SCIENCE INSTRUCTOR'S GUIDE

F HEALTH, MEDICINE, & HUMAN ANATOMY

FUN FACT
70% of the human body is water.

4-DAY

SONLIGHT

SONLIGHT

Thank you for downloading this sample of Sonlight's Science F Instructor's Guide (what we affectionately refer to as an IG). In order to give you a full perspective on our Instructor's Guides, this sample will include parts from every section that is included in the full IG.

Here's a quick overview of what you'll find in this sample.

- A Quick Start Guide START HERE
- A 3-week Schedule
- Activity Sheets and Parent Answer Keys
- A Scope and Sequence of topics and and skills your children will be developing throughout the school year

SONLIGHT'S "SECRET" COMES DOWN TO THIS:

We believe most children respond more positively to great literature than they do to textbooks. To properly use this sample to teach your student, you will need the books that are scheduled in it. We include all the books you will need when you purchase a package from sonlight.com.

Curriculum experts develop each IG to ensure that you have everything you need for your homeschool day. Every IG offers a customizable homeschool schedule, complete lesson plans, pertinent activities, and thoughtful questions to aid your students' comprehension. It includes handy teaching tips and pointers so you can homeschool with confidence all year long.

If you need any help using or customizing our IGs, please reach out to our experienced homeschool advisors at sonlight.com/advisors.

We hope you enjoy using this sample. For even more information about Sonlight's IGs, please visit: sonlight.com/ig. It would be our pleasure to serve you as you begin your homeschool journey.
If you like what you see in this sample, visit sonlight.com/science to order your Science package.

Blessings!

Sarita Holzmann,
Co-founder and president
of Sonlight Curriculum

Homeschool questions? Sonlight advisors have answers.

"I was feeling overwhelmed and afraid that I lacked what it takes to successfully homeschool my kids," writes Jennifer A of Battle Creek, MI. "I contacted an Advisor and got the help I needed!"

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F

Ages 11–14
Grades 6–9

Science (4-Day)

Health, Medicine, and Human Anatomy

By the Sonlight Team

"I praise you because I am fearfully and wonderfully made; your works are wonderful, I know that full well."

Psalm 39:14 (NIV)

Sonlight Curriculum®Science F "Health, Medicine, and Human Anatomy" (4-Day) Instructor's Guide and Notes, Second Edition

"Do to others what you would have them do to you" (Matthew 7:12).

"The worker is worth his keep" (Matthew 10:10).

Published by

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NOTE TO PURCHASER

Sonlight Curriculum, Ltd. is committed to providing the best homeschool resources on the market. This entails regular upgrades to our curriculum and to our Instructor's Guides. This guide is the 2020 Edition of the Sonlight Curriculum® Science F "Health, Medicine, and Human Anatomy (4-Day)." If you purchased it from a source other than Sonlight Curriculum, Ltd., you should know that it may not be the latest edition available.

This guide is sold with the understanding that none of the Authors nor the Publisher is engaged in rendering educational services. Questions relevant to the specific educational or legal needs of the user should be addressed to practicing members of those professions.

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Printed in the United States of America.

For the latest information about changes in this guide, please visit **www.sonlight.com/curriculum-updates**. Please notify us of any errors you find not listed on this site. E-mail corrections to ***IGcorrections@sonlight.com*** and any suggestions you may have to ***IGsuggestions@sonlight.com***.

Table of Contents

INSTRUCTOR'S GUIDES

SCIENCE

Special features of Sonlight's Science Instructor's Guides:

1 Complete, Ready-to-Use Lesson Plans

All your science books and experiments are fully scheduled for the entire year. No need to create your own plans.

2 Detailed Teaching Notes

Notes explain each assignment and activity, point out fun facts about your reading, and provide extra information about important topics so you get the most from your materials.

3 Organizational Tools to Help You Plan Ahead

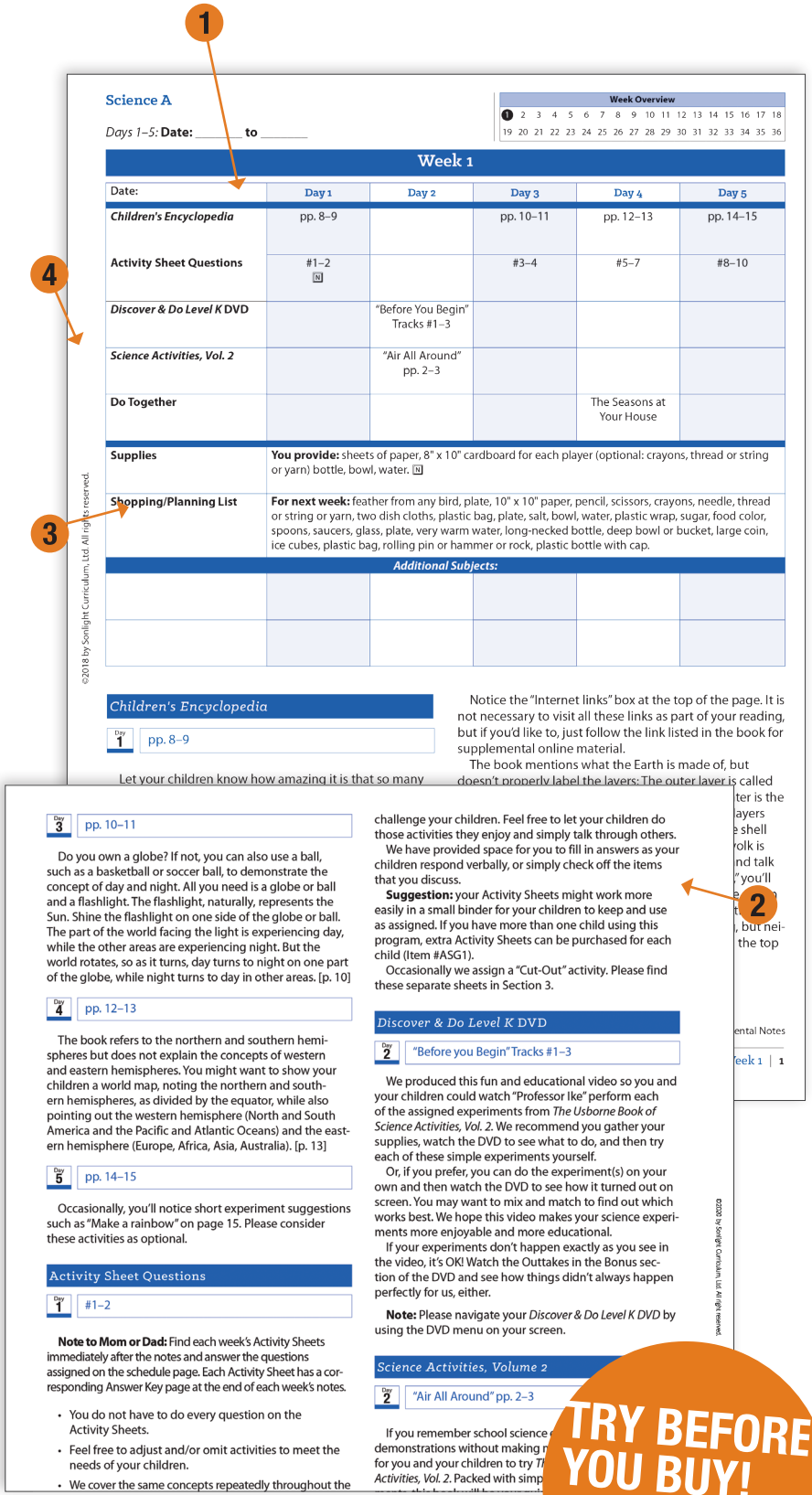
See at a glance the supplies you need for experiments this week and the following week. Know what supplies you'll find in the Sonlight Science Kits, and which household items you'll want to have ready.

4 Weekly Assignments and Engaging Activities

Simple, engaging experiments coordinate with your reading and provide hands-on learning. Sonlight's Science kits provide the key supplies . . . so you actually do the experiments.

Many experiments are intriguing, yet simple, activities—such as exploring taste buds using basic ingredients like lemon juice and sugar. Again, no planning necessary!

Your children will relish the discoveries they make throughout the year. And you'll love that they are actively exploring Science, Technology, Engineering, Math (STEM) concepts, and making their learning stick.



Instructor's Guides K-J also include:

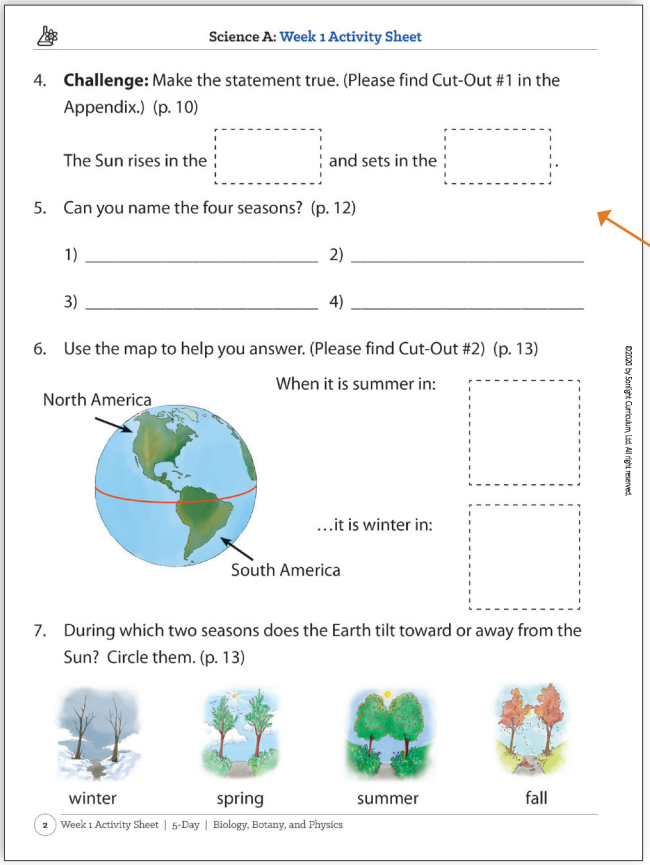
5 Interactive Activity Sheets

Your Activity Sheets—with hundreds of activities, illustrations, charts, and pictures—help your children remember what they've learned. A variety of activity options coordinate with your students' science studies and draw on a range of skills and interests.

Activities progress with your children's abilities: from cut-outs, matching, circle-the-answer, and dictation, to fill-in puzzles and sequencing analysis.

6 Complete Answer Keys

Separate Answer Keys mirror your Student Activity sheets for easy grading. No need to test—you have ongoing, reliable insight into your children's comprehension.



Science A: Week 1 Activity Sheet

4. **Challenge:** Make the statement true. (Please find Cut-Out #1 in the Appendix.) (p. 10)

The Sun rises in the [ ] and sets in the [ ].

5. Can you name the four seasons? (p. 12)

1) _____ 2) _____

3) _____ 4) _____

6. Use the map to help you answer. (Please find Cut-Out #2) (p. 13)

North America

When it is summer in: [ ]

…it is winter in: [ ]

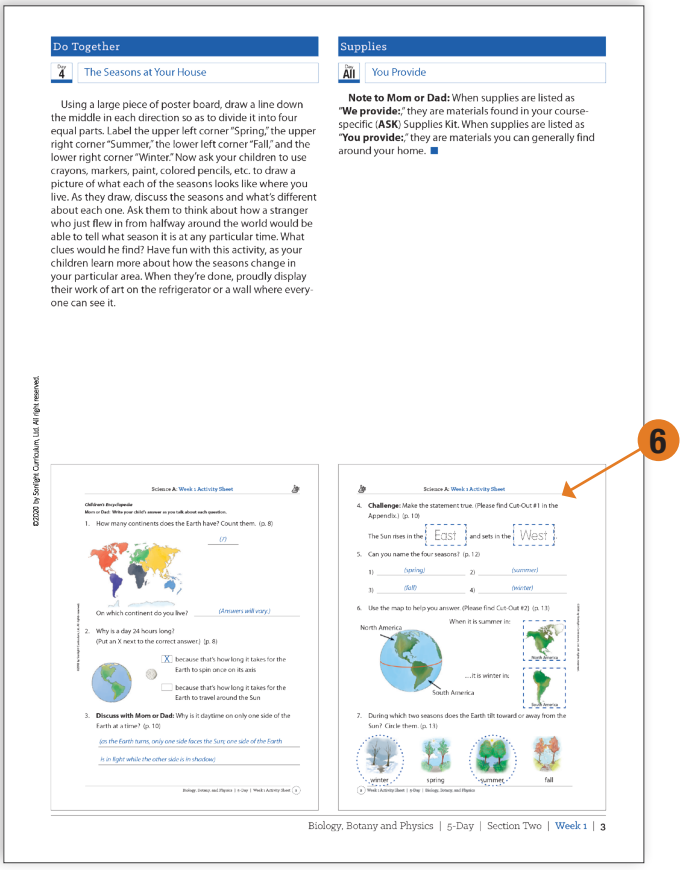
South America

7. During which two seasons does the Earth tilt toward or away from the Sun? Circle them. (p. 13)

winter spring summer fall

2 Week 1 Activity Sheet | 5-Day | Biology, Botany, and Physics

5



Do Together

4 The Seasons at Your House

Using a large piece of poster board, draw a line down the middle in each direction so as to divide it into four equal parts. Label the upper left corner "Spring," the upper right corner "Summer," the lower left corner "Fall," and the lower right corner "Winter." Now ask your children to use crayons, markers, paint, colored pencils, etc. to draw a picture of what each of the seasons looks like where you live. As they draw, discuss the seasons and what's different about each one. Ask them to think about how a stranger who just flew in from halfway around the world would be able to tell what season it is at any particular time. What clues would he find? Have fun with this activity, as your children learn more about how the seasons change in your particular area. When they're done, proudly display their work of art on the refrigerator or a wall where everyone can see it.

Supplies

All You Provide

Note to Mom or Dad: When supplies are listed as "**We provide:**," they are materials found in your course-specific (**ASK**) Supplies Kit. When supplies are listed as "**You provide:**," they are materials you can generally find around your home. ■

6

Biology, Botany and Physics | 5-Day | Section Two | Week 1 | 3

"Sonlight keeps our family learning together," shares Mackenzie B of Morristown, AZ. "The beautifully illustrated books captures the attention of a wide age range of children and makes homeschooling more enjoyable for the parent as well. With Sonlight's grab-and-go Instructor's Guides, it's so easy for Dad to do a quick lesson before bed. Sonlight is the perfect family curriculum." Here, Dad is reading a science book to Corbin (6, Science B), Eden (2) and Ebban (6 months).

Welcome!

In Science F, you will learn about the human body and human medicine. We also include studies in microscopy, intelligent design, and health and nutrition.

Sonlight Science programs include introductory studies in a range of experimental sciences. The main point of all the reading, activities, and (if you choose) experiments is to introduce your children to the scientific method and the joy of discovery.

We want children to be *introduced* to a lot of different subjects, *intrigued* by the concepts and ideas, and *enticed* to come back to the same themes again in the future. Thus you will find we follow a spiral pattern of education, touching on certain topics repeatedly this year and again in future years.

This way, the basic *vocabulary* of science becomes ingrained not only in short-term, but also in long-term memory. "Oh, yeah. I vaguely remember hearing about pistils and stamens earlier this year," a child may say—late in the program. When the child studies biology again in future programs, the names and concepts will be vague, but recognizable, as the child gains deeper understanding. Please don't expect mastery of the vocabulary at this age. That will come in time.

We want our children to *remember* what they have learned because they can't help it; because they want to do so. We don't want them merely to *memorize* what they are supposed to learn so they can pass a test.

The science experiments in this package, although not larger than life, work well.

As you do the experiments and demonstrate care in reading and following directions and recording data your children learn to follow your lead. An attitude of success—"Sure. We can do this!"—rubs off as well. These characteristics cannot be taught simply by reading books; they have to be modeled.

One quick note before you begin: The experiments also don't coordinate with the other science reading. We have not found any single book that coordinates great information and exciting illustrations (as found in the majority of our science books) with great hands-on activities and experiments. We believe we have selected the best cluster of books for both interest and excitement, but know up front: the science reading will not match the experiments.

About the Books Your Children Will Study

The Usborne Complete Book of the Human Body, *The History of Medicine*, and *Food and Nutrition for Every Kid* provide a great overview of the human body: physiology and anatomy, diseases, medicine, nutrition, and other health issues.

When it comes to talking about human sexuality and reproduction, besides *The Usborne Complete Book of the Human Body*, we provide *Almost 12*, a book written by Kenneth Taylor, author of *The Living Bible* and founder of Tyndale House Publishers. Both books are tastefully done, and Taylor's treatment brings in the biblical perspective.

The topics of personal care, health, and hygiene are divided into two books: *The Boy's Body Book* for boys and *The Care and Keeping of You* for girls. Your children will learn how to care for their bodies and about the changes that will take place, specific to their gender.

You may wonder about our designating *Survival Skills* as science. Many of the topics discussed in *Survival Skills* are at least tangentially related to issues of human physiology and health ("survival"!). If you're uncomfortable calling this science, put it in the Miscellaneous department. Your children are studying so much science at other times throughout the year, you hardly need to apologize for taking a few weeks to study survival skills. We think your children will love what they learn in this book as well.

Please be sensitive to your children's reading and vocabulary limitations. In these notes, we have quoted from books that are sometimes difficult to understand. You will do your children a great service if you explain difficult ideas as you read these notes together.

My Downloads

Find extra schedule pages, new user information (how to use a Sonlight guide) and further helpful information specific to the guide you have purchased from Sonlight on our website: www.sonlight.com. Go to Your Account and select the Downloads section to find all of the downloads for your guide.

Evolution and the Age of the Earth

Two science-related issues require some special attention. The first has to do with evolution, while the second relates to the age of the earth.

Evolution

Some of the book selections in our science programs contain material supportive of evolution. Why do we include these books? First, we include them because the majority of the content in these resources is of high quality, offering visually and intellectually appealing material. Second, we don't take an isolationist approach to knowledge. The subject of evolution is not something we want to teach children to avoid or put down without adequate understanding. Third, as the dominant perspective in contemporary science, evolution deserves mention and attention, even from those who disagree with its arguments. With that said, we do our best to provide balanced perspectives in relation to any potentially divisive content such as evolution.

When it comes to evolution, there are a few important points to keep in mind. In particular, differences between *macroevolution* and *microevolution* are crucial. These terms are sometimes used to clarify what is meant by evolution. *Macroevolutionists* accept evolution as the overarching explanation for all life, believing that evolution is responsible for significant changes in life forms such as a land-based mammal changing into an oceangoing mammal or dinosaurs allegedly evolving into birds. These supposed evolutionary changes are big, so the term *macro*, meaning something very large in scale, is used in reference to this kind of evolution.

Microevolution, however, refers to small changes within different kinds of life. This approach grants the reality of changes within kinds such as birds or dogs. Obviously, there are many kinds and sizes of birds and dogs, but despite the variations these creatures remain birds and dogs. As a result, someone can adhere to *microevolution* without granting all the beliefs of *macroevolutionists*, who tend to accept the basic underlying principles of Darwinian evolution.

Religious objections to evolution tend to stem from the accusation that *macroevolution* leaves God out of the picture, instead leaving the entire process of the emergence and development of life to chance and time. Of course, this means that evolution is undirected by any sort of intelligence, while Christianity, for instance, believes in the reality of the existence of God as Creator. In other words, one approach to evolution is based on a worldview known as *naturalism*, while another is based on *theism*.

Naturalism here does not refer to enjoying nature, as in being a naturalist, but in a worldview that denies the existence of anything beyond the material world. In other words, anything supernatural, such as the existence of God, is rejected by naturalists.

Theistic evolutionists accept the existence of God, but view Him as being active in the process of evolution. Christian theistic evolutionists may appeal to scripture supporting God's active involvement in His creation (such as 1 Corinthians 8:6, Hebrews 1:3, etc.). In areas where a naturalist sees random processes and events, the theistic evolutionist argues that God is actively involved in directing matters.

Theism accepts that there is more to reality than the material world. There is a supernatural world and God exists as a personal being, active in His creation. By definition, naturalism excludes God. Christian theists who reject *macroevolution* and theistic evolution argue that God is Creator and Designer, having made all life without resorting to any macroevolutionary processes.

Scientific objections to *macroevolution* include, for instance, allegations that the fossil record lacks transitional forms, that genetic mutations are commonly harmful, not helpful, and claims that life shows signs of intelligent design.

One goal we have at Sonlight is to present fair and balanced perspectives on issues, including science and evolution. As a result, some of the materials we choose to utilize will at times present evolutionary points of view, while other selections will not. As the parent, we encourage you to provide guidance for your children on these topics. In our assessment, it's better for your children to have some exposure to controversial topics at home, with intelligent and caring guidance, rather than have them be surprised by ideas they will eventually encounter anyway.

The Age of the Earth

Another issue that will come up in the course of studying science has to do with questions about the age of the earth. Secular books in some of our science programs will at times refer to "millions" or "billions" of years. For Christians who hold to a young earth perspective, believing the earth may only be several thousand years old rather than billions, such phrasings pose a problem.

We suggest two solutions. First, whenever you encounter "millions" or "billions" in a science book, feel free to rephrase the sentences in question with phrases such as "a long time," "a very long time," or variations of this phrasing. Second, you may wish to state that although the book uses millions and billions of years, there are other perspectives on the age of the earth and the age of the universe.

If your children ask why there is disagreement on the age of the earth and/or universe, you can explain that not everyone interprets the data in the same way. In addition, not everyone employs the same research methods or believes in the same data. Young earth creationists, for example, include their interpretation of the Bible as a primary source of data. Those who hold to an old earth tend either to ignore the Bible (if they are non-Christian) or interpret the biblical creation account in such a way that allows for an old earth without diminishing essential Christian doctrine. The Bible, from this old earth perspective, may be a supplementary witness regarding the question of the age of the earth, but traditional interpretations of it in reference to the age of the earth need to remain open to reinterpretation.

You may also wish to add, "We aren't sure about how old the earth is, but I happen to believe … "Then state your position on the matter.

Our goal here is not to present a definitive position on the age of the earth or to present nuanced arguments for each side in the debate, but to leave it to you, as the parent, to discuss with your children as you see fit.

Discussion and disagreement about the age of the earth leads to another important point: is a particular view of the age of the earth an essential Christian doctrine? Sometimes nonessential beliefs can lead to problems with essential beliefs, so this point needs to be approached carefully and thoughtfully. In general, however, we do well to follow the maxim, "In essentials unity, in nonessentials liberty, and in all things charity." In other words, we should foster Christian unity on essentials, rather than division about nonessentials.

Student Activity Sheets

It is not necessary to complete every activity provided. These are merely suggestions and you, as the teacher, can determine which are best suited for your children. You will find a variety of activities included in the Activity Sheets that are designed to draw on different skills and interests. Please feel free to assist your children by doing the hard work of handwriting the answers.

We have also included corresponding Instructions and Answer Key pages for all activities. You may want to file the Activity Sheets in a separate binder for your students' use.

Note: If you might reuse your Instructor's Guide and Student Activity Sheets in the future (for a younger child, for instance), we strongly suggest that you purchase an extra set of Activity Sheets when you buy the Instructor's Guide. That way, even if we update our Instructor's Guides, you will have matching Activity Sheets when you need them. Please contact us if you are looking for Activity Sheets from the past.

Supplementary Websites

We know that there are times throughout our curriculum when we simply cannot cover all the material on a given subject. In these instances we will provide internet search instructions for you to find more information. Please use caution and your own discretion as you look at different internet sites. We highly recommend that you as the parent and teacher look before allowing your student to do the search with you or on their own. We hope you find this helpful!

Corrections and Suggestions

Since we at Sonlight Curriculum® are constantly working to improve our product development, we would love it if we could get you to help us with this process.

Whenever you find an error anywhere in one of our Instructor's Guides, please check our updates page for the latest information at www.sonlight.com/curriculum-updates. Report new information by sending a short e-mail to: IGcorrections@sonlight.com. It would be helpful if the subject line of your e-mail indicated where the problem is. For instance: "Science F/Section Two/Week 1/Schedule."

If, while going through our curriculum, you think of any way we could improve our product, please e-mail your suggestions to: IGsuggestions@sonlight.com. If you know of a different book we should use, if you think we should read a book we assign at a different point in the year, or if you have any other ideas, please let us know.

Summary

We hope that you enjoy your adventure this year and that it helps you learn more about the world we live in. If we can be of any assistance, please do not hesitate to e-mail us at main@sonlight.com, call us at (303) 730-6292, or better yet, join our Sonlight Connections Community (sonlight.com/connections), where you can chat with others who are going through this same program. You can ask questions, learn new ideas, share with others what you have learned, problem-solve, or just talk. Happy exploring! ■

Science F

Days 1–4: **Date: _____ to _____**

Week Overview																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Week 1

Date:	Day 1	Day 2	Day 3	Day 4
The Usborne Complete Book of the Human Body	pp. 6–9	pp. 10–11	pp. 12–13	
Activity Sheet Questions	1–3	4–6	7–9	
Blood and Guts				pp. 71–74
Activity Sheet Questions				10–12
Do Together	Listen to Your students			Testing Temperature
Optional: ***Lyrical Life Science, Vol. 3—The Human Body***	chap. 1			
Additional Subjects:				

The Usborne Complete Book of the Human Body

Day 1 — pp. 6–9

You may wish to view Human Anatomy Online. Use your favorite search engine to look up the phrase "inner body systems." Your should be able to find one of a number of difference sites that have good information about the different systems in the human body. [p. 1]

"Amazingly complicated" are the words the book uses to describe the human body. They're right! Psalm 139:13–14 reads, "For you created my inmost being; you knit me together in my mother's womb. I praise you because I am fearfully and wonderfully made; your works are wonderful, I know that full well" (NIV). This is a fitting passage to review in preparation for the study of the human body. Did all these "hundreds of different" parts and "millions of microscopic units called cells" come together through chance, an undirected natural process, or through God's design? [p. 7]

Day 3 — pp. 12–13

Cells are a lot more complicated than people used to think. So how did the first cells come about? Different people have come to different conclusions. Some think that the first cells came about as a random result of various chemicals in the earth's atmosphere coming together in just the right way, while others see the complexity of cells and come to the conclusion that they must have been specially designed. In looking at the illustration of a cell on page 13, what do you and your students think is the explanation for the origins of the first cells?

Activity Sheet Questions

Day 1 — #1–3

Activity Sheets are included after the notes and are assigned on each schedule page. Each Activity Sheet has a corresponding Answer Key page following these schedule pages.

N Parental Notes

You do not have to do every question on the Activity Sheets. Feel free to adjust and/or omit activities to meet the needs of your students. We cover the same concepts repeatedly throughout the year (and years to come!) to enable students to learn "naturally" through repetition and practice over time.

Any question marked **Challenge:** will be just that—a challenge for your students. While we believe the material covered in the challenge questions is worthwhile for your students to know, it may not be specifically explained in their reading assignment. As always, if you think any question is too difficult for your students, please feel free to skip.

Feel free to let your students do those activities that they enjoy and simply talk through others. We have provided space for you to fill in answers as your students respond verbally, or simply check off the items that you discuss.

Remember: This program is designed for you to use to meet your students's needs. It is not meant to use you!

Suggestion: Your Activity Sheets might work more easily in a small binder for your students to keep and use as assigned. If you have more than one child using this program, extra Activity Sheets can be purchased for each student (Item # FSG41).

Blood and Guts

Day 4 | pp. 71–74

Cells, even so-called "simple cells", are a lot more complicated than most people think they are. They are like tiny factories with many parts doing exactly what they need to do to keep things going. Some microbiologists are convinced that design is at work at the cellular level rather than being the result of an undirected process. They point, for instance, to what is termed *irreducible complexity* or *specified complexity* as evidence of design in cells. You and your students will learn more about this concept in the DVD *Unlocking the Mystery of Life*. [p. 71]

Do Together

Day 1 | Listen to Your students

Each week throughout Science F, we will provide ideas for fun activities to do with your students. In general, we will try to make the activities actually "active": performing additional research on a particular topic, watching a video, playing a game, getting outside, or some other type of "hands-on" activity that seeks to apply what your students have been learning in a meaningful way.

Take our ideas for what they are—mere suggestions—and don't feel enslaved to them. If your students don't want to do a particular activity or have a different, better idea, by all means ditch ours and go with theirs!

Put this attitude into practice today by actively listening to your students. As they embark on their study of the amazing human body, what interests them? What do they want to learn more about? What do they *not* have an interest in? Do they have any ideas for fun activities they could do that have to do with learning more about the human body?

Make a list of their thoughts and ideas. Then let them pick one to do today. In this way, you will let them know that their opinion is important. Children who feel they have an important, active role in determining what they learn about will be more engaged in their studies. Have fun and treasure these times together.

Day 4 | Testing Temperature

As noted in *Blood and Guts*, the "normal" human temperature is 98.6 degrees Fahrenheit. Talk with your students about their "normal" temperature. Do they normally measure 98.6 degrees Fahrenheit? Or a bit above or below that level?

Test to see what effect a cold shower or vigorous exercise might have on their temperature. To start, take their temperature at rest. Then have them take a cold shower or bath. Take their temperature again. Did it decrease? When they're dressed, have them engage in some vigorous exercise, such as running a mile or doing 100 sit-ups, push-ups, or jumping jacks. Take their temperature one last time. Did it increase?

Be sure to discuss with your students how their body temperature is a good indicator of what is going on inside their cells. Reinforce how important it is that they tell you if they ever feel "too hot" or like they're running a fever.

Optional: *Lyrical Life Science, Vol. 3*

Day 1 | Chapter 1

If you have chosen to add this optional book to your curriculum, here is a suggested way to fit it into your daily schedule.

On Day 1, listen to the song, reading the lyrics as you listen. During the next three days, read the text and listen to the song once each day. On the last day of the week, assign as many of the questions in the Lyrical Life Science workbook as you feel would be comfortable and most beneficial for your students. ■

Science F: Week 1 Activity Sheet

The Usborne Complete Book of the Human Body

1. Use the words in the box to complete the following. (p. 7)

genes	cells	body parts

Inside our *(body parts)* are millions of tiny *(cells)* that have *(genes)* inside of them which tell the cells the things they need to do to make our bodies work and keep us alive.

2. Write each term in one of the boxes below to organize each body part into the appropriate category. (p. 8)

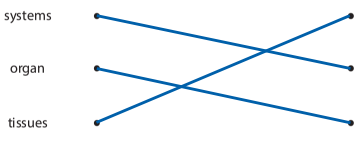
brain	lungs	bone	stomach juices	fat	sweat	muscle	blood	tears

Body Fluids	Organs	Body Tissues
(stomach juices)	*(brain)*	*(fat)*
(blood)	*(lungs)*	*(bone)*
(sweat)		*(muscle)*
(tears)		

3. Shade the glass to show what percentage of your body is made up of water. (p. 8)

(70%)

4. Draw a line to match the terms to the correct definitions. (pp. 8–10)



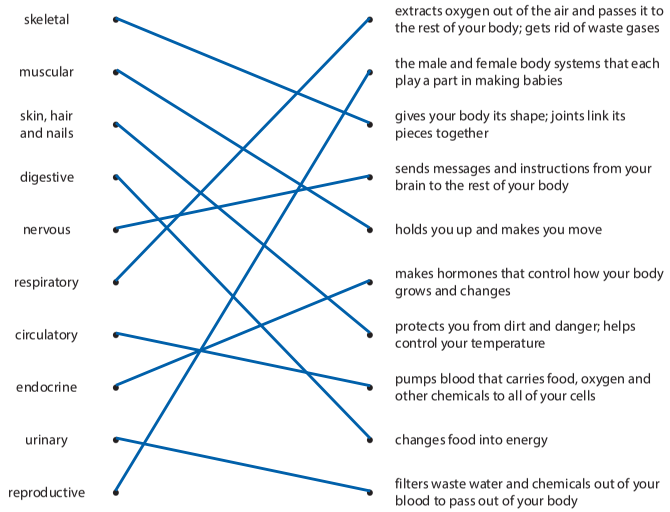
A group of cells of the same type; includes fat, bone and muscle

A group of organs or body parts whose jobs are closely related.

Different types of tissues grouped together to perform a particular task for the rest of the body.

Science F: Week 1 Activity Sheet

5. Match each body system to the main task(s) each performs. (pp. 10–11)



6. Think of one body part that belongs to more than one body system and explain how it serves both systems. (p. 10)

(Possible: throat is part of the digestive system while you eat, and part of the respiratory system while you breathe; at the most basic level, your leg is part of both the skeletal system—gives your leg its structure, and the muscular system—helps you walk)

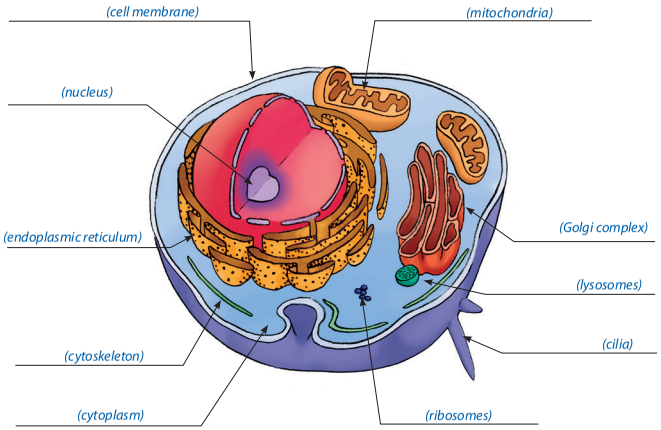
7. How do cells make the different proteins they need to do various jobs around your body? (p. 12)

(Cells combine amino acids in different ways to create the proteins they need)

Science F: Week 1 Activity Sheet

8. Label the following on the diagram. Use the book pictures as a guide. (p. 13)

cell membrane	mitochondria	ribosomes	nucleus	cytoplasm
lysosomes	Golgi complex	cytoskeleton	cilia	endoplasmic reticulum



9. Write the letter on the line to match each cell part to its role or function. (p. 13)

(c)	membrane	a.	controls and directs all cell activities; contains instructions for making new cells
(d)	mitochondria	b.	transports proteins made by the ribosomes to other parts of the cell
(e)	ribosome	c.	holds the cell together and controls the way substances such as food and water pass into and out of the cell
(a)	nucleus	d.	food and oxygen react together here to produce energy for life
(f)	cytoplasm	e.	proteins are created here
(b)	endoplasmic reticulum	f.	a jelly-like substance that contains strands of protein and provides the backbone of the cell
(h)	Golgi complex	g.	produce chemicals which destroy harmful foreign substances
(g)	lysosome	h.	a storage area that keeps proteins until needed

Science F: Week 1 Activity Sheet

Blood and Guts

10. How are cells and the various members of a community similar? (p. 71)
(Cells specialize in one task or another and work together to perform all of the jobs necessary to stay alive)

11. Why are our bodies warm? (p. 72) *(because our cells are constantly taking in chemical fuel and burning it to make energy, which produces heat)*

12. Why do you feel sweaty when your fever breaks? (p. 74)
(because your body is done healing and fighting off the infections, so sweating is its normal method for cooling itself off)

The Usborne Complete Book of the Human Body

1. Use the words in the box to complete the following. (p. 7)

genes	cells	body parts

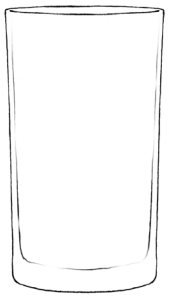
Inside our _____ are millions of tiny _____ that have _____ inside of them which tell the cells the things they need to do to make our bodies work and keep us alive.

2. Write each term in one of the boxes below to organize each body part into the appropriate category. (p. 8)

brain	lungs	bone	stomach juices	fat	sweat	muscle	blood	tears

Body Fluids	Organs	Body Tissues

3. Shade the glass to show what percentage of your body is made up of water. (p. 8)



4. Draw a line to match the terms to the correct definitions. (pp. 8–10)

systems •	• A group of cells of the same type; includes fat, bone and muscle
organ •	• A group of organs or body parts whose jobs are closely related.
tissues •	• Different types of tissues grouped together to perform a particular task for the rest of the body.

5. Match each body system to the main task(s) each performs. (pp. 10–11)

skeletal	•	•	extracts oxygen out of the air and passes it to the rest of your body; gets rid of waste gases
muscular	•	•	the male and female body systems that each play a part in making babies
skin, hair and nails	•	•	gives your body its shape; joints link its pieces together
digestive	•	•	sends messages and instructions from your brain to the rest of your body
nervous	•	•	holds you up and makes you move
respiratory	•	•	makes hormones that control how your body grows and changes
circulatory	•	•	protects you from dirt and danger; helps control your temperature
endocrine	•	•	pumps blood that carries food, oxygen and other chemicals to all of your cells
urinary	•	•	changes food into energy
reproductive	•	•	filters waste water and chemicals out of your blood to pass out of your body

6. Think of one body part that belongs to more than one body system and explain how it serves both systems. (p. 10)

_____

_____

_____

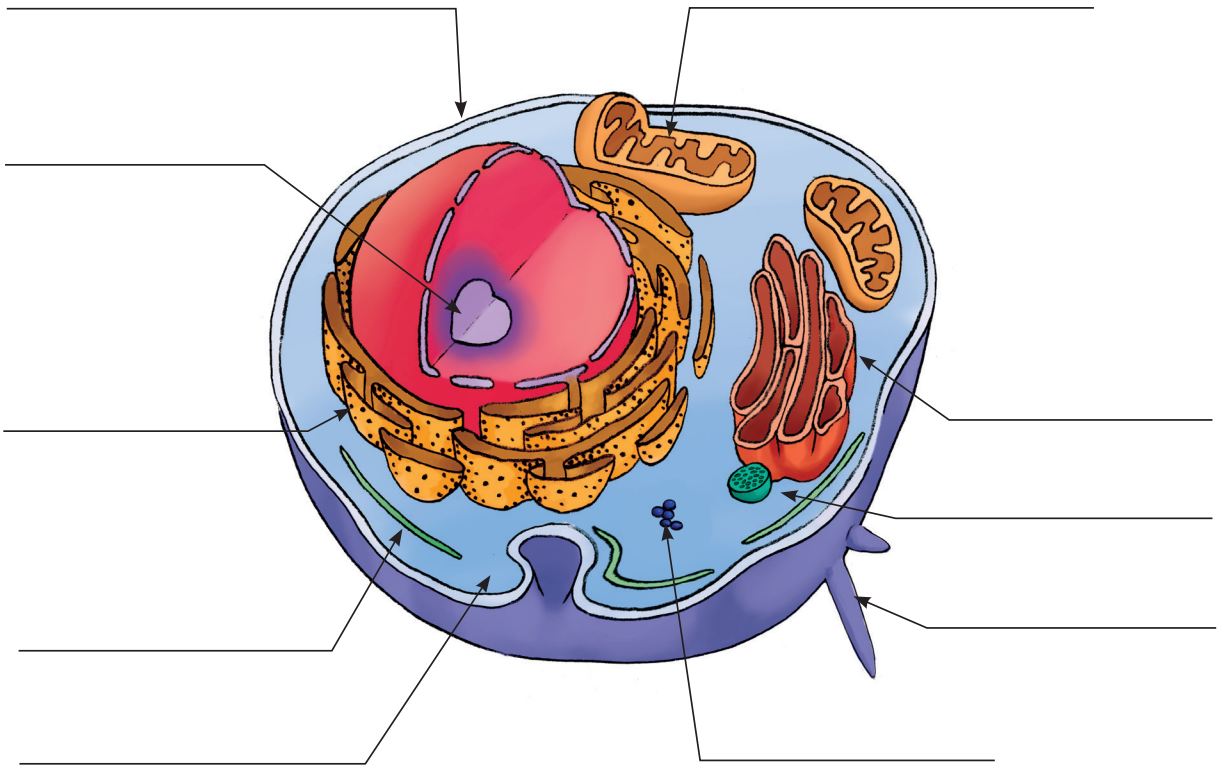
7. How do cells make the different proteins they need to do various jobs around your body? (p. 12)

_____

_____

8. Label the following on the diagram. Use the book pictures as a guide. (p. 13)

cell membrane	mitochondria	ribosomes	nucleus	cytoplasm
lysosomes	Golgi complex	cytoskeleton	cilia	endoplasmic reticulum



9. Write the letter on the line to match each cell part to its role or function. (p. 13)

_____	membrane	a.	controls and directs all cell activities; contains instructions for making new cells
_____	mitochondria	b.	transports proteins made by the ribosomes to other parts of the cell
_____	ribosome	c.	holds the cell together and controls the way substances such as food and water pass into and out of the cell
_____	nucleus	d.	food and oxygen react together here to produce energy for life
_____	cytoplasm	e.	proteins are created here
_____	endoplasmic reticulum	f.	a jelly-like substance that contains strands of protein and provides the backbone of the cell
_____	Golgi complex	g.	produce chemicals which destroy harmful foreign substances
_____	lysosome	h.	a storage area that keeps proteins until needed

Blood and Guts

10. How are cells and the various members of a community similar? (p. 71)

_____

_____

11. Why are our bodies warm? (p. 72) _____

_____

12. Why do you feel sweaty when your fever breaks? (p. 74)

_____

_____

Science F

Days 5–8: **Date: _____ to _____**

Week Overview

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Week 2

Date:	Day 5	Day 6	Day 7	Day 8
The Usborne Complete Book of the Human Body	pp. 65–67		pp. 68–69	
Activity Sheet Questions	1–4		8–10	
Food and Nutrition for Every Kid		chap. 11		
Activity Sheet Questions		5–7		
Blood and Guts				pp. 75–78
Activity Sheet Questions				11–12
Do Together	Food Journal Prep [N]	Peristalsis	Food Journal	Amylase in Action
Optional: ***Lyrical Life Science, Vol. 3—The Human Body***	chap. 7			
Additional Subjects:				

Food and Nutrition for Every Kid

Day 6 — Chapter 11

This book provides 25 hands-on activities to help your students learn more about food. Feel free to do your experiment any time during the week, depending on what works best for your schedule.

The workload is heavier some weeks than others. So, if you are falling behind, feel free to skip an activity. The goal of these activities is to help your students really learn about nutrition through active learning.

Most of the activities require a little preparation, so make sure you review the procedures before the date you plan to do it. We believe this book is a valuable resource, but we don't want these extra activities to wear you out.

Be assured that this is a book you can choose to use when you want to and put aside when you get too busy.

Also note that pages 199 through 220 consist of a helpful glossary in case you and your students need to look up some terms.

Do Together

Day 5 — Food Journal Prep

Note to Mom or Dad: On Day 7, you and your students will keep a food journal. Read through the activity and make sure you will be ready to begin.

[N] Parental Notes

Day 6 Peristalsis

Peristalsis describes a series of muscular contractions that moves food through your digestive system. To help your students understand peristalsis better, do a simple experiment with them today.

Grab a short section of tubing or garden hose, along with a marble or other round object only slightly smaller than the tubing/hose. Ask your students to push the marble into the hose and then move it to the other end. Note: Make sure the marble will not simply roll easily through the tube.

How did your students move the marble through the hose? If they imitated peristalsis, then they probably pushed the marble through slowly, one squeeze of the tube at a time. Explain to them that this is how their body's digestive system, including the esophagus, intestines, etc., moves food through the various stages of the digestive process … one small muscle contraction at a time.

Day 7 Food Journal

Have your students ever given much thought to exactly how much of what types of food and drink they use to power their amazing human bodies? Today, encourage them to keep track of everything they ingest. Ask them to keep a detailed food journal by recording everything that they eat or drink today, including details of the exact types and amounts of the foods and drinks they choose.

In addition to the nitty-gritty details of the foods and drinks they consume, ask them also to record how they feel throughout the day. Are they tired? Energetic? Sleepy? Alert? Does how they feel change throughout the day?

When the day is done, ask them to look back over their journal entries for the day. Does anything surprise them? Can they believe they ate that much of X? Did they realize they only drank Y glasses of water? Do they see any correlations between how they felt at certain points in the day and what they had been eating or drinking?

Use this time to reinforce what your students have learned this week about food and their digestive systems. Do you see anything in their daily eating/drinking routine that needs some attention? Do they need to eat less junk food? Drink more water? Use this exercise as a way to discuss changes you'd like to see. You can even continue their journaling from time to time to look for improvements.

Day 8 Amylase in Action

Grab some soda crackers and put your students to work testing the action of Amylase, the starch-into-sugar enzyme present in our mouths. As described in Blood and Guts, have your students chew a soda cracker completely, but ask them to hold it in their mouths for five minutes rather than swallowing immediately.

When the five minutes have elapsed, ask your students what they feel in their mouths. What do they taste? Do the soda cracker remains have the same starchy taste as when they began chewing? Why not? What can they tell about the effect the Amylase has had on the starchy soda cracker? ■

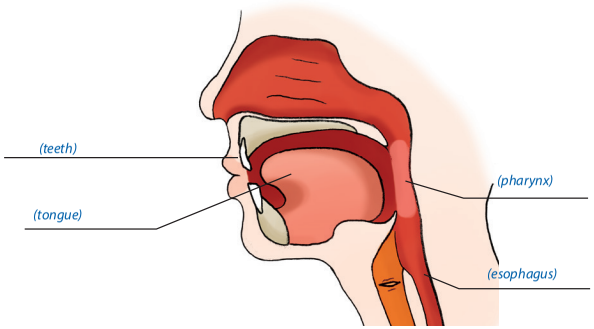
Science F: Week 2 Activity Sheet

The Usborne Complete Book of the Human Body

1. Use the following diagram to complete these next questions (p. 67)

   a) Identify as many of the parts below. Not all of the words within the Word Bank will be used.

saliva	teeth	tongue	salivary glands
esophagus	bolus	pharynx	peristalsis



   b) Using as many words as possible from the Word Bank, describe how food is broken down, and eventually digested into our stomachs:

*(sample answer: Our **teeth** break down food, and **salivary glands** produce **saliva** to help turn it mushy. Our **tongue** then turns the food into a **bolus**, and it travels down the **pharynx** into the **esophagus**. The esophagus then moves the food down towards our stomach through **peristalsis**.)*

Science F: Week 2 Activity Sheet

2. Which part of your digestive system extracts useful food chemicals and passes them to your blood stream? (p. 66)

pancreas **stomach** **liver** **small intestine**

3. Why is it important for your large intestine to soak up spare water from your waste before it leaves your body? (pp. 65–66)

(because water is very important to your body and you pass it out of your body in many other ways, so by reabsorbing it, your large intestine is helping to keep you from drying out so quickly.)

4. Can you swallow lying down? Why? (p. 67) *(Yes—because your esophagus has bands of muscle that push food along where it needs to go so it will end up in the right place, even if you're not in a position for gravity to help)*

Food and Nutrition for Every Kid

5. Define the following. (pp. 79–80, 86)

Mechanical digestion: *(physical breaking apart of food into smaller pieces)*

Chemical digestion: *(breaking apart long chains of food molecules into usable parts)*

Alimentary canal: *(the tube food moves through in the digestive system)*

Bolus: *(the ball of food that moves through the system)*

Emulsifier: *(substance that prevents emulsion from separating)*

6. What does your small intestine use to break down fat? (p. 82) *(Your small intestine uses bile created in the liver to break down fat.)*

Science F: Week 2 Activity Sheet

7. What part does your pancreas play in digestion? (p. 82) *(The pancreas creates juices that help to digest remaining large molecules of carbohydrates, fats, and proteins left behind by other digestive juices)*

The Usborne Complete Book of the Human Body

8. Why does your stomach have *rugae*, or wrinkles, on the inside of it? (p. 68) *(to allow it to stretch and increase its surface area as it fills with food)*

9. What causes your stomach to make rumbling and gurgling noises? Check all that apply. (p. 69)

- ☐ food falling into your stomach
- ☐ your small intestine bumping into your stomach
- ☒ food and air sloshing around inside or being squirted through the pyloric sphincter
- ☒ gases trapped in your stomach

10. **True** or **False**? The bolus of food you swallow eventually passes as little balls into your small intestine. (p. 69)

True **False**

Explain: *(After your stomach has squashed and squeezed your food for a few hours, the food balls have changed into a thick, creamy mixture of chyme.)*

Blood and Guts

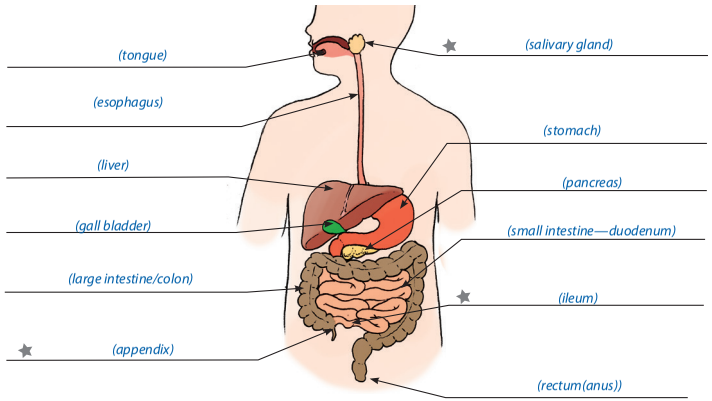
11. Draw a line to match the terms to the correct definitions. (p. 76)

peristalsis	action of the intestine walls hugging and pushing food along like the way you squeeze a tube of toothpaste
enzyme	tiny finger-like things that stick out from the wall of the intestine to absorb valuable chemicals from the food that passes by
villi	a chemical in saliva that breaks down starches in food

Science F: Week 2 Activity Sheet

12. **Part A:** Label only the items listed in the box on the picture of the digestive system below. They should be familiar to you. Answer lines with stars ★ should be left blank for now. (p. 77)

esophagus	liver	small intestine	pancreas	stomach
gall bladder	rectum (anus)	large intestine/colon	tongue	



Part B—Challenge! Research the functions of the remaining items below. Then label them on the diagram on the previous page.

★ colon: *(part of the large intestine that removes water and mineral salts from partially-digested food)*

★ salivary gland: *(produces saliva, which moistens and softens food in the mouth, and helps break down starchy foods; this is the first step in digestion)*

★ appendix: *(located in the first part of the large intestine; has no known function)*

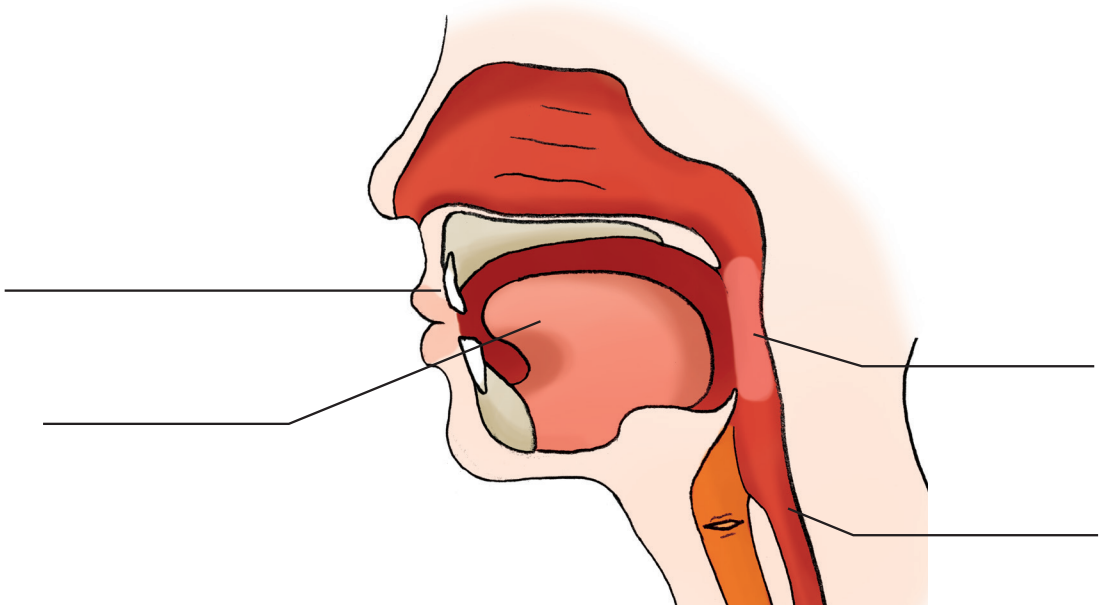
★ ileum: *(lower part of the small intestine; absorbs nutrients from food that has been digested by the stomach and duodenum)*

The Usborne Complete Book of the Human Body

1. Use the following diagram to complete these next questions (p. 67)

   a) Identify as many of the parts below. Not all of the words within the Word Bank will be used.

saliva	teeth	tongue	salivary glands
esophagus	bolus	pharynx	peristalsis

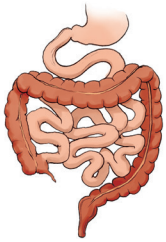


   b) Using as many words as possible from the Word Bank, describe how food is broken down, and eventually digested into our stomachs:

2. Which part of your digestive system extracts useful food chemicals and passes them to your blood stream? (p. 66)

pancreas **stomach** **liver** **small intestine**

3. Why is it important for your large intestine to soak up spare water from your waste before it leaves your body? (pp. 65–66)



_____

_____

_____

4. Can you swallow lying down? Why? (p. 67) _____

_____

_____

_____

Food and Nutrition for Every Kid

5. Define the following. (pp. 79–80, 86)

Mechanical digestion: _____

_____

Chemical digestion: _____

_____

Alimentary canal: _____

_____

Bolus: _____

_____

Emulsifier: _____

_____

6. What does your small intestine use to break down fat? (p. 82) _____

_____

7. What part does your pancreas play in digestion? (p. 82) _____

_____

The Usborne Complete Book of the Human Body

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_____

9. What causes your stomach to make rumbling and gurgling noises? Check all that apply. (p. 69)

- ☐ food falling into your stomach
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- ☐ gases trapped in your stomach

10. **True** or **False**? The bolus of food you swallow eventually passes as little balls into your small intestine. (p. 69)

True **False**

Explain: _____

_____

Blood and Guts

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peristalsis	•	• action of the intestine walls hugging and pushing food along like the way you squeeze a tube of toothpaste
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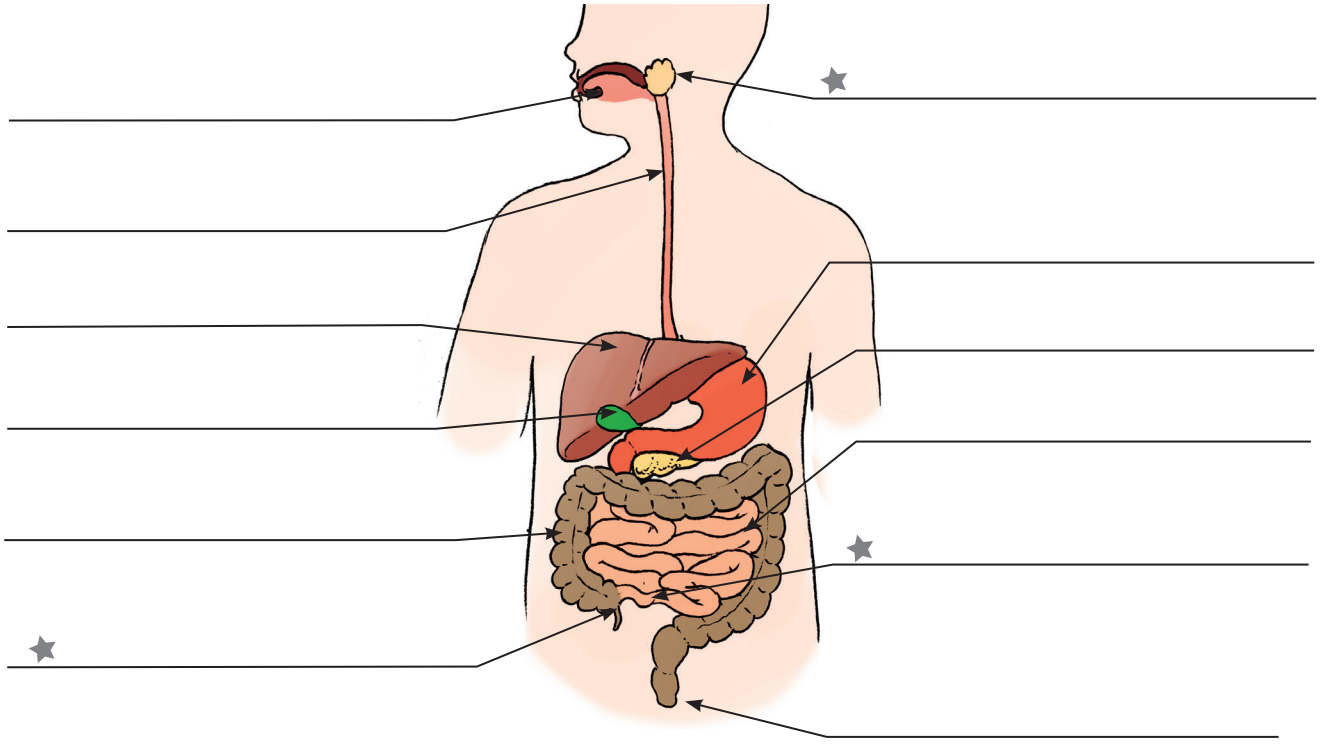
gall bladder	rectum (anus)	large intestine/colon	tongue	



Part B—Challenge! Research the functions of the remaining items below. Then label them on the diagram on the previous page.

★ colon: _____

_____

★ salivary gland: _____

_____

★ appendix: _____

_____

★ ileum: _____

_____

Science F

Days 9–12: **Date: _____ to _____**

Week Overview																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Week 3

Date:	Day 9	Day 10	Day 11	Day 12
Blood and Guts	pp. 79–82			pp. 83–86
Activity Sheet Questions	1–6			16–17
The Usborne Complete Book of the Human Body		pp. 70–71	pp. 72–73	
Activity Sheet Questions		7–10	11–15	
Do Together			Fighting Fat	
Optional: ***Lyrical Life Science, Vol. 3—The Human Body***	chap. 8			
Additional Subjects:				

Blood and Guts

Day 12 — pp. 83–86

Note that kidneys are referred to as "some of the most complicated pieces of equipment you have." Complexity does not in itself indicate design, but it certainly suggests it. [p. 83]

Do Together

Day 11 — Fighting Fat

Reinforce what your students have learned thus far about how your body processes food and stores excess food as fat. Use this time to discuss how important it is to monitor our food intake closely so that we do not end up with an unhealthy amount of excess food that will be stored as fat. Discuss with your students what other steps can be taken to reduce the amount of unhealthy fat in our bodies.

In addition to monitoring our food intake, we can regulate the amount of energy our bodies use by engaging in regular exercise. Ask your students to pick an exercise they enjoy and do that exercise with them today. If you can, incorporate a time for daily exercise into your students's normal routine. ■

Parental Notes

Science F: Week 3 Activity Sheet

Blood and Guts

Use the words in the box to complete the following. (pp. 79–81)

fats	proteins	feces	carbohydrates	sphincter

1. *(Carbohydrates)* are "fuel foods" because they provide energy for your body and are found in foods such as bread, pasta, and cereal.

2. *(Fats)* are used for energy production and found in foods such as butter or cream.

3. *(Proteins)* are used in body repair and growth and found in foods such as steak and eggs.

4. *(Feces)* is the proper name for the body's solid waste.

5. The kind of muscle that surrounds your lips and helps you "pucker up"! *(sphincter)*

6. Is bacteria good or bad? Explain. (p. 81)

(It's both—some bacteria can make you sick, but the bacteria that lives inside of you helps finish off the remains of food in your intestines, secrete helpful vitamins and digest small amounts of cellulose to create calories for daily nutrition)

The Usborne Complete Book of the Human Body

7. How is your liver like a big processing plant for food chemicals? List at least three of the jobs your liver performs. (p. 70)
   1) *(sorts food chemicals collected by the small intestine and sends them to different parts of the body)*
   2) *(filters out garbage)*
   3) *(makes bile to help your intestines digest fat)*
   4) *(converts food chemicals into body substances)*

Science F: Week 3 Activity Sheet

8. Why do you need intestines? What do they do for your body? (p. 70)
(You need intestines to break food down into tiny molecules of chemicals so they can be passed into your bloodstream and used by your cells)

9. Why does your body make fat? (p. 71) *(to store extra food energy, because your cells only use as much food energy as they need)*

10. What functions does fat serve in your body? (p. 71)
(fat keeps you warm and provides a cushion around your bones)

11. Draw a line to match each term to the correct definition. (pp. 71–72)

protein	a tough, leftover waste in your large intestine that helps to sweep the digestive system clean.
carbohydrates	simple sugars and starches used for energy
fats	made from amino acids; used to repair the body and build cells
fiber	stored food energy that can help keep you warm
water	contained in food and stored in the liver; insufficient amounts can lead to illness; small amounts are used in chemical reactions within the body
vitamins and minerals	lost through perspiration, urination and as you breathe out

12. Why is it important to wash your hands after going to the bathroom? (p. 72)
(because up to a third of each lump of solid waste you pass is made up of bacteria; E. coli bacteria is harmless in your large intestines but can make you sick if it ends up in your food.)

13. Which body fluid do your kidneys clean? (p. 73)

saliva **mucus** **water** **blood**

Science F: Week 3 Activity Sheet

14. Fill in the blank with the correct word from the box. Then order the sentences to describe how food travels through your body. Note: we have labeled the third step for you. (pp. 66–72)

liver	teeth	villus/villi	esophagus
stomach	pancreas	saliva	mouth
small intestine	rectum	large intestine	

a) (4) The *(small intestine)* is about 4 meters long; here, enzymes break down food into very small pieces.

b) (7) Water is removed from the food that can't be digested in the first part of the *(large intestine)* (or colon) before passing out of the body.

c) (5) *(villus/villi)* are found in the walls of the intestine; they stick out like fingers; food crosses through these and goes into the bloodstream.

d) (2) The *(stomach)* is a stretchy bag that mashes food into a sloppy soup by soaking it in acid.

e) (1) In the *(mouth)*, *(teeth)* slice and grind food while *(saliva)* helps to moisten and soften it into mush before it passes into a tube called the *(esophagus)*, which moves the food to the stomach.

f) 3 The *(pancreas)* produces a digestive juice containing many different enzymes that can break down many types of food, including fat, in the first part of the small intestine.

g) (8) The *(rectum)* is a tube from which solid waste leaves your body.

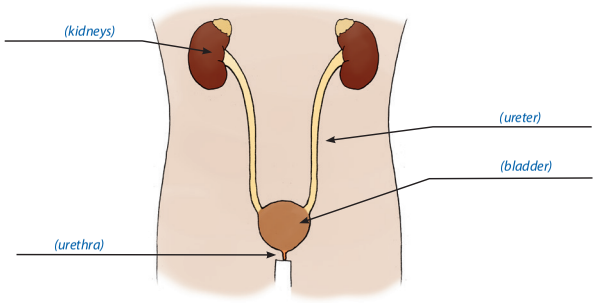
h) (6) Blood carries nutrients to your *(liver)* to be stored, changed into useful body substances, or released to be used in the body. Bile is produced here.

Science F: Week 3 Activity Sheet

15. Use the following diagram to complete the next few questions. (pp. 72–73)

a) Label the diagram using all 4 words within the Word Bank.

bladder	ureter	urethra	kidneys



b) Using the Word Bank, describe how your body helps process waste.

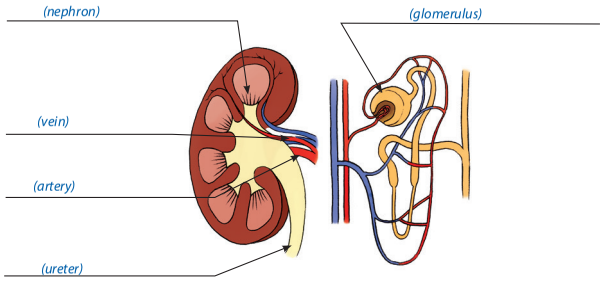
*(sample answer: the **kidneys** process dirty blood, separate the waste, and recycle the blood back into our bloodstream. The waste then travels down the **ureter** to the **bladder**. When we expel waste, it exits through the **urethra**.)*

Science F: Week 3 Activity Sheet

Blood and Guts

16. Use the words in the box to label the various parts of the kidney. (p. 83)

glomerulus	nephron	vein	artery	ureter



17. Fill in each blank with the letter of the correct definition. (pp. 83–85)

(d)	bladder	a.	microscopic filtering unit of the kidney; it sorts the useful and good materials from the useless and bad materials in our blood
(c)	glomerulus	b.	band of muscle that holds the bladder shut
(f)	kidney	c.	tight knot of capillaries in the nephron
(a)	nephron	d.	muscular bag that holds urine
(b)	sphincter	e.	tube that connect the kidneys to the bladder
(e)	ureter	f.	filters unwanted substances out of the blood

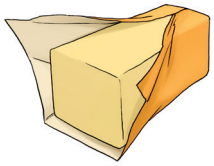
Blood and Guts

Use the words in the box to complete the following. (pp. 79–81)

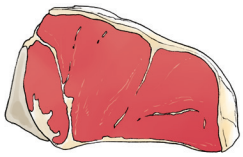
fats	proteins	feces	carbohydrates	sphincter

1. _____ are "fuel foods" because they provide energy for your body and are found in foods such as bread, pasta, and cereal.

2. _____ are used for energy production and found in foods such as butter or cream.



3. _____ are used in body repair and growth and found in foods such as steak and eggs.



4. _____ is the proper name for the body's solid waste.

5. The kind of muscle that surrounds your lips and helps you "pucker up"! _____

6. Is bacteria good or bad? Explain. (p. 81)

_____

_____

_____

The Usborne Complete Book of the Human Body

7. How is your liver like a big processing plant for food chemicals? List at least three of the jobs your liver performs. (p. 70)

1) _____

2) _____

3) _____

4) _____

8. Why do you need intestines? What do they do for your body? (p. 70) _____

_____

_____

9. Why does your body make fat? (p. 71) _____

_____

10. What functions does fat serve in your body? (p. 71) _____

_____

11. Draw a line to match each term to the correct definition. (pp. 71–72)

protein	•	•	a tough, leftover waste in your large intestine that helps to sweep the digestive system clean.
carbohydrates	•	•	simple sugars and starches used for energy
fats	•	•	made from amino acids; used to repair the body and build cells
fiber	•	•	stored food energy that can help keep you warm
water	•	•	contained in food and stored in the liver; insufficient amounts can lead to illness; small amounts are used in chemical reactions within the body
vitamins and minerals	•	•	lost through perspiration, urination and as you breathe out

12. Why is it important to wash your hands after going to the bathroom? (p. 72)

_____

_____

_____

13. Which body fluid do your kidneys clean? (p. 73)

saliva **mucus** **water** **blood**

14. Fill in the blank with the correct word from the box. Then order the sentences to describe how food travels through your body. Note: we have labeled the third step for you. (pp. 66–72)

liver	teeth	villus/villi	esophagus
stomach	pancreas	saliva	mouth
small intestine	rectum	large intestine	

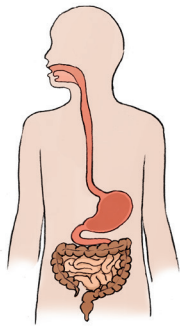
a) _____ The _____ is about 4 meters long; here, enzymes break down food into very small pieces.

b) _____ Water is removed from the food that can't be digested in the first part of the _____ (or colon) before passing out of the body.

c) _____ _____ are found in the walls of the intestine; they stick out like fingers; food crosses through these and goes into the bloodstream.

d) _____ The _____ is a stretchy bag that mashes food into a sloppy soup by soaking it in acid.

e) _____ In the _____, _____ slice and grind food while _____ helps to moisten and soften it into mush before it passes into a tube called the _____, which moves the food to the stomach.



f) **3** The _____ produces a digestive juice containing many different enzymes that can break down many types of food, including fat, in the first part of the small intestine.

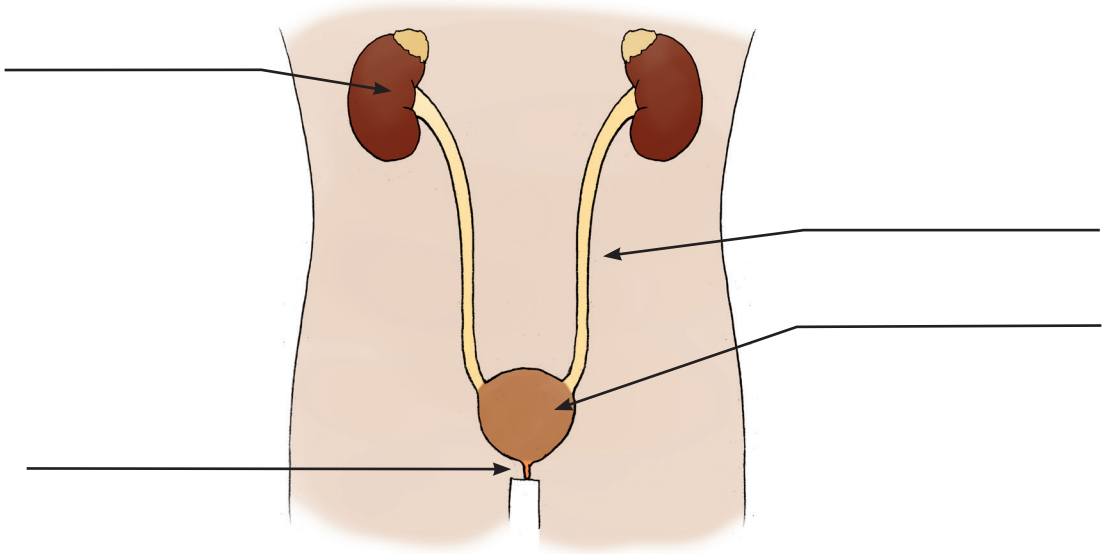
g) _____ The _____ is a tube from which solid waste leaves your body.

h) _____ Blood carries nutrients to your _____ to be stored, changed into useful body substances, or released to be used in the body. Bile is produced here.

15. Use the following diagram to complete the next few questions. (pp. 72–73)

a) Label the diagram using all 4 words within the Word Bank.

bladder	ureter	urethra	kidneys

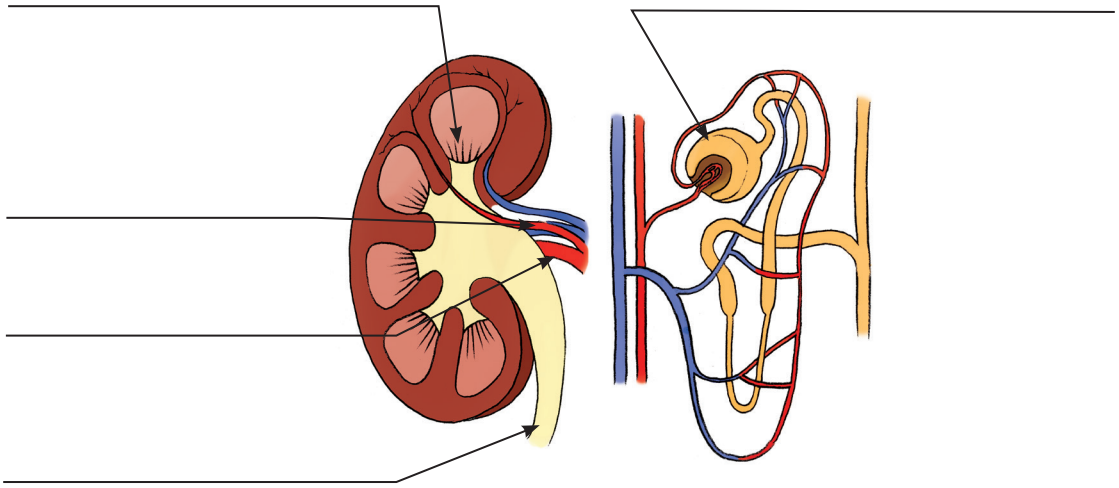


b) Using the Word Bank, describe how your body helps process waste.

Blood and Guts

16. Use the words in the box to label the various parts of the kidney. (p. 83)

glomerulus	nephron	vein	artery	ureter



17. Fill in each blank with the letter of the correct definition. (pp. 83–85)

_____	bladder	a.	microscopic filtering unit of the kidney; it sorts the useful and good materials from the useless and bad materials in our blood
_____	glomerulus	b.	band of muscle that holds the bladder shut
_____	kidney	c.	tight knot of capillaries in the nephron
_____	nephron	d.	muscular bag that holds urine
_____	sphincter	e.	tube that connect the kidneys to the bladder
_____	ureter	f.	filters unwanted substances out of the blood

Science F: Weekly Subject List

Week	Subject
1	building blocks/body system/cells
2	eating/drinking/digestion/digestive system/stomach
3	digestion/intestines/food waste/kidneys
4	breath/circulatory/lungs
5	heart/circulation/blood/lymph/
6	heart/pulse/stress/muscles/bones/skeleton/joints/
7	dissect bones/ bone shape/muscles/tendons
8	muscle types/muscle use/ involuntary/reflexes/joints/tendons/flex/hair/nails
9	hair/skin
10	brains/senses/brain functions/
11	reflexes/learning/intro/brain parts/neurons/baby brains
12	remembering/memory/intelligence/eyesight
13	homeostasis/conscience/mental ill/drugs
14	animals/computers/brains in history
15	eyes/hearing
16	ears/balance
17	balance/taste/smell/teeth/nutrients/water
18	nose/throat/sensation/pain/thinking/carbohydrates
19	memory/dominance/health/sickness/fat
20	immune system/medicine/treatments/operations/protein
21	body changes/birth/adolescence/vitamins
22	reproduction/adolescence/minerals
23	genes/DNA/adolescence/fruits and vegetables
24	boy's book or girl's book/food pyramid
25	boy's book or girl's book/labels
26	boy's book or girl's book/ calories
27	boy's book or girl's book/taste
28	getting old/facts and records/survival skills/ice and food
29	survival skills/food sweeteners
30	survival skills/sodium in the body
31	survival skills/food dyes
32	survival skills/acids and bases
33	survival skills/leavening/enzymes
34	survival skills/gluten/chemistry
35	survival skills/milk/dairy products
36	survival skills/spoilage/food preservation

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