

SUMMARY

In this lesson, students conduct research into different facets of cancer and dispel some common myths.

**NATIONAL ACADEMIC STANDARDS
(DEVELOPED BY THE MID-CONTINENT REGIONAL
EDUCATIONAL LABORATORY – MCREL)****HEALTH:**

- > knows the availability and effective use of health services, products, and information
- > knows environmental and external factors that affect individual and community health
- > understands the relationship of family health to individual health
- > knows how to maintain and promote personal health
- > knows essential concepts about the prevention and control of disease

LANGUAGE ARTS:

- > gathers and uses information for research purposes
- > demonstrates competence in the general skills and strategies for reading a variety of informational texts

**STUDENT LEARNING
OBJECTIVES**

Students will demonstrate the ability to:

- > identify and discuss accurate information about the incidence, prevention and treatment of cancer

RESOURCES**ON THE SITE:**

- > Teacher Sheet, "Questions and Answers about Cancer"
- > Video, "Introduction Video with Lance Armstrong"
- > Worksheet, "Please Find Out"
- > Extension Activity, "Needless Deaths"
- > Extension Activity, "Runaway Cells"

ON YOUR OWN:

- > Access to computers and the Internet (optional)

PREPARATION

1. Read the teacher sheet, "**Questions and Answers about Cancer.**" Use the content as background for the lessons and for answering questions from students.
2. Download the "**Introduction Video with Lance Armstrong**" and set it up on a computer or TV for viewing by the students. (If you have trouble downloading the video, make sure you have the latest version of QuickTime.)
3. Make a copy of the work sheet, "**Please Find Out,**" for each student.
4. Decide whether you will have your students conduct their research online using the internet, in the classroom using printed research materials, or in the classroom through interviewing an outside speaker. Based on your decision, you will need to ensure that your students have access to one of the following resources:
 - a. computers with Internet access
 - b. copies of the teacher sheet "Questions and Answers about Cancer"
 - c. a presenter who is knowledgeable about cancer and cancer survivorship

THE LESSON

1. Tell students that over the next two days they will be discussing a very important topic: cancer. Note that they may have personal experiences with cancer and that will be very helpful to share as they learn more about cancer, cancer survivorship and ways that they can help people affected by cancer.

2. Watch the **"Introduction Video with Lance Armstrong"**.
3. Tell students that you're going to read them some statements—only some of which are true. Ask students to raise their hands if they think statements are true. Read each of the following statements (from the American Cancer Society, 2007) and count how many people think each one is true before revealing the answer.
 - > **Cancer is one disease.**
FALSE, CANCER IS A GROUP OF MORE THAN 100 RELATED DISEASES THAT BEGIN IN CELLS, THE BODY'S BASIC BUILDING BLOCKS. NORMALLY, CELLS GROW AND DIVIDE AND CREATE MORE CELLS TO KEEP OUR BODIES HEALTHY. HOWEVER, SOMETIMES OUR BODY MAKES A MISTAKE AND CELLS CONTINUE TO DIVIDE WHEN THEY ARE NOT NEEDED. SINCE CELLS MAKE UP ALL PARTS OF OUR BODY, CANCER CAN OCCUR IN ANY PART OF THE BODY INCLUDING THE SKIN, BLOOD, BONES, AND ALL OTHER PARTS OF THE BODY.
 - > **One application of sunscreen at the start of each day is enough to prevent skin cancer.**
FALSE, A SINGLE APPLICATION IS USUALLY NOT ENOUGH. IT IS A GOOD IDEA TO CONTINUE TO APPLY SUNSCREEN THROUGHOUT THE DAY IF YOU ARE GOING TO BE IN THE SUN.
 - > **Some injuries can cause cancer later in life.**
FALSE, YOU CANNOT GET CANCER FROM AN INJURY.
 - > **Cancer is contagious and you can catch it like a cold or through contact with blood.**
FALSE, CANCER IS NOT CONTAGIOUS. IT CANNOT BE SPREAD THROUGH GERMS, VIRUSES OR BLOOD, INCLUDING BLOOD TRANSFUSIONS.
 - > **Treating cancer with surgery causes it to spread throughout the body.**
FALSE, SURGERY IS OFTEN AN ESSENTIAL PART OF TREATING CANCER. OTHER TYPES OF TREATMENT FOR CANCER INCLUDE RADIATION THERAPY, CHEMOTHERAPY, HORMONES, AND BIOLOGICAL THERAPY
 - > **Most people who are diagnosed with cancer are much older than students in this class.**
TRUE, CANCER IN CHILDREN IS RARE. ONLY ABOUT 14 OUT OF EVERY 100,000 CHILDREN UNDER THE AGE OF 15 ARE DIAGNOSED WITH CANCER IN THE UNITED STATES EACH YEAR (.014% OF ALL CHILDREN).
 - > **All people with cancer die.**
FALSE, AS LANCE ARMSTRONG CAN ATTEST TO, NOT ALL PEOPLE WITH CANCER DIE. IN FACT THE MAJORITY (64%) OF PEOPLE WITH CANCER WILL SURVIVE CANCER. CHILDREN WHO ARE DIAGNOSED WITH CANCER, ON AVERAGE, HAVE AN ALMOST 80% OF SURVIVING CANCER. MANY PEOPLE WHO ARE DIAGNOSED WITH CANCER WILL GO ON TO LEAD FULL, HEALTHY LIVES.
 - > **There are things that you can do to reduce your risk of getting cancer.**
TRUE, WHILE WE DO NOT KNOW WHAT CAUSES ALL CANCERS, WE DO KNOW THAT CERTAIN LIFESTYLE AND ENVIRONMENTAL CHANGES, SUCH AS NOT SMOKING, CAN HELP REDUCE THE RISK OF GETTING CANCER. NOT USING TOBACCO PRODUCTS, EATING HEALTHY FOODS, EXERCISING REGULARLY, AND AVOIDING THE HARMFUL RAYS OF THE SUN CAN ALL HELP TO REDUCE THE RISK OF DEVELOPING CERTAIN TYPES OF CANCER LATER IN LIFE.
 - > **What someone does as a young adult has little impact on their chances of getting cancer later in life.**
FALSE, MANY BEHAVIORS SUCH AS DIET, EXERCISE, EXPOSURE TO SUN, SMOKING, CAN HAVE A SUBSTANTIAL INFLUENCE ON A PERSON'S CHANCES OF DEVELOPING CANCER LATER IN LIFE.
4. Tell students that being informed about cancer is especially important, because as discussed in the last question above, what someone does as a young adult can impact their chances of getting cancer later in life. In addition, by being informed about cancer, students will be better prepared to both help people they personally know with cancer, and also help the more than 1.3 million people who will be diagnosed with cancer in the United States this year.

5. Distribute the worksheet, **"Please Find Out"** to each student. You can either:
 - > Have each individual student find answers to each question
 - > Divide the class into groups and assign each group two questions to answer
 - > Work with the class as a whole

Ask students to write an additional question about cancer to which they would like to find the answer at the bottom of the **"Please Find Out"** worksheet.

6. Facilitate the activity by using one of the following strategies:
 - > Provide students with access to computers and the Internet. Three good sites to try are livestrong.org, cancer.org and cancer.gov. However these sites are not written for children, and students may need guidance searching for information. You may want to use additional search engines that are more familiar to your students. Suggestions for guiding students to the appropriate websites are also included below.
 - > Make copies of the **"Questions and Answers about Cancer"** teacher sheet for students. Help students identify where in the document answers to each question can be found.
 - > Invite to your classroom, a physician, nurse, social worker, oncologist or other professional who can talk to students about cancer and answer their questions. Provide the guest with the questions the students will answer in advance and ask the guest to include this information in their presentation.

If you choose to have students research on the internet, you can provide the following suggestions to help guide their searches:

- > For the first question, direct students to www.cancer.org. Ask students to type "type of cancer that causes the most deaths" in the search box.
- > For the second question, direct students to cancer.org. Ask students to type "types of treatment" into the search box.
- > For the third question, direct students to cancer.org. Ask students to type "how many people get skin cancer" into the search box.
- > For the fourth question, direct students to cancer.gov. Ask students to type "risk factors for cancer" into the search box. They will then need to click on the link to "What You Need to Know about Cancer™: Risk Factors"
- > For the fifth question, direct students to livestrong.org. Ask students to type "the number of cancer survivors living in the U.S. today" into the search box.

Check for Understanding

After students have conducted their research, review their responses to each question:

- > The type of cancer that causes the most deaths
LUNG CANCER
- > Name three types of treatment for cancer
SURGERY, RADIATION THERAPY, CHEMOTHERAPY, HORMONE THERAPY, OR BIOLOGICAL THERAPY
- > List the percentage of cancers in the US that are skin cancers
ABOUT 50%
- > List three things you can do to reduce your risk of getting cancer
DON'T SMOKE, AVOID SECONDHAND SMOKING, AVOID EXPOSURE TO THE SUN AND APPLY SUN-SCREEN MORE THAN ONCE, EAT HEALTHY FOODS, EXERCISE AND MAINTAIN A HEALTHY WEIGHT
- > Find the number of cancer survivors living in the United States today.
THERE ARE OVER 10 MILLION CANCER SURVIVORS IN THE US TODAY.

Explain to students that information about science and medicine in general is changing all the time, and that it's important for them to use the most current information to guide their behaviors.

Tell students that in the next lesson they will find out about some people's experiences with cancer and how they can get involved and help people with cancer.

Extension Activities: If you would like to emphasize this lesson with students, you can implement the extension activity, "**Needless Deaths**" to help your students understand more about how tobacco use relates to cancer. The extension activity "Runaway Cells" uses paper and money as analogies to help students learn how quickly cancer cells can spread and helps students identify activities which can reduce their risk of getting cancer.

You can also review the "**Get Involved**" booklet to learn more about how your students and your school can become advocates for people affected by cancer by participating in **LIVESTRONG** events in your community, raising funds for cancer research, accessing information about people living with cancer, or increasing cancer awareness.