4th Grade Matter Unit
Unit Blueprint

Lesson	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (**Bolded** sections indicate portion of benchmark addressed)	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 Student Learning
BSCS Science T.R.A.C.S. ***Investigating Properties*** Lessons 2-5 and 7 **BSCS Science T.R.A.C.S.** ***Investigating Heat & Changes in Materials*** Lessons 1-6 and 9		12A(3-5)#1: Keep records of their investigations and observations and not change the records later. 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.	All lab observations, data tables, and conclusions/answers to questions in student lab journals	• Do students consistently record their observations? • Are students' observations neatly recorded? • Are students' observations detailed enough that they are understandable weeks later? • Do students refrain from changing their observations once the experiment is completed? • Are students able to understand and use their data tables/observations to answer questions, such as *Checking Understanding* questions? • Do students record observations, not inferences, ideas, or speculations?

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BSCS Science T.R.A.C.S. ***Investigating Properties*** **<u>Lesson 1: Which is Which?</u>** **Pacing Suggestions:** **Day 1-** *Teaching Strategies* Steps 1, 2, & 5 on pages 41-43 in Teacher's Guide **Day 2-** *Teaching Strategies*, Steps 3 & 4 on pages 41 & 42 in Teacher's Guide **Day 3-** *Teaching Strategies* Steps 6 & 7 on pages 43-45 in Teacher's Guide **Day 4-** *Teaching Strategies* Step 8 on pages 45 & 46 in Teacher's Guide **Teacher Resources:** 		Reinforce 4D(K-2)#1: Objects can be described in terms of the materials they are made of (clay, cloth, paper, etc.) and their physical properties (color, size, shape, weight, texture, flexibility, etc.)	*Missing Object* activity (See page 41 in Teacher's Edition.) Class description of the bags of salt and powdered drink mix (See Step 3 on pages 41 & 42 in Teacher's Edition.) Journal entry describing the properties of cornstarch and salt (*Solving the Case of the Confused Chef*—pages 43-45 in Teacher's Edition) & class discussion **Summative Assessment:** • *Checking Understanding* questions 1 & 2 (See pages 45 & 46 of Teacher's Edition.) -OR- • Write a letter to Carmelita identifying the two powders and explaining the properties used to determine the identity of the powders. (Teacher-generated direction sheet available under "Teacher Resources" on electronic curriculum) Click to view sample of student work.	***Missing Object*** Do students use many physical properties to describe the object? ***Class description of the bags of salt and powdered drink mix*** • Do students describe the physical properties of the powders? • Do students generate enough descriptors to differentiate the two powders? ***Solving the Case of the Confused Chef*** See *Sharing Results* on pages 44-45 for detailed information about student responses. ***Checking Understanding*** Do students understand that both powders have properties and the properties unique to each powder help in identifying them?
		12C(3-5)#2: Measure and mix dry and liquid materials in prescribed amounts, exercising reasonable safety [and demonstrating correct lab techniques].	Teacher observation of students measuring 5 mL of salt for the *Solving the Case of the Confused Chef* lab activity (See "Teacher Tips" for information on proper lab technique.)	• Do students accurately measure the prescribed amount of the substance? • Do students demonstrate correct lab technique?

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Lesson 2: Exploring Five White Powders **Pacing Suggestions:** **Day 1-** *Teaching Strategies* Steps 1 & 2 on pages 51-53 in Teacher's Guide **Day 2-** *Teaching Strategies* Step 3 & 4 on pages 53 & 54 in Teacher's Guide **Day 3-** *Assessment Strategies* on pages and Step 5 on pages 55 & 56 **Teacher Resources:** 		Introduction to 12D(6-8)#1**: Organize information in simple tables** and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks about the importance of student-generated tables and graphs at this grade level.)	Students construct data tables from a model in student text and enter lab data Click to view samples of student work.	• Are students able to create a table from a model? • Do students enter data in an organized method? • Are their tables legible?
		12C(3-5)#2: Measure and mix dry and liquid materials in prescribed amounts, exercising reasonable safety [and demonstrating correct lab techniques].	Teacher observation of students measuring 20 mL of water in *Investigating with Water* lab In *Checking Understanding* activity, student teams measure liquid (See page 55 in Teacher's Edition.)	• Do students accurately measure the prescribed amount of the substance? • Do students demonstrate correct lab technique?
In general, how does mixing two or more materials affect their properties? Why is this important?		4D(3-5)#4: **When a new material is made by combining two or more materials, it has properties that are different from the original materials.** For that reason, a lot of different materials can be made from a small number of basic kinds of materials.	Class discussion of *Investigating with Water* lab results (See page 54, *Making Meaning* section in Teacher's Edition.) *Checking Understanding* #6 (See page 55 in Teacher's Edition.)	Do students recognize that the mixed substance has new properties that are different from the original parts?

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Lesson 3: Investigating with Other Liquids **Suggested Pacing:** **Day 1-** Steps 1-5 on pages 38 & 39 in Student Guide **Day 2-** Steps 6- 9 on pages 40 & 41 in Student Guide **Day 3-** Steps 10 & 11 on page 41 in Student Guide **Day 4-** Students plan experiment for *Checking Understanding* and make a data table **Day 5-** Students conduct experiment and complete *Checking Understanding* **Teacher Resources:** 		Introduction to 12D(6-8)#1**: Organize information in simple tables** and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks about the importance of student-generated tables and graphs at this grade level.)	In *Investigating with Vinegar, Red Cabbage Juice, and Iodine*, students add additional columns to the data table they constructed in Lesson 2 In *Checking Understanding*, student teams design new data tables (See page 63 in Teacher's Edition.) Click to view samples of student work.	• Do students enter data in an organized method? • In *Checking Understanding,* are students able to create a table using previous tables as models?
		12C(3-5)#2: Measure and mix dry and liquid materials in prescribed amounts, exercising reasonable safety [and demonstrating correct lab techniques].	Students measure 20 mL of five different powders in *Investigating with Vinegar, Red Cabbage Juice, and Iodine*	• Do students accurately measure the prescribed amount of the substance? • Do students demonstrate correct lab technique?
	In general, how does mixing two or more materials affect their properties? Why is this important?	4D(3-5)#4: **When a new material is made by combining two or more materials, it has properties that are different from the original materials.** For that reason, a lot of different materials can be made from a small number of basic kinds of materials.	Class discussion of *Investigating with Vinegar, Red Cabbage Juice, and Iodine* lab results (See page 63, *Making Meaning* section in Teacher's Edition.) *Checking for Understanding* is a lab application of the benchmark (See pages 64 & 65 in Teacher's Edition.)	**Class discussion of lab** Do students understand that a property of the powders is the way they react when mixed with water, iodine, and cabbage juice? ***Checking Understanding*** When designing their experiments, do the students use their knowledge about the properties of the powders when combined with different liquids?

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Lesson 4: The Mystery Mixture **Pacing Suggestions:** **Day 1-** Steps 1-3 on pages 46 & 47 in Student Guide **Day 2-** Steps 4 & 5 on page 48 in Student Guide **Day 3-** Steps 4-6 under *Assessment Strategies* on pages 72-73 in Teacher's Guide **Teacher Resources:** 	In general, how does mixing two or more materials affect their properties? Why is this important?	Illinois Performance Descriptor: Students will design and conduct experiments (See page 76 in *Benchmarks* about the importance of student-designed experiments.) 4D(3-5)#4: When a new material is made by combining two or more materials, it has properties that are different from the original materials. For that reason, a lot of different materials can be made from a small number of basic kinds of materials.	Students design and conduct experiment in *Identifying the Mystery Mixture* (See *Team Task* on pages 70 & 71 in Teacher's Edition.) Click to view samples of student work. Question 5, second bullet on *Directions for Identifying the Mystery Mixture* (see page 48 in Student Guide and/or page 71 in Teacher's Edition) and class discussion of *The Mystery Mixture*	See *Assessment Strategies* on page 72 in Teacher's Edition.

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<u>Lesson 5: Does it Disappear?</u> **Suggested Pacing:** **Day 1-** Session 1 on pages 78 & 79 in Teacher's Guide **Day 2-** *Teaching Strategies* Steps 6 & & on pages 79 & 80 in Teacher's Guide **Teacher Resources:** 		Introduction to 12D(6-8)#1**: Organize information in simple tables** and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks about the importance of student-generated tables and graphs at this grade level.)	Student-generated data table for *Is There Powder Here?* Lab Click to view sample of student work.	• Are students able to construct a useable data table for the experiment? • Do their tables include straight lines, a title, and column headings? • Do students enter data in an organized method? • Are their tables legible? • Are students' construction and use of data tables improving?
		12C(3-5)#2: Measure and mix dry and liquid materials in prescribed amounts, exercising reasonable safety [and demonstrating correct lab techniques].	Students measure specified quantities of water in *Is There Powder Here?* lab	• Do students accurately measure the prescribed amount of the substance? • Do students demonstrate correct lab technique?
		Related to 4D(3-5)#4: **When a new material is made by combining two or more materials, it has properties that are different from the original materials.** For that reason, a lot of different materials can be made from a small number of basic kinds of materials.	Lab journal entry and class discussion of Direction #7 in *Is There Powder Here?* lab. (See Step 7, *Making Meaning*, on pages 79 & 80 in Teacher's Edition)	• Despite the difference in appearance, do students recognize that the crystals are still salt and alum? • Do students understand that even though they mixed the powders with water, the original parts are still present?
Lesson 6: How Much Will Dissolve? **Skip Lesson**		Lesson is related to solubility rates—no content benchmarks directly related to lesson. Lesson is not necessary for Lesson 7.		

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Lesson 7: The Secret Mixture **Pacing Suggestions:** **Day 1—** Steps 1 & 2 on page 65 in Student Guide & Step 1 on page 66 in Student Guide **Day 2—** Steps 2-3 on pages 66-67 in Student Guide **Day 3—** Step 4 on page 67 in Student Guide **Teacher Resources:** 	In general, how does mixing two or more materials affect their properties? Why is this important?	Illinois Performance Descriptor: Students will design and conduct experiments (See page 76 in *Benchmarks* about the importance of student-designed experiments.) 4D(3-5)#4: **When a new material is made by combining two or more materials, it has properties that are different from the original materials.** For that reason, a lot of different materials can be made from a small number of basic kinds of materials. Introduction to 12D(6-8)#1**: Organize information in simple tables** and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks about the importance of student-generated tables and graphs at this grade level.)	**Summative Assessment:** Students design/conduct experiment and analyze data in *The Secret Mixture* lab (See page 93 in Teacher's Edition)	When designing their experiments, do the students use their knowledge about the properties of the powders when combined with different liquids?

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BSCS Science T.R.A.C.S. ***Investigating Heat & Changes in Materials*** **<u>Lesson 1: What Does Heating Do?</u>** **Pacing Suggestions:** **Day 1 –** Session 1 on pages 45-47 in Teacher's Edition **Day 2 –** Session 2 on pages 47 & 48 in Teacher's Edition **Day 3 –** Session 3 on pages 48 & 49 in Teacher's Edition **Teacher Resources:** 	How do heating and cooling affect materials?	Reinforces 4D(K-2)#2: Things can be done to materials to change some of their properties, but not all materials respond the same way to what is done to them. 4D(3-5)#1: **Heating and cooling cause changes in the properties of materials.** Many changes in the properties occur faster under hotter conditions.	Class discussion of lab (See *Sharing Ideas* on page 48 in Teacher's Edition.) *Checking Understanding,* questions 1, 2, & 4 (See page 49 in Teacher's Edition.)	See pages 48 &49 Teacher's Guide for specific information on what to expect in students' answers. Also, read *Assessment Strategies* on page 48.
		Introduction to 12D(6-8)#1**: Organize information in simple tables** and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks about the importance of student-generated tables and graphs at this grade level.)	Student-generated data table (*Note: The Lesson, as written in the Teacher's Guide on page 45, assumes minimal exposure to student-generated data tables. Since students have completed the lessons in the Properties module, they should need significantly less support than provided in the text.)* Click to view sample of student work.	• Are students able to recreate the data table provided in the book? • Do their tables include straight lines, a title, and column headings? • Do students enter data in an organized method? • Are their tables legible?

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<u>Lesson 2: What Does Cooling Do?</u> **Pacing Suggestions:** **Day 1 –** *Teaching Strategies* Step 1 and first triangle in Step 2 on pages 54 & 55 in Teacher's Edition **Day 2 –** Remainder of Step 2 and Step 3 on pages 55 & 56 in Teacher's Edition **Day 3 –** Session 2 on page 57 in Teacher's Edition **Teacher Resources:** 		Introduction to 12D(6-8)#1**: Organize information in simple tables** and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks about the importance of student-generated tables and graphs at this grade level.)	Student-generated data table for *Removing Heat* lab	• Are students able to recreate the data table provided in the book? • Do their tables include straight lines, a title, and column headings? • Do students enter data in an organized method? • Are their tables legible? • Is there improvement between the tables generated for Lessons 1 & 2. For example, do they allow more space, if needed?
	How do heating and cooling affect materials?	Reinforces 4D(K-2)#2: Things can be done to materials to change some of their properties, but not all materials respond the same way to what is done to them. 4D(3-5)#1: Heating and **cooling cause changes in the properties of materials.** Many changes in the properties occur faster under hotter conditions.	*Checking Understanding*, Questions 1-4 (See page 57 in Teacher's Edition.)	See Step 4 on page 57 Teacher's Edition for specific information on what to expect in students' answers. Also, read *Assessment Strategies* on page 57.

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<u>Lesson 3: How Hot Is It?</u> **Pacing Suggestions:** **Day 1 –** Session 1 on pages 63-65 in Teacher's Edition **Day 2 –** *Teaching Strategies* Step 4 on pages 65 & 66 in Teacher's Edition **Day 3 –** Steps 5-7 on pages 66-68 in Teacher's Edition **Day 4 –** *Checking Understanding* on page 69 in Teacher's Edition **Teacher Resources:** 		12D(3-5)#3: Use numerical data in describing objects and events. 12C(6-8)#3: **Use analog** and digital **meters on instruments used to make direct measurements of** length, volume, weight, elapsed time, rates, and **temperature, and choose appropriate units for reporting various magnitudes.**	*Comparing Temperatures* (See *Comparing Temperatures—Team Task* on pages 65 & 66 in Teacher's Edition.) *Checking Understanding* (See page 69 in BSCS Teacher's Edition.)	***Comparing Temperatures*** • Do students use the thermometers correctly? (Ex: Do they keep the bulb submerged for 30 seconds prior to taking a reading?) • When discussing the results, do students use the quantitative data they collected to make comparisons? ***Checking Understanding*** • Are students able to read and use the thermometers correctly? (If doing a performance assessment, do they keep the bulb submerged for approximately 30 seconds prior to taking a reading?)
		12D(6-8)#1: **Organize information in simple [student-generated] tables** and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks.)	Student-generated data table for *Comparing Temperatures* lab (See bottom of page 65 in Teacher's Edition.) Click to view sample of student work.	• Do students understand the data they will collect, and are they able to create some type of organized data table with <u>some</u> teacher support? • Do their tables include straight lines, a title, and column headings? • Do students enter data in an organized method? • Are their tables legible?

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	Why do the results of similar experiments rarely turn out exactly the same? What is a "fair" experiment? Why should experiments be "fair?"	1A(3-5)#1: Results of similar scientific investigations seldom turn out exactly the same. Sometimes this is because of unexpected differences in the things being investigated, sometimes because of unrealized differences in the methods used or in the circumstances in which the investigation is carried out and sometimes just because of uncertainties in observations. It is not always easy to tell which. 12E(305)#2: Recognize when comparisons might not be fair because some conditions are not kept the same.	Class discussion of *Comparing Temperatures* data (See *Graphing the Data* on pages 66 & 67 in Teacher's Edition.) Class discussion of *How Cold Was It?* data (See *Explaining Temperature Readings* on page 68 in Teacher's Edition.)	***Comparing Temperatures*** • Do students understand that results of experiments rarely turn out exactly the same? • Do students understand if conditions of an experiment are not kept the same, the comparisons are not fair? • Are students able to generate some reasonable explanations for variations in the data? ***How Cold Was It?*** • Are students able to generate some reasonable explanations for variations in the data?

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Lesson 4: Where Does Heat Flow? **Pacing Suggestions:** **Day 1 –** Session 1 on pages 74-76 in Teacher's Edition **Day 2 –** *Teaching Strategies* Steps 3 & 4 on pages 76 & 77 in Teacher's Edition **Day 3 –** Step 5 on page 77 in Teacher's Edition **Day 4–** *Checking Understanding* on pages 78 & 79 in Teacher's Edition **Teacher Resources:** 		12D(6-8)#1: Organize information in simple [student-generated] tables and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks.)	Student-generated data table for *Transferring Heat* lab (See *Preparing for the Transferring Heat Activity* on pages 75 & 76 in Teacher's Edition.) Click to view sample of student work. *Graphing Changing Temperatures* (See Step 5 on pages 77 & 78 in Teacher's Edition.) Click to view sample of student work.	**Student-Generated Tables** • Do students understand the data they will collect, and are they able to create some type of organized data table with some teacher support? • Do their tables include straight lines, a title, and column headings? • Do students enter data in an organized method? • Are their tables legible? **Student-Generated Graphs** • Are students able to construct graphs of the data? (Depending on the amount of exposure to graphing, students will most likely need some teacher support.) • Are students able to use the graph to describe the changes that occurred during the experiment?
		12D(3-5)#3: Use numerical data in describing objects and events. 12C(6-8)#3: **Use analog** and digital **meters on instruments used to make direct measurements of** length, volume, weight, elapsed time, rates, and **temperature, and choose appropriate units for reporting various magnitudes.**	*Transferring Heat*—data collection and analysis (See Steps 3 & 4 on pages 76 & 77 in Teacher's Edition.)	• Are students able to efficiently and accurately take temperature readings? • When writing the sentence describing the graph (see the bottom of page 47 in the Student Guide), do the students use the data to describe what happened?

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	What happens when warmer things are placed by cooler things?	4E(3-5)#2: When warmer things are put with cooler ones, the warm ones lose heat and the cool ones gain it until they are all at the same temperature. A warmer object can warm a cooler one by contact or at a distance.	Class discussion of lab data (See *Sharing the Data* on page 77 in Teacher's Edition) *Checking Understanding* Questions 1 and 2 (See pages 78 & 79 in Teacher's Edition.) Add additional question/task: Draw a diagram of heat flow of the two containers of the experiment.	**Class Discussion of Data** • Do students understand that the warm water lost heat and the cold water gained heat? (See *Information for the Teacher* on pages 79 & 80 for additional information on heat transfer.)
	What are conductors? What kinds of materials conduct heat? How can heat loss be decreased?	**Opportunity to introduce** 4E(3-5)#3: Some materials conduct heat much better than others. Poor conductors can reduce heat loss.	*Checking Understanding* Question 4 (See pages 78 & 79 in Teacher's Edition.)	Do students' answers reveal any knowledge about conductors and insulators? If not, this is an opportunity to introduce the idea of an insulator.

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Lesson 5: It's Melting! **Pacing Suggestions:** **Day 1 –** *Teaching Strategies* Steps 1 & 2 on pages 84 & 85 in Teacher's Edition **Day 2 –** Steps 3 & 4 on pages 85 & 86 in Teacher's Edition **Day 3 –** Steps 5-7 on pages 86-88 in Teacher's Edition **Day 4 –** *Checking Understanding* on pages 88 & 89 in Teacher's Edition **Teacher Resources:** 		12D(6-8)#1: Organize information in simple [student-generated] tables and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks.)	Student-generated data table for *Melting Ice* lab (See page 85 in Teacher's Edition and "Teacher Tips" under "Teacher Resources" on the electronic curriculum.) Click to view sample of student work. *Graphing the Temperature of Melting Ice* (See *Graphing the Data—Individual Task* on page 87 in Teacher's Edition.)	**Student-Generated Tables** • Do students understand the data they will collect, and are they able to create some type of organized data table with minimal teacher support? • Do their tables include straight lines, a title, and column headings? • Do students enter data in an organized method? • Are their tables legible? **Student-Generated Graphs** • Are students able to construct graphs of the data with less teacher support and greater quality than in Lesson 4? • Are students able to use the graph to describe the changes that occurred during the experiment?
		12D(3-5)#3: Use numerical data in describing objects and events. 12C(6-8)#3: **Use analog** and digital **meters on instruments used to make direct measurements of** length, volume, weight, elapsed time, rates, and **temperature, and choose appropriate units for reporting various magnitudes.**	*Melting Ice* lab (See pages 85 & 86 in Teacher's Edition.)	• Are students able to efficiently and fairly accurately take temperature readings? (At this point, most students should be somewhat proficient at reading a thermometer.) • When writing the sentence describing the graph (see the bottom of page 54 in the Student Guide), do the students use the data to describe what happened?

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	What happens when warmer things are placed by cooler things?	4E(3-5)#2: When warmer things are put with cooler ones, the warm ones lose heat and the cool ones gain it until they are all at the same temperature. A warmer object can warm a cooler one by contact or at a distance.	*Checking Understanding* Questions 5 & 7 (See pages 88 & 89 in Teacher's Edition.)	See *Assessment Strategies* and *Checking Understanding* on pages 87 & 88 in Teacher's Edition for information on students' answers.

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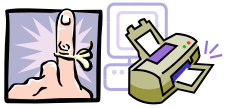
<u>Lesson 6: It's Freezing!</u> **Pacing Suggestions:** **Day 1 –** Session 1 on pages 94 & 95 in Teacher's Edition **Day 2 –** Session 2 on page 95 & 96 in Teacher's Edition **Day 3 –** Steps 5-6 on pages 97 & 98 in Teacher's Edition Optional: Step 7 on pages 98 & 99 **Day 4 –** *Checking Understanding* on pages 99 & 100 **Teacher Resources:** 		12D(6-8)#1: Organize information in simple [student-generated] tables and graphs and identify relationships they reveal. (See essay on page 76 in Benchmarks.)	**Summative Assessment:** Student-generated data table for *Freezing Water* lab (See *Creating a Data Table* on page 95 in Teacher's Edition.) Student-generated graph of *Freezing Water* lab Note: Use Teacher-generated graph paper, available under "Teacher Resources" on electronic curriculum, in place of the *Graphing the Temperature of Freezing Water* (BLM 6-1) that is included in the Teacher's Edition (See *Graphing the Data—Individual Task* on page 97 in Teacher's Edition.)	**Student-Generated Tables** • Do students understand the data they will collect, and are they able to create some type of organized data table <u>without</u> teacher support? • Do their tables include straight lines, a title, and column headings? • Do students enter data in an organized method? • Are their tables legible? **Student-Generated Graphs** • Are students able to construct graphs of the data with less teacher support and greater quality than in Lesson 5? • Are students able to use the graph to describe the changes that occurred during the experiment?
		12D(3-5)#3: Use numerical data in describing objects and events. 12C(6-8)#3: **Use analog** and digital **meters on instruments used to make direct measurements of** length, volume, weight, elapsed time, rates, and **temperature, and choose appropriate units for reporting various magnitudes.**	*Freezing Water* lab and lab data (See pages 95 & 96 in Teacher's Edition.) *Checking Understanding* Questions 1-3, 6 & 8 (See pages 99 & 100 in Teacher's Edition.)	*Freezing Water* • Are students able to efficiently and fairly accurately take temperature readings? • When writing the sentence describing the graph (see the bottom of page 63 in the Student Guide), do the students use the data to describe what happened? *Checking Understanding* • Do students use their data to answer the questions?

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	How do heating and cooling affect materials?	4D(3-5)#1: Heating and cooling cause changes in the properties of materials. Many kinds of changes occur faster under hotter conditions.	*Checking Understanding* Questions 4 & 5 (See pages 99 & 100 in Teacher's Edition.)	See page 100 in Teacher's Guide for information on student answers.
Lesson 7: Where Does the Liquid Go? **SKIP LESSON**				
Lesson 8: Getting Into Hot Water **SKIP LESSON**				

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Lesson 9: What Have You Learned? **Pacing Suggestions:** **Day 1 –** Assessment Tasks 1 & 2 **Day 2 –** Assessment Tasks 3 & 4	How do heating and cooling affect materials? What happens when warmer things are placed by cooler things?	12D(3-5)#3: Use numerical data in describing objects and events. 4E(3-5)#2: When warmer things are put with cooler ones, the warm ones lose heat and the cool ones gain it until they are all at the same temperature. A warmer object can warm a cooler one by contact or at a distance. 4D(3-5)#1: Heating and cooling cause changes in the properties of materials. Many kinds of changes occur faster under hotter conditions. 12D(6-8)#1: Organize information in simple [student-generated] tables and graphs and **identify relationships they reveal.** (See essay on page 76 in Benchmarks)	**Summative Assessment:** Tasks 1-4 on pages 125 & 126 in Teacher's Edition	See pages 127 & 128 in Teacher's Edition for detailed information about student answers.