

5th Grade Body Systems Unit (Bones and Skeleton & Body Systems Modules) Unit Blueprint

Learning	Essential	Benchmarks	Formative and Summative Assessments	Using Assessments to Monitor and
Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
	(for conceptual	benchmark addressed. IAF stands for	the assessments are formative and should be	
	benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
		stands for National Science		
		Education Standards.)		
Pre-	How do the	IAF(12.7.02): Understand that	Formal Pre-assessment: Use teacher-	See teacher-generated answer key
Assessment	parts of an	animals have parts well suited to	generated pre-assessment available under	available under "Teacher Resources" on
	animal relate to	the places they live in and to their	"Teacher Resources" on electronic blueprint	electronic blueprint
Pacing	its needs and	needs. For example, rabbits radiate	in place of one in Teacher's Guide	
Suggestions:	habitat?	heat through their ears, and those		
1 to 2 days		living in hotter climates have larger		
	How do the	ears to radiate heat more efficiently.		
Teacher	skeletal and	Thus, given a list of animals, one of		
Resources:	muscular	which is clearly better adapted to a		
	systems work	given environment, understand that		
53	together to	that is the animal, which lives in		
	create	that environment.		
	movement?	NSES (5-8): The human organism		
		has systems for digestion,		
		respiration, reproduction,		
		circulation, excretion, movement,		
		control and coordination, and for		
		protection from disease. The		
		systems interact with one another.		

*Essential questions are major questions driving the unit of study. They are directly aligned with the benchmarks. Generally, no one lesson addresses a question in its entirety. By the end of the unit, students should be able to answer these core questions.

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#1: The	What are	1B(3-5)#1: Scientific investigations	During the introduction of lesson or end of	Listen to students' responses to
Mysterious	"scientific	may take many different forms,	lesson, ask students if the activity is a	determine their conceptions of scientific
Object	investigations"?	including observing what things are	"scientific investigation."	investigations. Do they recognize
		like or what is happening	Note: This benchmark is not addressed in the	observational work of specimens
Pacing		somewhere, collecting specimens	lesson as written in the Teacher's Guide. The	constitutes scientific investigations? Do
Suggestions:		for analysis, and doing experiments.	teacher must deliberately address the	they believe a controlled experiment is
1 day		Investigations can focus on	benchmark. Throughout the unit, the teacher	the only type of scientific investigation?
		physical, biological, and social	may need to reinforce the idea that the work	
Teacher		questions.	the students are dong in the unit are	
Resources:			considered scientific investigations.	
		12C(3-5)#3: Keep a notebook that	Students' observations of the "mystery object"	Student Observations
3	/	describes observations made,	(owl pellet) and inferences about the identify	• Do students make clear, understandable
	/	carefully distinguishes actual	of the "mystery object" (See Exploring and	observations?
	/	observations from ideas and	Discovering on page 18 in Teacher's Guide.	• Do the students organize the notebook
		speculations about what was	Also, see Student Science Notebooks on page	entry so it is understandable at a later
		observed, and is understandable	15 in Teacher's Guide for background	date? For example, do they title and
		weeks or months later.	information on keeping student science	date the entry?
		12D(3-5)#3: Use numerical data in	notebooks.)	• Do students clearly identify their
		describing and comparing objects		inferences as a guesses and keep them
		and events.	Class discussion and completion of <i>The</i>	separate from their observations?
		1B(3-5)#3: Scientists' explanations	Mystery Object chart (See Processing for	Class Discussion and Chart
		about what happens in the world	Meaning on page 18 in Teacher's Guide)	• Do students support their inferences
		come partly from what they		with observations made of the
		observe, partly from what they		mystery object?
		think. Sometimes scientists have		
		different explanations for the same		
		set of observations. That usually		
		leads to their making more		
	/	observations to resolve the		
	/	anterences.		
		12A(3-5)#2: Offer reasons for their		
	/	indings and consider reasons		
	/	suggested by others.		
	V			

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#2: The Clues		12D(3-5)#2: Make sketches to aid	Student notebooks containing sketches,	Bone Groups
	/	in [describing observations and]	observations, and inferences for each bone	• Do they make a sketch that accurately
Pacing		explaining procedures or ideas.	group they establish.	portrays the features of the object?
Suggestions:		12D(3-5)#3: Use numerical data in		 Do they make clear and
Days 1 and 2–		describing and comparing objects	Student notebook entry about the mystery	understandable observations?
Getting Started		and events.	object, "Thoughts about Our Bones" (See	 Do students include quantitative
and Exploring		12C(3-5)#3: Keep a notebook that	Processing for Meaning on page 29 in	observations?
and Discovering	/	describes observations made,	Teacher's Guide)	• Do they make inferences supported by
(pages 28 & 29)		carefully distinguishes actual		observations and prior knowledge?
Days 3 and 4–		observations from ideas and		• Suggestion: Have students use the <i>Lab</i>
Processing for		speculations about what was		Observations and Inferences rubric
Meaning (pages		observed, and is understandable		available under "Teacher Resources"
29 & 30)		weeks or months later.		on the electronic blueprint to self-
		12A(3-5)#2: Offer reasons for their		assess their work. The same rubric
Teacher		findings and consider reasons		will be used in Lesson 3 to formally
Resources:		suggested by others.		assess the students' work. An extra
				day has been added to the lesson
AN KA				pacing to allow for thorough
				reflection and discussion
				"Thoughts about Our Bones" notebook
				entry
				 Are students developing logical
				explanations about where the bones
				came from?
				• Can they use the evidence from the
				activity to make inferences?
	/			
	/			
	/			
	/			
	V			

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#3: Mystery	How do the	12D(3-5)#2: Make sketches to aid	Formal Assessment: Student sketches,	Use the Lab Observations and Inferences
Bones	parts of an	in [describing observations] and	observations, and inferences of mystery bone	rubric available under "Teacher
	animal relate to	explaining procedures or ideas.	(Mystery Bones Student Notebook Page on	Resources" on the electronic blueprint
Pacing	its needs and	12D(3-5)#3: Use numerical data in	page 43 in Teacher's Guide)	
Suggestions:	habitat?	describing and comparing objects		
Day 1 –		and events.		
Getting Started		IAF (12.7.02): Understand that		
and Exploring		animals have parts well suited to		
and Discovering		the places they live in and to their		
(pages 39 & 40)		needs. For example, rabbits radiate		
Day 2 and 3 –		heat through their ears, and those		
Processing for		living in hotter climates have larger		
Meaning (page		ears to radiate heat more efficiently.		
40)		Thus, given a list of animals, one of		
		which is clearly better adapted to a		
Teacher		given environment, understand that		
Resources:		that is the animal that lives in that		
		environment.		
AN KA		12A(3-5)#2: Offer reasons for their		
		findings and consider reasons		
		suggested by others.		
		12C(3-5)#3: Keep a notebook that		
		describes observations made,		
		carefully distinguishes actual		
		observations from ideas and		
		speculations about what was		
		observed, and is understandable		
		weeks or months later.		

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		Education Standards.)		
#4: Human	How do the	IAF (12.7.02): Understand that	Teacher observations of student discussions	As students are trying to determine where
Bones	parts of an	animals have parts well suited to	while they are making their drawings and	bones exist and their shape, do they
	animal relate to	the places they live in and to their	student comments during whole class	discuss and relate the function with the
Pacing	its needs and	needs. For example, rabbits radiate	discussion (See Exploring and Discovering on	location and shape of the bones?
Suggestions:	habitat?	heat through their ears, and those	page 48.)	(Example: When discussing the foot, do
Day 1 –		living in hotter climates have larger		they discuss movement of the foot, which
Getting Started		ears to radiate heat more efficiently.		requires multiple bones rather than one
and <i>Exploring</i>		Thus, given a list of animals, one of		large, flat one across the entire foot.)
and Discovering		which is clearly better adapted to a		
(pages 47 & 48)		given environment, understand that		
Days 2 & 3 –		that is the animal that lives in that		
Processing for		environment.		
Meaning (pages				
49 & 50) Dev 4				
Day - Read The				
Search for the				
Missing Rones				
(The book is				
contained in the				
book hag				
provided with				
the kit)				
the kit.)				
Teacher				
Resources:				
3				

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#5: Major	How do the	NSES (5-8): The human organism	Formal Assessment: Science Notebook Page	• Can students locate the six major bone
Bone Groups	parts of an	has systems for digestion,	Major Bone Groups sheet (page 65) and	groups in the outline of the human
	animal relate to	respiration, reproduction,	teacher-generated Bone Groups & Functions	body?
Pacing	its needs and	circulation, excretion, movement,	sheet (Use Bone Groups & Functions sheet	• Do students have accurate ideas about
Suggestions:	habitat?	control and coordination, and for	available under "Teacher Resources" on	the functions of the six major bone
Day 1 –		protection from disease. The	electronic blueprint in place of student sheet	groups?
Session 1 (pages		systems interact with one another.	on page 67.)	• Are student ideas supported by
61 & 62)		IAF (12.7.02): Understand that		observations?
Days 2 & 3 –		animals have parts well suited to		
Session 2 (pages		the places they live in and to their		
63 & 64)		needs. For example, rabbits radiate		
Day 4 –		heat through their ears, and those		
Use Eyewitness		living in hotter climates have larger		
book and		ears to radiate heat more efficiently.		
discuss/correct		Thus, given a list of animals, one of		
misconceptions		which is clearly better adapted to a		
on class chart		given environment, understand that		
		that is the animal that lives in that		
Teacher		environment.		
Resources:		12A(3-5)#2: Offer reasons for their		
		findings and consider reasons suggested by others.		

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Major Bone	How do the	NSES (5-8): The human organism	Formal Assessment: Use teacher-generated	Use rubric available under "Teacher
Groups	parts of an	has systems for digestion,	Major Bone Groups Assessment, which is	Resources" on electronic blueprint
Assessment	animal relate to	respiration, reproduction,	available under "Teacher Resources" on the	
	its needs?	circulation, excretion, movement,	electronic blueprint	
Pacing		control and coordination, and for		
Suggestions:		protection from disease. The		
1 day plus time		systems interact with one another.		
to go over		IAF (12.7.02): Understand that		
assessment with		animals have parts well suited to		
class		the places they live in and to their		
		needs. For example, rabbits radiate		
Teacher		heat through their ears, and those		
Resources:		living in hotter climates have larger		
Resources:		living in hotter climates have larger ears to radiate heat more efficiently. Thus, given a list of animals, one of which is clearly better adapted to a given environment, understand that that is the animal that lives in that environment. 12A(3-5)#2: Offer reasons for their findings and consider reasons suggested by others.		

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benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
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#6: Mystery How are	6A(6-8)#1: Like other animals,	Student notebook entry "Comparing Bones"	Can they compare and contrast human
Bone Groups systems within	human beings have body systems	and class discussion. (See page 83 in teacher's	bones with other animal bones?
a human like	for obtaining and providing energy,	guide.)	
Pacingsystems in an animal?Suggestions:animal?Day 1 -animal?Getting Startedanimal?(page 83) and discussion on classification (see Tips & first section of Exploring and Discovering on page 84)Day 2 -Exploring and Discovering (pages 84 & 84)Teacher Resources:	defense, reproduction, and the coordination of body functions. 5A(3-5)#2 Features used for grouping depend on the purpose of the grouping.	Completion of groupings of mystery object bones according to bone groups. Possible Journal Prompt: In Lesson 2 you divided your bones up into groups. If you are trying to put a skeleton together, are the groupings you made in Lesson 2 or today better? Why?	 Can students apply knowledge from the study of human bones to classify bones from their mystery object? Do students recognize the benefit of grouping the bones by "bone groups" rather than size or shape?

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		Education Standards.)		
#7: Teeth and	How do the	IAF(12.7.02): Understand that	Student Venn Diagrams and class construction	• Are students able to use the features of
Jaws	parts of an	animals have parts well suited to	of Venn Diagram (See Exploring and	the teeth (size and placement) to make
	animal relate to	the places they live in and to their	Discovering on page 91 and Processing for	reasonable inferences about whether
Pacing	its needs and	needs. For example, rabbits radiate	Meaning on page 92.)	the animal is an omnivore, herbivore,
Suggestions:	habitat?	heat through their ears, and those		or carnivore?
Day 1 –		living in hotter climates have larger		 When discussing types of teeth and
Session 1		ears to radiate heat more efficiently.		Science Notebook Page—Teeth and
(pages 89-91)		Thus, given a list of animals, one of		Jaws, do students understand the teeth
Days 2 & 3 –		which is clearly better adapted to a		are grouped according to structure and
Session 2		given environment, understand that		function?
(pages 91 -93)		that is the animal that lives in that		
		environment.		
Teacher		5A(3-5)#2 Features used for		
Resources:		grouping depend on the purpose of		
E B		the grouping		

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#8: Mystery	How do the	IAF(12.7.02): Understand that	Formal Assessment: Science Notebook	• Can students identify and classify the
Teeth	parts of an	animals have parts well suited to	Page—Mystery Teeth (See page 109 in	teeth in their mystery bones?
	animal relate to	the places they live in and to their	Teacher's Guide. Use teacher-generated "Lab	• Do students draw sketches with enough
Pacing	its needs and	needs. For example, rabbits radiate	Observations and Inferences Rubric" available	detail so one can reasonably identify
Suggestions:	habitat?	heat through their ears, and those	under "Teacher Resources" on the electronic	the type of teeth found in the owl
1 to 2 days		living in hotter climates have larger	blueprint.)	pellet?
		ears to radiate heat more efficiently.		• Can students make inferences based on
Teacher		Thus, given a list of animals, one of		evidence about whether the mystery
Resources:		which is clearly better adapted to a		bones belonged to a carnivore,
		given environment, understand that		omnivore, or herbivore?
		that is the animal that lives in that		
		environment.		
		12D(3-5)#2: Make sketches to aid		
		in [describing observations] and		
		explaining procedures or ideas.		
		12A(3-5)#2: Offer reasons for their		
		findings and consider reasons		
		suggested by others.		

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#9: Comparing	How do the	IAF(12.7.02): Understand that	Formal Assessment: Group Recording	• Do students make only observations for
Animal	parts of an	animals have parts well suited to	Sheet—Comparing Animal Skeletons sheet	the first question on the sheet? (The
Skeletons	animal relate to	the places they live in and to their	and group sharing/reporting out to whole class	special features of this skeleton are)
	its needs and	needs. For example, rabbits radiate	about individual skeletons (Use teacher-	 Do students make reasonable
Pacing	habitat?	heat through their ears, and those	generated "Lab Observations and Inferences	inferences about the way an animal
Suggestions:		living in hotter climates have larger	Rubric" available under "Teacher Resources"	moves, the kind of food it eats, and
Day 1 –		ears to radiate heat more efficiently.	on the electronic blueprint. See Processing for	how it behaves in its habitat based on
Getting Started		Thus, given a list of animals, one of	Meaning on page 116 and page 119 for copy	prior knowledge and observations of
and Exploring		which is clearly better adapted to a	of recording sheet.)	the skeleton cards?
and Discovering		given environment, understand that		\circ Do students use evidence to support
on pages 113		that is the animal, which lives in		their inferences?
and 114 in		that environment.		\circ Do students connect the structure of
Teacher's Guide		12A(3-5)#2: Offer reasons for their		the animal to its needs (what it eats
Day 2 –		findings and consider reasons		and how it moves)?
Processing for		suggested by others.		
Meaning on		12C(3-5)#3: Keep a notebook that		
pages 114 and		describes observations made,		
115 in		carefully distinguishes actual		
Teacher's Guide		observations from ideas and		
Day 3 –		speculations about what was		
Session Two on		observed, and is understandable		
pages 115 and		weeks or months later.		
116 in				
Teacher's Guide				
-				
Teacher				
Resources:				

Learning Experience	Essential Questions* (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed. IAF stands for Illinois Assessment Framework. NSES stands for National Science Education Standards.)	Formative and Summative Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Monitor and Facilitate Student Learning
Animal Skeletons Assessment Pacing Suggestions: 1 day plus time to discuss completed assessment once graded Teacher Resources:	How do the parts of an animal relate to its needs and habitat?	IAF(12.7.02): Understand that animals have parts well suited to the places they live in and to their needs. For example, rabbits radiate heat through their ears, and those living in hotter climates have larger ears to radiate heat more efficiently. Thus, given a list of animals, one of which is clearly better adapted to a given environment, understand that that is the animal, which lives in that environment. 12A(3-5)#2: Offer reasons for their findings and consider reasons suggested by others.	Summative Assessment: Use teacher- generated pre-assessment available under "Teacher Resources" on electronic blueprint in place of one in Teacher's Guide Note: The assessment is the first question on the pre-assessment.	See teacher-generated answer key available under "Teacher Resources" on electronic blueprint
#10: Types of Joints Pacing Suggestions: Days 1/2 – Session 1 Days 2/3 – Session 2 Teacher Resources:		No benchmarks—lesson is foundational to subsequent lessons.		

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#11: Human	How do the	NSES (5-8): The human organism	Science Notebook Page—Human Bones	• Do students' drawings include the
Bones	skeletal and	has systems for digestion,	Revised (See page 151 for copy of sheet.)	major bone groups?
Revisited	muscular	respiration, reproduction,		 Do students place the bones in
	systems work	circulation, excretion, movement,	Student self-reflection about learning thus far	appropriate positions?
Pacing	together to	control and coordination, and for	in this module (See Processing for Meaning	 Do students' drawings include some
Suggestions:	create	protection from disease. The	on pages 149 & 150.)	type of notation for joints? (Do the
Day 1 –	movement?	systems interact with one another.		drawings show bones connected or are
Entire lesson				the bones all "floating" with the body?)
				Note: This last bullet is critical
Teacher				because students should be building
Resources:				their understanding that the bones are
				part of a system that works together for
JI-				movement. This point should be
#12. Manana and	Harry da tha	NEES (5. 9). The human arrangement	Seimer Netebook Drees Manner (See Roos	revealed in the students reflection.
#12: Movement	skeletal and	has systems for digestion	Science Noiebook Page—Movement (See page	a beginning understanding of how the
Pacing	muscular	respiration reproduction	for for copy of sheet.)	muscles (and tendons and ligaments)
Tacing Suggestions:	systems work	circulation excretion movement		work with bones to facilitate movement
1 to 2 days	together to	control and coordination and for		at joints?
1 to 2 days	create	protection from disease. The		
Teacher	movement?	systems interact with one another		
Desources	movement:	systems interact with one another.		
Resources:				
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#13: Chicken	How do the	NSES (5-8): The human organism	Teacher observation/questioning during	Are students able to find bones, muscles,
Wing	skeletal and	has systems for digestion,	chicken wing dissection	and joints (and tendons and ligaments) in
Dissection	muscular	respiration, reproduction,		the chicken wing?
	systems work	circulation, excretion, movement,		
Pacing	together to	control and coordination, and for	Class discussion of dissection activity (See	Can students explain how the bones and
Suggestions:	create	protection from disease. The	Processing for Meaning on page 167.)	muscles (and tendons and ligaments)
Day 1 –	movement?	systems interact with one another.		work as a system to facilitate movement
Entire lesson				of the chicken wing?
(plan extended				
time)				
Teacher				
Resources:				
S P				
#14· Living	/			
Rone		Lesson does not align to the		
Dunc		benchmarks and addresses the		
SKIP LESSON		complex topic of living and non-		
		living things		
		in this times.		

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#15: Amateur	/	12A(3-5)#2: Offer reasons for their	Group/pair presentations of inferences about	Do students provide reasonable
Zoologist	/	findings and consider reasons	their skeleton (See Processing for Meaning on	inferences that can be backed-up by prior
		suggested by others.	page 188.)	knowledge and physical evidence?
Pacing		12C(3-5)#3: Keep a notebook that		
Suggestions:		describes observations made,	Note: Assembling skeletons from owl pellet	
~ 2 days —		carefully distinguishes actual	bones provides some closure to the students'	
Recreating		observations from ideas and	work with the owl pellets. It also provides	
skeleton		speculations about what was	them authentic reasons for keeping an	
1 day –		observed, and is understandable	organized binder, which they should refer	
Processing for		weeks or months later.	back to as they try to piece the bones together.	
Meaning			Group presentations provide students an	
			opportunity to share their inferences and offer	
Teacher			reasons for their thoughts. However, the	
Resources:			lesson does not contain any content	
			benchmarks and can become very long if	
- C 3			allowed to do so. Student can become very	
			elaborate in their construction of skeletons.	
	/		We are not trying to have experts in	
	V		reconstruction of skeletons.	

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Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
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	benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
		stands for National Science		
		Education Standards.)		
End-of-Unit	How do the	IAF(12.7.02): Understand that	Summative End-of-Unit Assessment (Use	See teacher-generated rubric available on
Assessment	parts of an	animals have parts well suited to	teacher-generated assessment. The assessment	the electronic blueprint
(Bones and	animal relate to	the places they live in and to their	is the second question on the pre-assessment.)	
Skeleton	its needs and	needs. For example, rabbits radiate		
Module)	habitat?	heat through their ears, and those		
		living in hotter climates have larger		
Pacing	How do the	ears to radiate heat more efficiently.		
Suggestions:	skeletal and	Thus, given a list of animals, one of		
1 day	muscular	which is clearly better adapted to a		
	systems work	given environment, understand that		
Teacher	together to	that is the animal, which lives in		
Resources:	create	that environment.		
	movement?	NSES (5-8): The human organism		
		has systems for digestion,		
		respiration, reproduction,		
		circulation, excretion, movement,		
		control and coordination, and for		
		protection from disease. The		
		systems interact with one another.		
		12A(3-5)#2: Offer reasons for their		
		findings and consider reasons		
		suggested by others.		

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		Education Standards.)		
HUMAN	How do the	6C(3-5)#1: From food, people	Pre-Unit Assessment (See pages 5-11 in	See pages 2-4 in Teacher's Guide.
BODY	digestive and	obtain energy and materials for	Teacher' Guide.)	
SYSTEMS	circulatory	body repair and growth. The		
	systems work	undigestible parts of food are		
Pre-Unit	together to get	eliminated.		
Assessment	nutrients (food)	6C(6-8)#3: To burn food for the		
	to the cells?	release of energy stored in it,		
Pacing		oxygen must be supplied to the		
Suggestions:	How do the	cells, and carbon dioxide removed.		
1 day	respiratory and	Lungs take in oxygen for the		
	circulatory	combustion of food and they		
Teacher	systems work	eliminate the carbon dioxide. The		
Resources:	together to get	urinary system disposes of dissolved		
	oxygen to the	waste molecules, the intestinal tract		
3	cells?	removes solid wastes, and the skin		
		and lungs rid the body of heat		
		energy. The circulatory system		
		moves all these substances to or		
		from cells where they are needed or		
		produced, responding to changing		
		demands.		
		NSES (5-8): The human organism		
		has systems for digestion,		
		respiration, reproduction,		
		circulation, excretion, movement,		
		control and coordination, and for		
		protection from disease. The		
		systems interact with one another.		

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Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
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		stands for National Science		
		Education Standards.)		
<u>Throughout</u>		12D(3-5)#2: Make sketches to aid	The following skills are addressed throughout	• Learning Experience 5 is the
the Unit	/	in explaining procedures or ideas.	the unit. Evidence of learning should be	best place for examining
	/		observed through classroom conversations and	students ability to make
		12D(3-5)#3: Use numerical data in	students' science notebooks/binders.	reasonable sketches. Since this
		describing and comparing objects		is a skill that has been
		and events.		addressed throughout the year
		110(2.5)#2.0		(and previous years), students
		11B(3-5)#2: Geometric figures,		should be able to produce a
		number sequences, graphs,		detailed, understandable sketch.
		diagrams, sketches, number lines,		• Students specifically examine
		maps, and stories can be used to		and analyze data in Lessons 4
		represent objects, events, and		and 8.
		processes in the real world, although		• Similar to the Astronomy Unit,
		such representations can never be		Each time a model is used
		exact in every detail.		Each time a model is used,
		12C(2.5) #2. K = = = = = = = = = = = = = = = = = =		students should carefully
		12C(3-3)#3: Keep a notebook that		limitations of the model
		describes observations made,		Students should be able to
		carefully distinguishes actual		reflect independently and share
		speculations from ideas and		with the class
		speculations about what was		 Many lessons require students
		weeks or months later		to think about the function or
		weeks of monuls later.		role of various organs and
		$12\Delta(3-5)$ #2. Offer reasons for their		systems. Students should be
	/	findings and consider reasons		consistently required to back-up
	/	suggested by others		their ideas
	/	suggested by outers.		

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	benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
		stands for National Science		
		Education Standards.)		
#1: What Does		The lesson is foundational to future		/
Your Body	/	lessons.		
Do?	/			
Pacing	/			
Suggestions:				
Day 1 –				
Getting Started				
(page 18) and				
Exploring and	/			
Discovering				
(Page 19)				
Day 2 –				
Processing jor	/			
Meaning (Pages	/			
201022)				
Note advanced				
nrengration				
nage 14				
puge 11.				
Teacher	/			
Resources:	/			
Resources.				
8	/			
	/			
	/			

Learning	Essential	Benchmarks	Formative and Summative Assessments	Using Assessments to Monitor and
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		Education Standards.)		
#2: What Do I	/	The lesson is foundational to future		
Already	/	lessons.		
Know?				
Pacing				
Suggestions:				
Day 1-				
Getting Started				
(pages 32 & 33)				
and Exploring				
and Discovering				
(Pages 55 to 55)				
Day 2 – Processing for				
Magning (Pages				
35 & 36)				
Omit Session				
Two				
1 // 0				
Note advanced				
preparation				
page 30.				
			/	
Teacher				
Resources:				/
J. T T				
	/			/
	/			/

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Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
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		Education Standards.)		
#3: What Are	How do the	Introduces 5C(6-8)#1: All living	Getting Started class discussion and creation	• Do students show an understanding
Cells?	digestive and	things are composed of cells, from	of Our Human Body chart of needs (See pages	that all living things, including the
	circulatory	just one to many millions, whose	54 and 55 in Teacher's Guide.)	human body, are made up of cells?
Pacing	systems work	details usually are visible only		• Do students understand that the cell is
Suggestion:	together to get	through a microscope. Different	Processing for Meaning discussion questions	the smallest structure of life?
Day 1 –	nutrients (food)	body tissues and organs are made up	on page 62	
Getting Started	to the cells?	of different kinds of cells. The cells		
(Pages 54 to 56)		in similar tissues and organs in other		
Day 2 –	How do the	animals are similar to those in		
View slides of	respiratory and	human beings but differ somewhat		
cells and	circulatory	from cells found in plants.		
Processing for	systems work			
Meaning (Pages	together to get	Introduces 5C(6-8)#3: Within cells,		
61 and 62)	oxygen to the	many of the basic functions of		
	cells?	organisms-such as extracting energy		
*Note: You will		from food and getting rid of waste-		
be using a	What is the	are carried out. The way in which		
revised lesson.	smallest	cells function is similar in all living		
See "Teacher	structure that	organisms.		
Tips" for	carries on the			
additional	functions			
information.	(circulation,			
T 1	digestion and			
Teacher	respiration) of			
Resources:	me?			

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		Education Standards.)		
#4: Blood and	How do the	6C(6-8)#3: To burn food for the	Getting Started class discussion pages 78 to	 Do students understand cells come
Heart	digestive and	release of energy stored in it,	79. You will return to "What we want to find	together to form specialized tissues that
	circulatory	oxygen must be supplied to the	out" column of the "How my body works"	work together to perform a certain
Pacing	systems work	cells, and carbon dioxide removed.	chart.	function?
Suggestions:	together to get	Lungs take in oxygen for the		 Are students beginning to understand
Day 1 –	nutrients (food)	combustion of food and they	Heart Outline, described on page 81 as an	that supplies needed by the cells are
Observation	to the cells?	eliminate the carbon dioxide. The	individual assessment	carried through the body by the blood?
Sheep's Heart	How do the	urinary system disposes of dissolved		• Are students able to see that the
Day 2 –	respiratory and	waste molecules, the intestinal tract	Class discussion of the what the students	structure of the heart allows is to pump
Learning	circulatory	removes solid wastes, and the skin	learned while moving through investigation	blood throughout the body?
Stations (bullet	systems work	and lungs rid the body of heat	stations (Processing for Meaning pages 81 to	• Are students able to use the numerical
3 on page 76)	together to get	energy. The circulatory system	83)	data collected to identify relationships
Day 3 –	oxygen to the	moves all these substances to or		between heart rate and pulse rate?
Processing for	cells?	from cells where they are needed		_
Meaning		or produced, responding to		
_		changing demands.		
Note advanced	What does the			
preparation for	circulatory	12D(3-5)#3: Use numerical data in		
stations page	system do?	describing and comparing objects		
76.	How does it	and events.		
	work?			
Teacher				
Resources:				
Real Providence				

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#5: The	How do the	6C(6-8)#3: To burn food for the	Guiding questions on page 106, Getting	• Do students understand the
Transportation	digestive and	release of energy stored in it,	Started. Note that you will not discuss the	functions of the circulatory
System	circulatory	oxygen must be supplied to the	research mentioned on pages 106 and 107, as	system?
	systems work	cells, and carbon dioxide removed.	the students did not complete this portion of	• Do students understand how the
Pacing	together to get	Lungs take in oxygen for the	learning experience two.	structures of the circulatory
Suggestions:	nutrients (food)	combustion of food and they		system (arteries, veins and
Day 1 –	to the cells?	eliminate the carbon dioxide. The	Discussion of the Science Notebook Pages,	capillaries) have different jobs,
Session 1:		urinary system disposes of dissolved	Transportation System (pages 115 to 121) in	but that all the structures are
Getting Started	What does the	waste molecules, the intestinal tract	Session 2: Processing for Meaning (pages 108	required to carry out the
and Exploring	circulatory	removes solid wastes, and the skin	to 109). These will assess what the students	functions of the circulatory
and Discovering	system do?	and lungs rid the body of heat	know and do not know about the circulatory	system?
(Pages 106 to	How does it	energy. The circulatory system	system. The initial emphasis does not focus on	• Do students understand that the
108)	work?	moves all these substances to or	the correct answer necessarily, but the ideas	supplies needed by the body are
Day 2 –		from cells where they are needed	the students have concerning the circulatory	carried to body cells by the
Session 2:		or produced, responding to	system. They will have the opportunity to	blood?
Processing for		changing demands.	check their ideas with resources.	• Are students' illustrations
Meaning (Pages				detailed and labeled?
108 to 109)		NSES (5-8): The human organism	Reflection questions on page 112 will help to	
		has systems for digestion,	assess what the students have learned in this	
Note advanced		respiration, reproduction,	lesson.	
preparation		circulation, excretion, movement,		
page 104.		control and coordination, and for		
T 1		protection from disease. The		
Teacher		systems interact with one another.		
Resources:				
		12D(3-5)#2: Make sketches to aid		
STR		in [describing observations and]		
		explaining procedures or ideas.		

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The	What does the	6C(6-8)#3: To burn food for the	Use the teacher-generated assessment The	Use the rubric available on the electronic
Circulatory	circulatory	release of energy stored in it,	Circulatory System Assessment, which is	blueprint.
System	system do?	oxygen must be supplied to the	available on the electronic blueprint.	
Assessment	How does it	cells, and carbon dioxide removed.		
	work?	Lungs take in oxygen for the		
Teacher		combustion of food and they		
Resources:		eliminate the carbon dioxide. The		
R .		urinary system disposes of dissolved		
		waste molecules, the intestinal tract		
		removes solid wastes, and the skin		
		and lungs rid the body of heat		
		energy . The circulatory system		
		moves all these substances to or		
		from cells where they are needed		
		or produced, responding to		
		changing demands.		
		NSES (5-8): The human organism		
		has systems for digestion,		
		respiration, reproduction,		
		circulation, excretion, movement,		
		control and coordination, and for		
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		Education Standards.)		
#6: Food and	How do the	6C(6-8)#3: To burn food for the	Class discussion based on questions such as	• Do students understand that food is
Fuel	digestive and	release of energy stored in it,	those outlined in <i>Getting Started</i> (page 131)	moved through the digestive system
	circulatory	oxygen must be supplied to the		rather than pulled down by gravity or
Pacing	systems work	cells, and carbon dioxide removed.	Notebook entry that describes, in words or	that it does not just fall through the
Suggetions:	together to get	Lungs take in oxygen for the	illustrations, what students understand about	digestive tract?
Days 1 to 2 -	nutrients (food)	combustion of food and they	peristalsis (page 133)	• Do students understand that peristalsis
Getting Started	to the cells?	eliminate the carbon dioxide. The		is the process that moves food through
and Exploring		urinary system disposes of dissolved	Processing for Meaning: Detailed description	the digestive system?
and Discovering	What does the	waste molecules, the intestinal tract	of a pea's trip through the digestive system	• Are students able to describe the path
(Pages 131 to	digestive	removes solid wastes, and the skin	recorded in science notebook (page 136)	of food through the digestive system?
135)	system do?	and lungs rid the body of heat		
Day 3 -	How does it	energy. The circulatory system		
Processing for	work?	moves all these substances to or		
Meaning (Pages		from cells where they are needed or		
135 and 136)		produced, responding to changing		
		demands.		
Note advanced				
preparation on		NSES (5-8): The human organism		
page 130.		has systems for digestion,		
		respiration, reproduction,		
Teacher		circulation, excretion, movement,		
Resources:		control and coordination, and for		
		protection from disease. The		
572		systems interact with one another.		

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		Education Standards.)		
#7: What	How do the	6C(6-8)#3: To burn food for the	<i>Getting Started</i> – Journal Prompt: How does	• Are students able to identify that
Happens in	digestive and	release of energy stored in it,	food get small enough for the cells to use?	food is broken down chemically
Digestion?	circulatory	oxygen must be supplied to the	This will give students the opportunity to	as well as mechanically?
Pacing:	systems work	cells, and carbon dioxide removed.	share what they know or do not know about	 Do students understand that
Day 1 –	together to get	Lungs take in oxygen for the	the breakdown of food.	both chemical and mechanical
Session 1	nutrients (food)	combustion of food and they		breakdown occur throughout the
(Pages 155 to	to the cells?	eliminate the carbon dioxide. The	Science Notebook Page A – What happens in	digestive system?
157).		urinary system disposes of dissolved	the Digestive System? Breaking Down the	• Do students understand the role
Day 2 –		waste molecules, the intestinal tract	Food (page 163)	of enzymes in chemical
Session 2		removes solid wastes, and the skin		digestion?
(Pages 157 to		and lungs rid the body of heat	Science Notebook Page B – Student	
158).		energy. The circulatory system	conclusions about what happened to the starch	
Day 3 –		moves all these substances to or	(page 165)	
Processing for		from cells where they are needed or		
Meaning (Pages		produced, responding to changing	Refer back to <i>How My Body Works</i> chart to	
158 to 159).		demands.	add any new questions or statements	
Note educated	Harry in faced			
Note advanced	How is lood	6C(6-8)#2: For the body to use food		
preparation		for energy and building materials,		
page 154.	substances that	the food must first be digested into		
Taaabar	the cell?	molecules that are absorbed and		
Teacher Desearch		transported to cells.		
Kesources:		NSES (5.8). The human arconic		
a a a a a a a a a a a a a a a a a a a		NSES (3-8): The numan organism		
<u>م</u> اير		respiration reproduction		
		circulation excretion movement		
		control and coordination and for		
		protection from disease. The		
		systems interact with one another		
		systems interact with one another.		

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		Education Standards.)		
The Digestive	What does the	NSES (5-8): The human organism	Use the teacher-generated assessment The	Use the rubric available on the electronic
System	digestive	has systems for digestion,	Digestive System Assessment (Part 1), which	blueprint.
Assessment	system do?	respiration, reproduction,	is available on the electronic blueprint.	
(Part 1)	How does it	circulation, excretion, movement,		
	work?	control and coordination, and for		
Teacher		protection from disease. The		
Resources:	How is food	systems interact with one another.		
	turned into			
STA-	substances that	6C(6-8)#2: For the body to use food		
	can be used by	for energy and building materials,		
	the cell?	the food must first be digested into		
		molecules that are absorbed and		
		transported to cells.		

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#8: How Does	How do the	6C(6-8)#3: To burn food for the	Getting Started discussion based on questions	• Can students explain the process
Food Get Out?	digestive and	release of energy stored in it,	outlined on page 179. This will help to assess	by which substances move
Pacing:	circulatory	oxygen must be supplied to the	what the students know about the process of	through a membrane?
Day 1 –	systems work	cells, and carbon dioxide removed.	digestion.	• Do students understand that the
Session 1:	together to get	Lungs take in oxygen for the		food needed by the body cells is
*including	nutrients (food)	combustion of food and they	Students can begin to make connections	transported in the circulatory
experimental set	to the cells?	eliminate the carbon dioxide. The	between the systems as they add to the <i>Body</i>	system?
up (Pages 179		urinary system disposes of dissolved	Outline page 179 and 180.	
to 182)		waste molecules, the intestinal tract		
Day 2 –		removes solid wastes, and the skin	Science Notebook Page: How does the Food	
Session 2:		and lungs rid the body of heat	Get Out? on page 191 of TE	
Exploring and		energy. The circulatory system		
Discovering		moves all these substances to or	Processing for Meaning discussion pages 182	
(Page 182)		from cells where they are needed or	to 184	
Day 3 –		produced, responding to changing		
Session 2:		demands.		
Processing for				
Meaning (Page	How is food	6C(6-8)#2: For the body to use food		
182 to 184)	turned into	for energy and building materials,		
	substances that	the food must first be digested into		
Note Advanced	can be used by	molecules that are absorbed and		
rreparation	the cell?	transported to cells.		
page 1 /8.				
Taaabar		NSES (5-8): The human organism		
reacher		nas systems for digestion,		
Resources:		respiration, reproduction,		
		circulation, excretion, movement,		
212		control and coordination, and for		
		protection from disease. The		
		systems interact with one another.		

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		Education Standards.)		
The Digestive	How do the	6C(6-8)#3: To burn food for the	Use the teacher-generated assessment The	Use the rubric available on the electronic
System	digestive and	release of energy stored in it,	Digestive System Assessment, which is	blueprint.
Assessment	circulatory	oxygen must be supplied to the	available on the electronic blueprint.	
(Part 2)	systems work	cells, and carbon dioxide removed.		
	together to get	Lungs take in oxygen for the		
Teacher	nutrients (food)	combustion of food and they		
Resources:	to the cells?	eliminate the carbon dioxide. The		
		urinary system disposes of dissolved		
		waste molecules, the intestinal tract		
		removes solid wastes, and the skin		
		and lungs rid the body of heat		
		energy. The circulatory system		
		moves all these substances to or		
		from cells where they are needed or		
		produced, responding to changing		
		demands.		
		6C(6.8)#2: For the body to use food		
		for energy and building materials		
		the food must first be digested into		
		molecules that are absorbed and		
		transported to cells		
		NSES (5-8): The human organism		
		has systems for digestion.		
		respiration, reproduction.		
		circulation, excretion, movement		
		control and coordination and for		
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		Education Standards.)		
#9: Breathing	How do the	6A(6-8)#1: Like other animals,	Getting Started discussion driven by questions	• Do students understand how the
Pacing:	respiratory and	human beings have body systems	on page 196 will help to identify what	parts of the respiratory system
Day I –	circulatory	for obtaining and providing energy,	students know and don't know about the	work together to supply the
Session 1: Getting	systems work	defense, reproduction, and the	respiratory system.	body with oxygen?
Exploring and	together to get	coordination of the body functions.		• Can students explain how air
Discovering	oxygen to the		Journal Entry: What might cause an individual	gets into the body?
(Pages 196 to	cells?	6C(6-8)#3: 10 burn food for the	to nave a faster breatning rate? A slower one?	• Are students able to connect the
197)	Haw do calla	release of energy stored in it,	what are some reasons a person might be	respiratory system to the
Day 2 –	throughout the	oxygen must be supplied to the	able to breathe a large amount of air?	circulatory system?
Session 2:	hody get	Lungs take in ovugen for the		
Processing jor Magning (Pages	ovygen needed	combustion of food and they		
197 to 199) *Stop	for life?	eliminate the carbon dioxide. The		
at Mathematical	ior me.	urinary system disposes of dissolved		
Thinking on page	What does the	waste molecules the intestinal tract		
199.	respiratory	removes solid wastes and the skin		
Day 3 –	system do?	and lungs rid the body of heat		
2 (Pages 199 to	How does it	energy. The circulatory system		
2 (1 ages 1)) to 201)	work?	moves all these substances to or		
Begin with		from cells where they are needed or		
Mathematical		produced, responding to changing		
Thinking on page		demands.		
199.				
G		6C(3-5)#2: By breathing, people		
See advanced		take in oxygen they need to live.		
preparation on				
page 194.		NSES (5-8): The human organism		
Toochor		has systems for digestion,		
Desources		respiration, reproduction,		
Resources:		circulation, excretion, movement,		
a a a a a a a a a a a a a a a a a a a		control and coordination, and for		
		protection from disease. The		
		systems interact with one another.		

Learning	Essential	Benchmarks	Formative and Summative Assessments	Using Assessments to Monitor and
Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
	(for conceptual	benchmark addressed. IAF stands for	the assessments are formative and should be	
	benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
		stands for National Science		
		Education Standards.)		
#10: Getting	How do the	6C(6-8)#2: For the body to use food	Getting Started discussion can help to	 Do students understand the
the Most Out	respiratory and	for energy and building materials,	determine what the students do know and do	concept of surface area and its
of Your Air	circulatory	the food must first be digested into	not know about the body's need for oxygen	importance in the body's
and Food	systems work	molecules that are absorbed and	(pages 223 and 224).	systems?
	together to get	transported by cells.		• Do students understand the role
Pacing:	oxygen to the		Processing for Meaning questions on page	of the process of diffusion in
Day 1 –	cells?	6C(6-8)#3: To burn food for the	227 where students are required use their data	obtaining food and oxygen?
Session 1:		release of energy stored in it,	from the investigation to support their answers	
Getting Started	How do cells	oxygen must be supplied to the	to the questions	
and Exploring	throughout the	cells, and carbon dioxide removed.		
and Discovering	body get food	Lungs take in oxygen for the	"Challenge students " questions on page	
(Pages 223 to	and oxygen	combustion of food and they	228	
225)	needed for life?	eliminate the carbon dioxide. The		
Day 2 –		urinary system disposes of dissolved		
Session 2:		waste molecules, the intestinal tract		
Processing for		removes solid wastes, and the skin		
Meaning (pages		and lungs rid the body of heat		
225 to 227)		energy. The circulatory system		
Stop at Science		moves all these substances to or		
and Literacy on		from cells where they are needed or		
page 227.		produced, responding to changing		
Day 3 –		demands.		
Complete				
Session 2		NSES (5-8): The human organism		
		has systems for digestion,		
See advanced		respiration, reproduction,		
preparation on		circulation, excretion, movement,		
page 222.		control and coordination, and for		
		protection from disease. The		
Teacher		systems interact with one another.		
Resources:				
E P				

Learning	Essential	Benchmarks	Formative and Summative Assessments	Using Assessments to Monitor and
Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
	(for conceptual	benchmark addressed. IAF stands for	the assessments are formative and should be	
	benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
		stands for National Science		
		Education Standards.)		
The	How do the	6C(6-8)#3: To burn food for the	Use the teacher-generated assessment The	Use the rubric available on the electronic
Respiratory	respiratory and	release of energy stored in it,	Circulatory System Assessment, which is	blueprint.
System	circulatory	oxygen must be supplied to the	available on the electronic blueprint.	
Assessment	systems work	cells, and carbon dioxide removed.		
	together to get	Lungs take in oxygen for the		
Teacher	oxygen to the	combustion of food and they		
Resources:	cells?	eliminate the carbon dioxide. The		
		urinary system disposes of dissolved		
	How do cells	waste molecules, the intestinal tract		
	throughout the	removes solid wastes, and the skin		
_	body get food	and lungs rid the body of heat		
	and oxygen	energy. The circulatory system		
	needed for life?	moves all these substances to or		
		from cells where they are needed or		
		produced, responding to changing		
		demands.		
		NSES (5-8): The human organism		
		has systems for digestion,		
		respiration, reproduction,		
		circulation, excretion, movement,		
		control and coordination, and for		
		protection from disease. The		
		systems interact with one another.		

Learning	Essential	Benchmarks	Formative and Summative Assessments	Using Assessments to Monitor and
Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
	(for conceptual	benchmark addressed. IAF stands for	the assessments are formative and should be	
	benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
		stands for National Science		
		Education Standards.)		
#11: What	How do the	6C(6-8)#3: To burn food for the	Getting Started discussion that returns to the	• Do students define a body
Goes in Must	digestive and	release of energy stored in it,	How My Body Works chart (page 235)	system as a group of organs that
Come Out	circulatory	oxygen must be supplied to the		work together?
	systems work	cells, and carbon dioxide removed.	Processing Meaning discussion (pages 238	• Do students understand the
Pacing:	together to get	Lungs take in oxygen for the	and 239)	interconnectedness of the
Day 1 – Getting	nutrients (food)	combustion of food and they		circulatory, digestive and
Started and	to the cells?	eliminate the carbon dioxide. The		respiratory systems?
Exploring and		urinary system disposes of dissolved		
Discovering	How do the	waste molecules, the intestinal tract		
(Pages 235 to	respiratory and	removes solid wastes, and the skin		
238)	circulatory	and lungs rid the body of heat		
Day 2 –	systems work	energy. The circulatory system		
Processing for	together to get	moves all these substances to or		
Meaning (Pages	oxygen to the	from cells where they are needed or		
238 and 239)	cells?	produced, responding to changing		
		demands.		
*Consider				
children's book		NSES (5-8): The human organism		
for writing		has systems for digestion,		
class.		respiration, reproduction,		
		circulation, excretion, movement,		
Teacher		control and coordination, and for		
Resources:		protection from disease. The		
		systems interact with one another.		
#12: SKIP				
LESSON				
#13: SKIP				
LESSON				

Learning	Essential	Benchmarks	Formative and Summative Assessments	Using Assessments to Monitor and
Experience	Questions*	(Bolded sections indicate portion of	(Unless noted as a Summative Assessment,	Facilitate Student Learning
	(for conceptual	benchmark addressed. IAF stands for	the assessments are formative and should be	
	benchmarks)	Illinois Assessment Framework. NSES	used to guide teaching and learning.)	
		stands for National Science		
		Education Standards.)		
End-of-Unit	How do the	6C(6-8)#2: For the body to use food	Use teacher-generated assessment available on	Use the rubric available on the electronic
Assessment	digestive and	for energy and building materials,	the electronic blueprint.	blueprint.
	circulatory	the food must first be digested into	-	-
Teacher	systems work	molecules that are absorbed and		
Resources:	together to get	transported by cells.		
	nutrients (food)	1 7		
	to the cells?	6C(6-8)#3: To burn food for the		
		release of energy stored in it,		
	How do the	oxygen must be supplied to the		
	respiratory and	cells, and carbon dioxide removed.		
	circulatory	Lungs take in oxygen for the		
	systems work	combustion of food and they		
	together to get	eliminate the carbon dioxide. The		
	oxygen to the	urinary system disposes of dissolved		
	cells?	waste molecules, the intestinal tract		
		removes solid wastes, and the skin		
		and lungs rid the body of heat		
		energy. The circulatory system		
		moves all these substances to or		
		from cells where they are needed or		
		produced, responding to changing		
		demands.		
		NSES (5-8): The human organism		
		has systems for digestion,		
		respiration, reproduction,		
		circulation, excretion, movement,		
		control and coordination, and for		
		protection from disease. The		
		systems interact with one another.		