



Connections to Curriculum

- ✓ Personal Perspectives/ Reflection
- ✓ Decision Making
- ✓ Working in Science
- ✓ B11-1-03 Recognize how individual wellness choices affect others.

Senior Years Science Teachers' Handbook

Chapter 9: Tapping into Prior Knowledge

- ✓ 9.20 Anticipation Guide and 9.26 (Attachment 9.3)

Unit 1

Wellness and Homeostasis

Organs and Tissues Available for Transplant Lesson Plan

Objectives

Students will

- reflect on personal views of organ donation and transplantation
- identify which organs are transplantable
- appreciate the process of transplantation and its importance in society
- recognize how personal life choices may help others

Materials

- small pieces of scrap paper (one per student)
- copies of Who Donates Organs and Tissues for Transplant? Anticipation Guide (BLM 1.1) (one per student)
- copies of Organs and Tissues Available for Transplant (BLM 1.2) (one per student)
- computer, Internet, projector access (for multimedia presentation)
- the Transplant Manitoba Gift of Life multimedia presentation available online at <www.transplantmanitoba.ca>.

Anticipatory Set

1. Explain the connection between personal choices and organ transplantation in society. Depending on the life experiences and composition of the class, perhaps ask students if they have any personal/family experience with organ transplantation.
2. Distribute a small piece of scrap paper to each student. Ask students to write down one question/comment they have about the process or idea of organ transplantation. Pass the papers forward for the teacher to read aloud to the class. Questions do not have to be answered or discussed—hearing questions from classmates may provoke thought in students.

(continued)

Lesson

1. Hand out Who Donates Organs and Tissues for Transplant? Anticipation Guide (BLM 1.1) to students. Read statements aloud with the class and instruct students to briefly summarize their thoughts on the statements on the line provided.
2. Lead students through the Transplant Manitoba Gift of Life multimedia presentation. Provide ample opportunities for pause, reflective discussion, or commentary.
3. Revisit the anticipation guide with students to reflect on whether or not their ideas have changed. Ask students to fill in the remaining spaces on the anticipation guide.

Assessment/Closure

1. Distribute the Organ and Tissues Available for Transplant (BLM 1.2) on page 15 that illustrates which organs/tissues are transplantable. In groups, individually, or as a take-home assignment, students identify the body parts based on the descriptors provided.

Who Donates Organs and Tissues for Transplant? Anticipation Guide

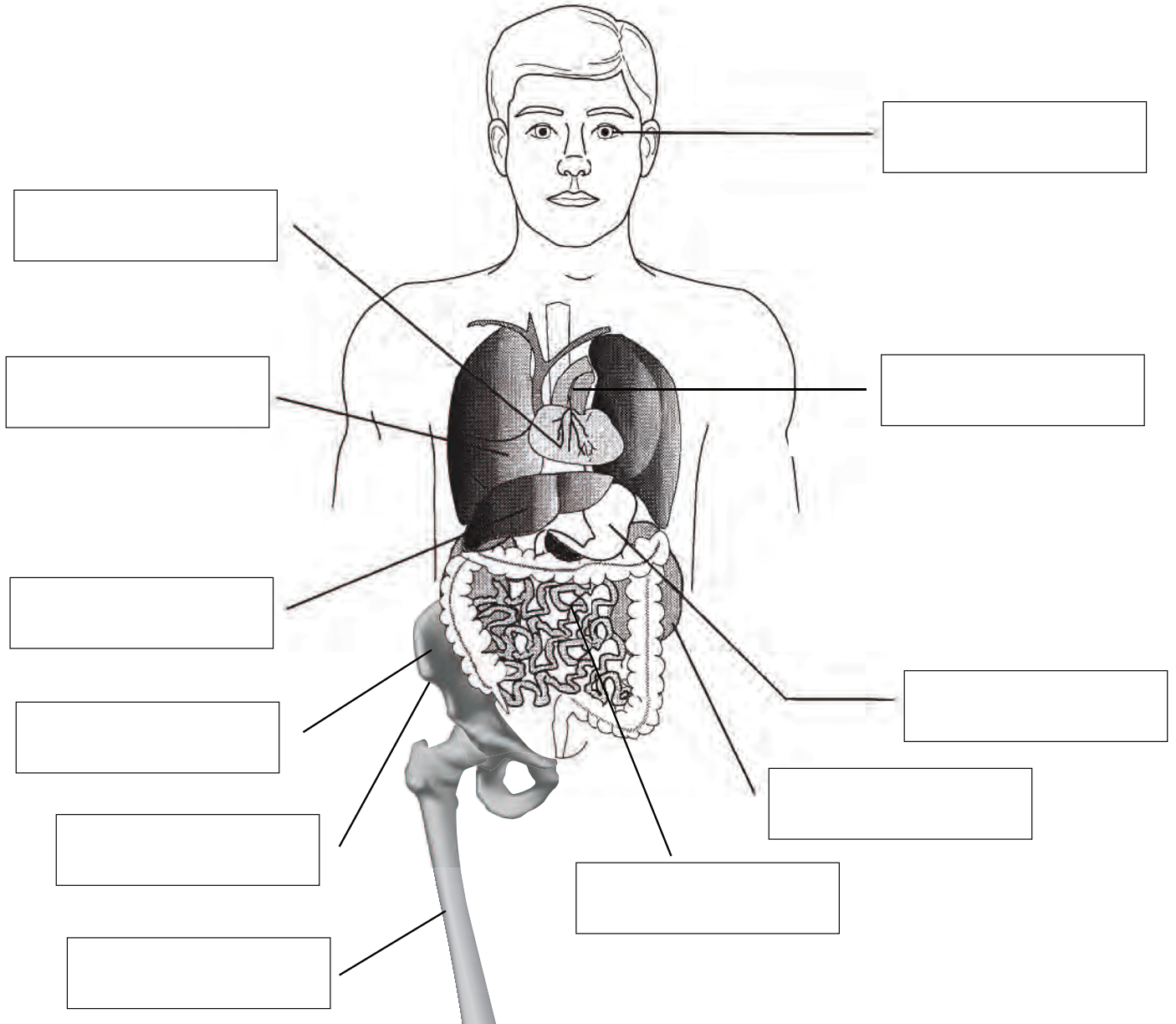
Consider the following statements. Do you agree or disagree with each? Record your initial reactions based on your first impressions of the topic. Revisit the statements at the end of the lesson and note any changes.

Statement	Reaction
<p>People over the age of 65 can no longer donate organs for transplant use.</p>	<p>Initial: _____ After: _____ Reason for change: _____</p>
<p>If you decide to donate organs/tissues for transplant, all you have to do is sign an organ donor card.</p>	<p>Initial: _____ After: _____ Reason for change: _____</p>
<p>Most cultures and religious traditions do not support the use of organs/tissues for transplant purposes.</p>	<p>Initial: _____ After: _____ Reason for change: _____</p>
<p>Organs and tissues used for transplant purposes come only from the recently deceased and with an otherwise clean bill of health.</p>	<p>Initial: _____ After: _____ Reason for change: _____</p>
<p>Although most people would agree to do so, donations of a lobe of a lung or kidney between living, related individuals is not permitted.</p>	<p>Initial: _____ After: _____ Reason for change: _____</p>

Name: _____

Organs and Tissues Available for Transplant

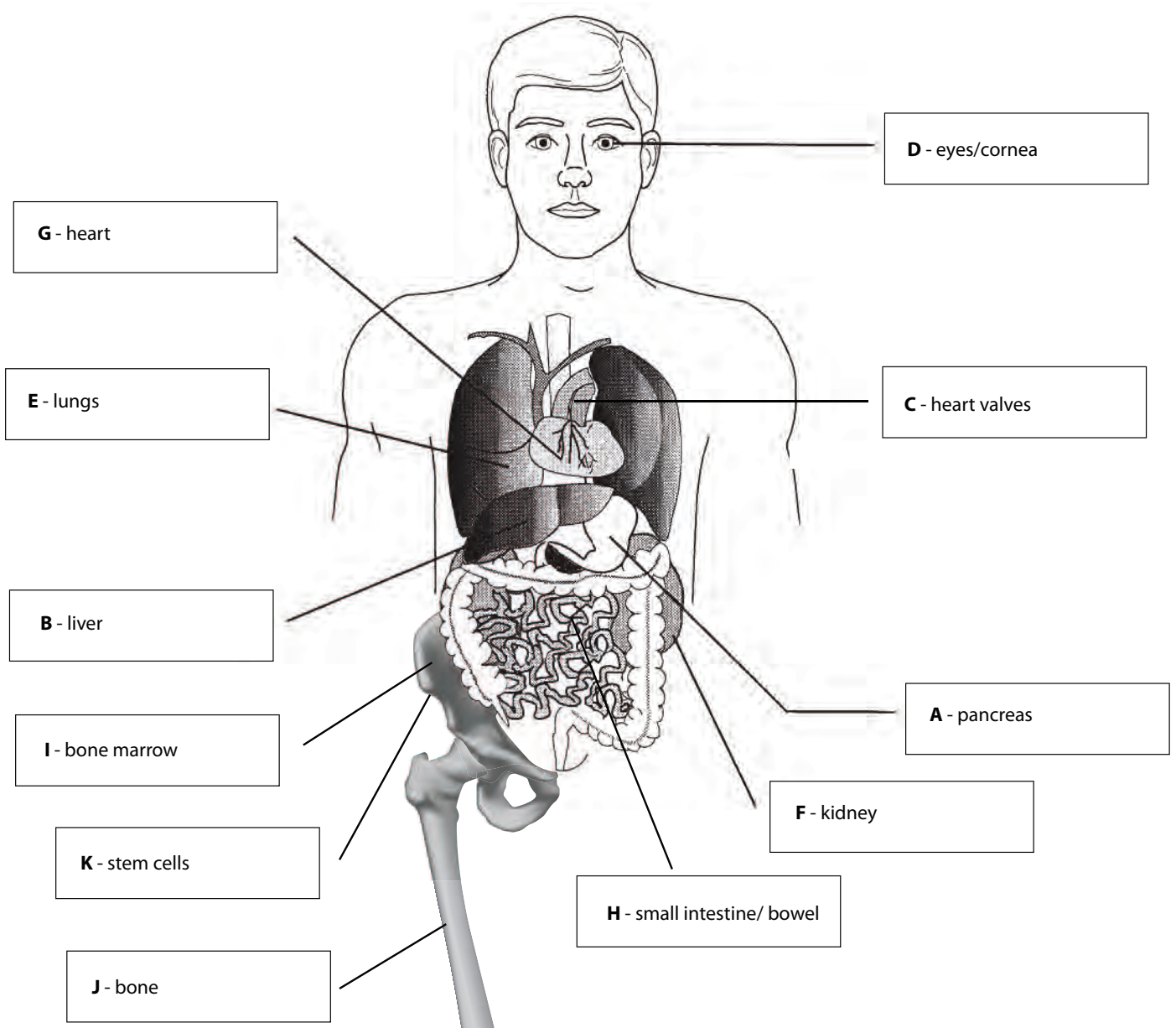
Place the letter corresponding to each statement on the following page beside the correct organ/tissue on the diagram below. Once completed, record the name of the organ/tissue in the space provided.



- A** 1966—The first transplant of this organ took place. The recipient was a 28-year-old who suffered from hyperglycemia, and 2005 was the year that the cells from this organ were transplanted from a **living donor** in Kyoto, Japan. The cells began producing insulin within minutes of the transplant.
- B** This organ had the highest number of patients on a waiting list in 2006.
- C** This tissue type may be replaced with synthetic structures or structures from animals (e.g., pigs).
- D** There is an over 90 percent success rate in transplants involving this structure.
- E** Either one **or** two of these organs may be transplanted, **and** donations come from mostly deceased (non-living) donors rather than living donors.
- F** This organ had the highest number of transplants performed in Canada in 2008.
- G** During this transplant procedure, a bypass machine is used to pump blood to the rest of the body.
- H** This is the largest of all structures to be fully transplanted (cm³).
- I** Patients with abnormal red blood cell production or specific forms of cancer (such as leukemia) may require a transplant of this tissue.
- J** 1668—The first documented *xenotransplant* (transplants between humans and other animals) took place. Doctors used portions of a dog's skull and grafted it onto a human's cranium.
- K** Transplant of "liquid" tissues (not solid, such as the liver) is done in an effort to replace unhealthy cells with healthy cells.

Organs and Tissues Available for Transplant

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