> <ul style="list-style-type: none"> - antibodies are chemicals that kill germs - there are different antibodies to fight each germ that enters the body (the antibodies which the body produces for one type of illness will not work against another)
		<p>Some of this activity will involve research Divide the class into four groups</p> <ul style="list-style-type: none"> - the germs - the first line defenders - the second line defenders - prevention and/or cure <p>Each group has to describe disease and the body. The following points will give each group their direction</p>	
		<ul style="list-style-type: none"> - germs 	<ul style="list-style-type: none"> - how they enter the body - conditions they need to multiply etc.
		<ul style="list-style-type: none"> - first line defenders 	<ul style="list-style-type: none"> - describe outer defences
		<ul style="list-style-type: none"> - second line defenders 	<ul style="list-style-type: none"> - describe inner defences
		<ul style="list-style-type: none"> - prevention and/or cure 	<ul style="list-style-type: none"> - describe healthful living to prevent disease - medicines, e.g., antiseptics, penicillin, etc.
		<p>Have each group present its findings to the class.</p>	

HOW GERMS ENTER THE BODY



GROWTH AND DEVELOPMENT

GRADE: 6

LESSON: 8

THEME: DISEASE PREVENTION

CONCEPT: THE SERIOUS COMMUNICABLE DISEASE AIDS CAN BE PREVENTED

PREPARATION: 1. Prepare a class set of True or False (Activity Sheet GD58A)

VOCABULARY: AIDS, immune system, contact, contaminated, virus

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to: i) identify the cause, nature and seriousness of AIDS	Students: 1. Review germs and the body defence system. 2. Assess what they already know about AIDS and AIDS virus infections. 3. Identify what causes AIDS.	Background Information Page GD82 to GD84 This is an introductory lesson on AIDS. The topic is dealt with in more detail in Grades 7 and 8, Family Life. Briefly review the previous lesson. Refer to Activity Sheet GD58A. Have students read the statements and check the true or false column. Do <i>not</i> go over the answers yet. The students will complete the last column later in this lesson. A virus causes AIDS. The virus is commonly known as the AIDS virus.

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
ii) describe how the disease AIDS is transmitted	6. Tell how the disease is spread from one person to another.	<p>Brainstorm ways in which the disease is spread. The disease is spread in three ways:</p> <ul style="list-style-type: none"> - through sexual contact with an infected person - through an exchange of contaminated blood or blood products - through an infected pregnant woman to her fetus <p>To date (1988) AIDS has been mainly transmitted through sexual contact with an infected person.</p>
iii) identify ways to prevent the spread of AIDS	7. List ways to prevent the spread of AIDS from one person to another.	Brainstorm personal health behaviours which will reduce or prevent the spread of AIDS.

OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES		
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		<p>Record information using an experience chart as illustrated.</p> <p>The spread of AIDS can be reduced or prevented by _____.</p>		
		<p>Sexual Intercourse</p>	<p>Exchange of Blood</p>	<p>Pregnant Woman</p>
		<ul style="list-style-type: none"> - abstaining from sexual intercourse (this behaviour is recommended by health professionals for young people) - having only one sexual partner (who is not infected) - using a latex condom with spermicide, if sexually active 	<ul style="list-style-type: none"> - not abusing intravenous drugs - not sharing intravenous drug needles 	<ul style="list-style-type: none"> - avoiding pregnancy if a person knows or suspects she has the AIDS virus - having an AIDS test, if she suspects she has the AIDS virus
	<p>8. Identify personal responsibilities regarding protection from the AIDS virus</p>	<p>In the same way as they would protect themselves from colds or measles, people have to protect themselves from AIDS. The AIDS virus does not get into the blood by itself. People let it get there.</p> <p>Ask students "Who is responsible for stopping AIDS?"</p>		

TRUE OR FALSE

Directions Read each statement Decide if it is true or false
 Put a cross in the appropriate box
 Save the worksheet for the end of the lesson
 At the end of the lesson. decide if you have changed your mind on any statement
 Write yes or no in the last column
 If 'yes', circle your answer and draw an arrow to the correct column

	True	False	Changed my mind
1. AIDS can be passed from one person to another.			
2. You can always tell when a person has the AIDS virus.			
3. Only men can get AIDS.			
4. Each person has a responsibility to prevent the spread of AIDS.			
5. You can get AIDS by being near a person with AIDS.			
6. At the moment, there is no cure or vaccine for AIDS.			
7. Many people who have the AIDS virus do not know they have the virus.			
8. Mosquitoes can spread the AIDS virus.			
9. The AIDS virus can be spread by shaking hands with an infected person.			
10. A baby can get AIDS.			

TRUE OR FALSE

(Answer Guide)

	True	False
1. AIDS can be passed from one person to another. AIDS is caused by a virus which can be spread from one person to another. It is spread by intimate sexual contact or by an exchange of blood with an infected person. It can also be transmitted from an infected pregnant woman to her baby.	X	
2. You can always tell when a person has the AIDS virus. A person who has the AIDS virus may feel and look healthy for a long time and may have no symptoms or signs of AIDS.		X
3. Only men can get AIDS. Anyone (men, women or children) can get AIDS.		X
4. Each person has a responsibility to prevent the spread of AIDS. AIDS is a communicable disease. Its spread can be prevented by people behaving in a responsible manner. Everyone can play a role in preventing the spread of AIDS.	X	
5. You can get AIDS by being near a person with AIDS. The AIDS virus cannot be spread by casual everyday contact with an AIDS carrier. This includes coughing sneezing or being in the same room as a person with AIDS.		X
6. At the moment, there is no cure or vaccine for AIDS. No cure or vaccine is available for the AIDS virus.	X	
7. Many people who have the AIDS virus do not know they have the virus. It usually takes 6 months to 5 years for people with the AIDS virus to develop the disease. At first they will show no signs of the disease.	X	
8. Mosquitoes can spread the AIDS virus. There is no evidence at present, that any insects spread the virus.		X
9. The AIDS virus can be spread by shaking hands with an infected person. The virus cannot be spread by casual contact i.e. shaking hands, sneezing, coughing, etc.		X
10. A baby can get AIDS. A pregnant woman who has the AIDS virus may give it to her unborn baby.	X	