

TEXTBOOK CORRELATIONS **NM State Science Standards for Second Grade** **Harcourt Science Text 2nd Grade- NM Edition**

- ❖ Bound into each of the three Teacher Editions, after the last tab labeled ‘**Correlations**’, are the charts of NM standards, benchmarks and performance standards for grade 2 -Science, Language Arts and Math, with correlating page numbers and/or references to included resource pages (indicated as ‘R’) to be found in the Teacher Edition. The Correlations sections are the same in each teacher manual.
- ❖ Each of the three Teacher Editions also have a tabbed section labeled **References and Resources**. These pages are the same in each Teacher’s manual.
- ❖ These pages mirror the **References and Resources** section at the end of the Student Text. These pages, R1-R45, contain the
 - **Health Handbook** (where you will find instruction that meets benchmarks and performance standards for the human body, its functions, and germs.)
 - **Reading Focus Skills** – summary and practice of the 6 skills necessary for reading text for information.
 - **Math in Science skills**- instruction and practice of math skills used in science that meets NM standards and benchmarks.
 - **Glossary of science terms.**
- ❖ Pages R46-R53, in the Teacher Edition only, include:
 - **Seasonal Science activities**
 - **Bibliography** of trade books listed in the chapters
 - **Leveled Reader** instruction and notes
- ❖ **Vocabulary to know for 3rd grade:**
- ❖ observations, graphs, predictions, solid, liquid, vapor, energy, temperature, reflected, repel, attributes, classify, environments, erosion, planets, solar, system, revolve, star, rotate, constellation, rock, organic, material, weathering, soil, recycling

GRID KEY

Green Unit A, Unit B Life Science
Orange Unit C, Unit D Earth and Space Science
Blue Unit E, Unit F Physical Science

PERFORMANCE STANDARDS KEY

<p>magenta – green – Red –</p>	<p>introduce develop mastery</p>	<p>(a new concept or skill) (or practice the introduced skill or concept.) (mastery of the skill or concept at this level may mean that this is the last time it will be taught- for example, handwriting skills; or that mastery at this level is necessary to work at a higher level of skill in the next grade- for example, addition facts must be mastered to move on to multiplication.)</p>
<p>Black – Turquoise –</p>	<p>progress extend</p>	<p>(or continue to work on the skill or concept) (the skill or concept through cross-curricular activities.)</p>

Assessments available for each chapter:

Ongoing Assessment – Chapter Opener- Assessing prior knowledge
 Daily Inquiry Transparencies
 Teacher Edition Questions - throughout
 Student Edition Focus Skill Questions - throughout

<p>TE- Reaching all learners – throughout</p> <p>Student Edition -Reading Review – End of each lesson</p> <p>Assessment Guide – Observation Checklist</p> <p>Student Self-Assessment – Investigate- student lab manual</p> <p>End of each lesson- Assess and Extend Transparency</p> <p>End of each chapter- Student Book- Chapter Review and Test Prep</p> <p>End of each chapter – TE – Performance Assessment/Rubric- short option</p> <p>Assessment Guide- Chapter test, Performance Assessment/Rubric – long option</p> <p>Assessment Guide – Student Self-Assessment/Portfolio Ideas</p>
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Not available for review at the time of printing, these resource will be included with teacher resources:

1. **Unit activities** created by NM teachers and aligned to NM standards
2. **Activities videos DVDs-**
 - Allow teachers to preview investigations and get background information about Investigations, expected outcomes and materials needed.
 - Can be used with a class and stopped at relevant points for discussion.
 - Gives background about the concepts to be learned
 - Give students instructions for carrying out the Investigation.
 - After Investigation completed turn on video for questions about the Investigation
 - Listen to an explanation of the outcome and the concept to be understood

Online Activites

3. Science eBook- provides the same content as Student Edition with enhancements to expand each chapter.
 - Interactive activities to enrich and reinforce content.
 - Fast Facts for extra interesting information
 - Work book pages can be printed
 - Vocabulary words linked to science glossary can be heard pronounces and examples seen
 - Click on Science Up Close button to open interactive activities to enhance book activities.
4. ePlanner for teachers to customize planning, view teacher edition and print teaching resources
 - Can sequence lessons by standards
 - Can sequence lessons to correlate to student book
 - Make a lesson plan that lists lessons with standards and Teacher Edition pages
 - Make a lesson plan to review and print lesson resources.
5. Online Assessment tools to construct, administer and score tests, help struggling students and print class reports.
 - Can assign chapters or periodic cumulative assessments.
 - Can select assessment questions by standards
 - Create assessments for ESL students or re-teaching.
 - Students receive feedback by test scores and teacher comments
6. The Learning Site- web based site to expand and enhance lessons
 - Online science support
 - Interactive activities
 - Sci-links maintained by National Science Teachers Association for links to most relevant science information
 - Science Glossary to hear words pronounced and examples
 - Multimedia biographies

CD-ROM Activities

7. Science Up Close and Enrichment Activities CD-Rom- provides enrichment activities to accompany the Science Up Close feature in the Student Edition.
 - Use animations and simulations to reinforce key skills and concepts
8. View Teacher Edition for printing teaching resources
9. Print or project teaching transparencies from the Teacher resources.
10. Audiotext of student edition for whole class or individual use.
11. Student Edition CD-Rom for each student for use in class or at home
12. Assessment CD-ROM to create student assessments

Strand I Thinking and Practice
Standard I: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

Essential Question: How do scientists communicate what they know, observe, or are thinking?

Category	Second Grade	UNIT A			B	UNIT C		UNIT D		UNIT E		UNIT F		
		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12	CH 13
Process of Investigation SCIENTIFIC METHOD Benchmark I: Use scientific methods to observe, collect, record, analyze, predict, interpret, and determine reasonableness of data.	1. Conduct simple investigations.	Throughout book, experiments, <i>Investigate</i> , <i>Insta-Lab</i> , etc.												
	2. Use tools to provide information not directly available through only the senses.	Introduction 5-17, Throughout book, experiments, <i>Investigate</i> , <i>Insta-Lab</i> , <i>Science Spin</i>												
	3. Make predictions based on observed patterns as opposed to random guessing.	Throughout book, <i>Investigate</i> , <i>Insta-Lab</i> , <i>Science Spin</i>												
	4. Follow simple instructions for a scientific investigation				<i>Sci Spin</i> 144		Lesson 3	<i>Sci Spin</i> 244			<i>Sci Spin</i> 246	Lesson 1		<i>Sci Spin</i> 384, 440

End Learnings : 1. Know what a **fact** and an **opinion** are. 2. Know how to read and make **graphs**. 3. Know how to record **data**.

Assessments: See Page 2

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 Black – progress (or continue to work on the skill or concept)
 Turquoise – extend (the skill or concept through cross-curricular activities.)

Essential Question: How does a scientist communicate what he or she knows?

Category	Second Grade	UNIT A			B	UNIT C		UNIT D		UNIT E		UNIT F		
		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12	CH 13
Process of Investigation SCIENTIFIC THINKING Benchmark II: Use scientific thinking and knowledge and communicate findings.	1. Understand that in doing science it is often helpful to work with a team and share findings.			Sci spin 48			Sci spin 212		Sci spin 280	Sci Project 319	Sci project 349			Sci project 443
	2. Make accurate observations and communicate findings about investigations.	Investigate throughout, Science Spin												

End Learnings : 1. Make accurate observations and be able to communicate the findings. 2. Practice making **predictions** based on observations

Assessments: See Page 2

Essential Question: How can a scientist be a good communicator? (What are some ways to share information?)

Category	Second Grade	UNIT A			B	UNIT C		UNIT D		UNIT E		UNIT F		
		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12	CH 13
Process of Investigation MATH SKILLS Benchmark III: Use mathematical skills and vocabulary to analyze data, understand patterns and relationships, and communicate findings.	1. Record observations on simple charts or diagrams.	Investigate throughout, Science Spin, Science Up Close, Reference pages 20-23												
	2. Measure length, weight, and temperature with appropriate tools and express those measurements in accurate mathematical language.	Throughout, Science Project, Investigate, Daily Inquiry Activities												

End Learnings : 1. Know how to read and make graphs. 2. Practice formulating questions and making observations (ie similar to Houghton Mifflin reading strategies).
3. Make accurate observations and be able to communicate the findings.

Assessments: See Page 2

Stand II Content of Science – PHYSICAL SCIENCE
Standard I (Physical Science): Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

Essential Question: Is water always liquid? (Show that substances exist in various states. For example, ice cream can be seen as a solid and a liquid.)

Category	Second Grade	Unit E Chapter 9 Observing and classifying matter				Unit E Chapter 10 Changes in Matter			Unit F Chapter 11 Weather			Unit F Chapter 12 The Solar System			Unit F Chapter 13 Motion		
		L 1	L 2	L 3	L 4	L 1	L 2	L 3	L 1	L 2	L 3	L 1	L 2	L 3	L 1	L 2	L 3
Strand II: Content of Science PHYSICAL SCIENCE Forms of Matter Benchmark I: Recognize that matter has different forms and properties.	1. Observe that properties of substances can change when they are mixed, cooled, or heated (e.g., salt dissolves in water, ice melts).	X	X	X	X <i>Sci Spin</i> 316, 318	X	X	X <i>Sci Spin</i> 346									
	2. Describe the changes that occur when substances are heated or cooled and change from one state of matter to another (i.e., solid, liquid, and gas).		X	X	X <i>Sci Spin</i> 316, 318	X	X	X <i>Sci Spin</i> 346									

End Learnings : 1. Know states of matter- **solid, liquid, vapor.**

Assessments: See Page 2

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Essential Question: What do a windmill and a waterfall have in common? (They both turn a wheel that generates energy. Focus on forms of energy- heat, light, sound, wind, gas-that can be used to get things done.)

Category	Second Grade	Unit E Chapter 9 Observing and classifying matter				Unit E Chapter 10 Changes in Matter			Unit F Chapter 11 Weather			Unit F Chapter 12 The Solar System			Unit F Chapter 13 Motion		
		L 1	L 2	L 3	L 4	L 1	L 2	L 3	L 1	L 2	L 3	L 1	L 2	L 3	L 1	L 2	L 3
Strand II: Content of Science PHYSICAL SCIENCE Properties of Matter Benchmark II: Know that energy is needed to get things done and that energy has different forms.	1. Describe how heat can be produced (e.g., burning, rubbing, mixing some substances).	Unit C Ch 6 pg 190					X	Sci up close p 344	X		X	You Can Do It Science Project pg 349					
	2. Know that heat moves more rapidly in thermal conductors (e.g., metal pan) than in insulators (e.g., plastic handle).										X	378-381 You Can Do It Science Project pg 385					
	3. Describe the usefulness of some forms of energy (e.g., electricity, sunlight, wind, sound) and how energy (e.g., heat, light,) can affect common objects (e.g., sunlight warms dark objects, heat melts candles).	Science Spin pg 210							X	X	X	You Can Do It Science Project pg 385					
	4. Observe that sound is made by vibrating objects and describe it by its pitch and loudness.					You Can Do It Science Project pg 413						X	X	X			
	5. Recognize that moving objects carry energy (kinetic energy).								X						X	X	

End Learnings : 1. Understand that light is a form of energy. 2. Know that light can be reflected. 3. Know how to measure temperature. 4. Know how to read and make graphs.

Assessments: See Page 2

NOTES

Strand II: Content of Science

PHYSICAL SCIENCE Properties of Matter

PHYSICAL SCIENCE- ENERGY BMARK II

Essential Q: What do a windmill and a waterfall have in common?

The advanced answer: The windmill and the flowing water turn a wheel attached to a generator which uses magnets to generate a current.= **Kinetic Energy**

Vocab= light, wind, water, absorb, reflect, friction, kinetic energy, resistance/friction

Performance Standards:

- 1- burning is a **chemical reaction**
- 2- "heat moves more rapidly in thermal conductors" because they have less resistance/friction= easier for E to move through.
 - a. Light bulb- E transferred to heat and light by resistance of friction as it passes through the resistor.
- 3- 'heat melts candles'- by the process of absorption of heat by wax = chem. reaction of the flame
observation is the skill being used here,
- 5- 'recognize that moving objects carry energy' = Kinetic E
 - A) When water moves = kinetic energy
When it turns a wheel= transfer of E
 - B) When wind blows= KE
When the wheel turns = transfer of E

Focus on Forms of E

Heat, light, sound, wind, gas (a chemical reaction), etc. Energy can be used to get things done.

End learning 2-'know that light can be reflected'

Read about this experiment- haven't tried it yet.

Does ice cream melt faster in a black bowl or a white bowl?

Put ice cream in a white bowl and a dark blue or black bowl in the sun. Do in winter, outside, so that air temperature is not a factor = Reflection/absorption are the mechanisms by which light energy turns to heat energy to melt the ice cream.

Is the outcome changed if the *ice cream* is white or dark?

Essential Question: What makes a sailboat move or change direction?

Category	Second Grade	Unit E Chapter 9 Observing and classifying matter				Unit E Chapter 10 Changes in Matter			Unit F Chapter 11 Weather			Unit F Chapter 12 The Solar System			Unit F Chapter 13 Motion		
		L 1	L 2	L 3	L 4	L 1	L 2	L 3	L 1	L 2	L 3	L 1	L 2	L 3	L 1	L 2	L 3
Strand II: Content of Science PHYSICAL SCIENCE Forces of Matter Benchmark III: Identify forces and describe the motion of objects.	1. Describe how the strength of a push or pull affects the change in an object's motion (e.g., how a big or small push affects how high a swing rises).								You Can Do It Science Project pg 442						X	X	X
	2. Observe that electrically charged materials and magnets attract and repel each other, and observe their effects on other kinds of materials								You Can Do It Science Project pg 442								X Sci Spin 442

End Learnings : 1. Know that magnets can **attract** and **repel**.

Assessments: See Page 2

PHYSICAL SCIENCE- Forces of Matter Forces BMARK III

Essential Q: What makes a sailboat move or change direction?

Materials:

Boats made out of Sculpy with paper sails

Shallow Rubbermaid tubs of water

Kids intuitively know that wind in a sail moves a boat.

But what if two students are blowing on the sails from different directions?

The Force applied to the boat from different directions means that the boat changes course.

Take this idea to the floor with cars or marbles on the carpet and bare floors.

Next move on to magnets. Magnets are an 'invisible' force.

Use magnet wands and Matchbox cars that have strong magnets Super glued to them.

Children can make the cars move without touching them.

Strand II Content of Science – LIFE SCIENCE
Standard II (Life Science): Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

Essential Question: Why are frog legs different from caterpillar legs or human legs? (This benchmark ties into a study of life cycles in the next benchmark (Bmark II) Look at body structures that many organisms have but that look or are used differently than human structures. I.e.- frog legs are for hopping, cougar legs can make the animal run faster than human legs can.)

Category	Second Grade	Unit A Chapter 1 Living and Nonliving Things			Unit A Chapter 2 Animals			Unit A Chapter 3 Plants			Unit B Chapter 4 Living Things in their environment		
		Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3
Strand II: Content of Science LIFE SCIENCE Forms & Structure Benchmark I: Know that living things have diverse forms, structures, functions, and habitats.	1. Observe that diversity exists among individuals within a population.							X	X				
	2. Observe and describe various shapes of fungi.												
	3. Know that bacteria and viruses are germs.	Reference page 3											

End Learnings : 1. Know that physical structure and behavior can change (ie- butterfly metamorphosis) (ties into a life cycle project Bmark II)
2. Be able to **classify** living things by their **attributes**.

Assessments: See Page 2

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Essential Question: What makes you unique? (If you do a life cycle project, ask children to show what makes their chosen animal unique or different from other animals?)

Category	Second Grade	Unit A Chapter 1 Living and Nonliving Things			Unit A Chapter 2 Animals			Unit A Chapter 3 Plants			Unit B Chapter 4 Living Things in their environment		
		Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3
Strand II: Content of Science LIFE SCIENCE Life Forms in the Environment Benchmark II: Know that living things have similarities and differences and that living things change over time	1. Explain that stages of the life cycle are different for different animals (e.g., mouse, cat, horse, butterfly, frog).	X								X			X
	2. Observe that many characteristics of the offspring of living organisms (e.g., plants or animals) are inherited from their parents.			X	X	X	X						
	3. Observe how the environment influences some characteristics of living things (e.g., amount of sunlight required for plant growth).			X	X	X		X	X		X	X	X
Science Spin pg 142													

End Learnings : 1. Know that **environments** can change (in third grade they will learn that a rain forest can become a desert or animal **habitats** can be lost- cut down the wood pecker homes, **erosion**). Know that different plants and animals inhabit different environments.

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Essential Question: What is the most important part of your body?

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		Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3	Lesson 1	Lesson 2	Lesson 3
Strand II: Content of Science LIFE SCIENCE Life Forms in the Environment Benchmark III: Know the parts of the human body and their functions	1. Identify a variety of human organs (e.g., lungs, heart, stomach, brain).	Reference pages 1 - 3, 5 - 9											
	2. Know that various nutrients are required for specific parts and functions of the body (e.g., milk for bones and teeth, protein for muscles, sugar for energy).	Reference pages 4 - 5, 7											
	3. Identify the functions of human systems (e.g., respiratory, circulatory, digestive).	Reference pages 4 - 9											

End Learnings : 1. Know what **germs** are. 2. Know that a variety of nutrients are required by the human body.

Assessments: See Page 2

Pre-assessment – Use Essential Question as a pre-assessment question.

- Make a web of children's answers and reasoning. They may give answers like 'The hand is the most important part of your body because if you didn't have hands you couldn't feed yourself and you would die.'

Post assessment- Ask the Essential Question again.

- Have children write out their answer and their reasoning. They may give answers like 'The brain is the most important part of the body because it tells the rest of the body what to do.' OR 'The heart is the most important part of the body because it gives nutrition to the brain so it can control the body.'

These answers show the children understand important body functions.

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Strand II Content of Science – Earth and Space Science

Standard II (Earth and Space Science): Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.

Essential Question: What is our address in the Universe? (Ties into social studies unit XXXX) (Universe, galaxy (which is a bunch of stars and some stars have star systems), solar system, planet (earth- 3rd rock from the sun), continent, country, state, town, street, house #)

Category	Second Grade	Unit B Chapter 5 Exploring Earth's Surface			Unit C Chapter 6 Natural Resources			Unit D Chapter 7 Weather			Unit D Chapter 8 The Solar System			
		lesson 1	lesson 2	lesson 3	lesson 1	lesson 2	lesson 3	lesson 1	lesson 2	lesson 3	lesson 1	lesson 2	lesson 3	lesson 4
Strand II: Content of Science EARTH & SPACE SCIENCE Universe/Solar System Benchmark I: Know the structure of the solar system and the objects in the universe	1. Observe that the phase of the moon appears a little different every day but looks the same again after about four weeks.											X	X	
	2. Observe that some objects in the night sky are brighter than others.										X			
	3. Know that the sun is a star.										X			

End Learnings : 1. Know that the planets in a solar system revolve around a star and that they rotate. 2. Know what a constellation is.

Assessments: See Page 2

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Essential Question: Where does a rock come from? Where does it go? (If you pick up a rock, did it always look like this? Will it continue to look like this? Focus is on erosion and soil)

Category	Second Grade	Unit B Chapter 5 Exploring Earth's Surface			Unit C Chapter 6 Natural Resources			Unit D Chapter 7 Weather			Unit D Chapter 8 The Solar System			
		lesson 1	lesson 2	lesson 3	lesson 1	lesson 2	lesson 3	lesson 1	lesson 2	lesson 3	lesson 1	lesson 2	lesson 3	lesson 4
Strand II: Content of Science EARTH & SPACE SCIENCE Earth Benchmark II: Know the structure and formation of Earth and its atmosphere and the processes that shape them	1. Know that rocks have different shapes and sizes (e.g., boulders, pebbles, sand) and that smaller rocks result from the breaking and weathering of larger rocks.	X	X											
		<i>Science Spin pg 178</i>												
	2. Understand that rocks are made of materials with distinct properties.		X	X pg 179	X pg 188	<i>You Can Do It Science Project pg 179</i>								
	3. Know that soil is made up of weathered rock and organic materials, and that soils differ in their capacity to support the growth of plants.	X	X		X pg 188	X pg 195 <i>Investigate</i>				<i>Science Spin Unit A Ch 1 – pg 48 Insta-Lab Unit A Ch 1 pg 45</i>				
	4. Recognize the characteristics of the seasons.	<i>Science Spin pg 244</i>						X						X

End Learnings : 1. Know what erosion is. 2. Know that things break down over time with weathering. 3. Know that soil is made up of weathered rock and organic material. (weathering). 4. Know that living things die. 5. Identify how water exists in the air in different forms. (snow, rain and mist).

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Strand III Science & Society – DISCOVER / INVENT Scientific Influence

Standard I: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.

Essential Question: How were you a scientist today? What did you observe today that affected your actions/decisions? (We decide to eat because we observe that we are hungry. We know from scientific studies and observation that the human body needs food to function. We watered the plants because we observed that the dirt was dry or the leaves were drooping or brown. We know from scientific study and observation that plants need water to survive. Alex Fleming observed mold growing in petrie dishes and saw that bacteria wouldn't grow where the mold was. This led to his discovery of penicillin. Let children know that action are taken, inventions are created, discoveries are made as a result of what people observe in their work or daily lives.

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		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12	CH 13
Strand III: Science and Society Discover / Invent Scientific Influence Benchmark I: Describe how science influences decisions made by individuals and societies	1. Describe ways to prevent the spread of germs (e.g., soap, bleach, cooking).	Ref pgs 1,3,7,10-11					L 2 p195 <i>Investigate</i>				<i>Sci Spin</i> 346			
	2. Know that science has ways to help living things avoid sickness or recover from sickness (e.g., vaccinations, medicine) and adult supervision is needed to administer them.	Ref pgs 1,3-13					L 2 p195 <i>Investigate</i>				<i>Sci Spin</i> 346			
	3. Know that some materials are better than others for making particular things (e.g., paper, cardboard, plastic, metal, fiberglass, wood).						L 1 ,3				L 3 p 342 <i>Sci Spin</i> p 346	Pg 353-Experiment-metals & magnets <i>Sci Spin</i> p 440		
	4. Understand that everybody can do science, invent things, and formulate ideas.	Throughout book, experiments, <i>Investigates</i> , <i>Insta-Labs</i> , etc.												
	5. Know that science has discovered many things about objects, events, and nature and there are more questions to be answered.					L 3	L2 L3	Science Spins throughout the						

End Learnings : 1. Know that germs can make you sick.2. Know what recycling is.

Assessments: See Page 2

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Blue	Unit E, Unit F	Physical Science

PERFORMANCE STANDARDS KEY

magenta –	introduce	(a new concept or skill)
green –	develop	(or practice the introduced skill or concept.)
Red –	mastery	(mastery of the skill or concept at this level may mean that this is the last time it will be taught- for example, handwriting skills; or that mastery at this level is necessary to work at a higher level of skill in the next grade- for example, addition facts must be mastered to move on to multiplication.)
Black –	progress	(or continue to work on the skill or concept)
Turquoise –	extend	(the skill or concept through cross-curricular activities.)