

Unit 2—Exploring Properties (FOSS® Foss Wood & Paper)

Essential Question: How do we observe and describe objects?

Major Understandings: *Quoted from New York State Performance Indicators*

(Note: Correlation is provided at the level of FOSS “Investigation & Part.” All “Steps” of an investigation must be completed to meet the standard.)

PS 3.1 Observe and describe properties of materials using appropriate tools.

- 3.1b Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses.
- 3.1c Objects have properties that can be observed, described, and/or measured: length, width, volume, size, shape, mass or weight, temperature, texture, flexibility, reflectiveness of light.
- 3.1d Measurements can be made with standard metric units and nonstandard units.
- 3.1e The material(s) an object is made up of determine some specific properties of the object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders.
- 3.1f Objects and/or materials can be sorted or classified according to their properties.
- 3.1g Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example:
 - temperature – hot or cold
 - lighting – shadows, color
 - moisture – wet or dry

Synchronizing the FOSS® Trees and FOSS® Wood and Paper Modules:

The Wood and Paper module follows the FOSS® Trees module introduced in Unit 1. The 18 investigations of Wood and Paper can be introduced at any time after the Trees unit is begun. Investigations 1 and 2 focus on wood; Investigations 3 and 4 focus on paper. Investigation 5 focuses on construction with wood and paper.

When the timing of the next Trees lesson is delayed due for any reason, (weather, season, etc.) the FOSS® Wood and Paper module (Unit 2) may be started. Continue with lessons from Wood and Paper until you are able to return to the Trees module.

Planning for the FOSS® Wood and Paper Module:

Consult the FOSS® Wood and Paper Teacher Guide “Overview” folio:

Science Background, pp. 3-5: Review the perspective of the module, considering how careful integration of these modules will enhance the experiences of the learner.

Organizing the Classroom, pp. 10-11: Take note that FOSS “Centers” are guided inquiry experiences under the direction of an adult. The subsection, “When You Don’t Have Adult Helpers” has suggestions for doing some of the activities with the whole class. To accomplish this you may need some extra equipment that may be borrowed from another teacher’s kit.

Scheduling the Wood and Paper Module, pp. 12-14: This information may be helpful in integrating the lesson pacing below into your daily classroom routine. In the Planning Guide, each “Part” of the FOSS Investigation is written as one “Lesson.” You may spend more than one session rotating students through the center. You may wish to create a center for students to independently explore materials after a formal class lesson.

Consider too, that you will need to provide drying time and space between lessons and for some projects. These notes are included in the Planning Guide. Consult the Materials folio, p. 7 for details.

Materials, Review “Materials Supplied by the Teacher” (items not included in your kit), “Preparing a New Kit,” and “Preparing the Kit for the Classroom” pp. 4-7.

- **View the FOSS Wood and Paper Module Introduction and Before You Begin segments of the FOSS Teacher Preparation Video/DVD (also available online at <http://www.fossweb.com/modulesK-2/WoodandPaper/index.html>).**
- **Preparing a New Kit p. 5, Steps 1 and 2 and Preparing the Kit for Your Classroom, pp. 6-7, Steps 4, 5, 6**
The entire kit may be prepped in one sitting or you may complete this prep prior to each Investigation.
For Investigation 1: Getting to Know Wood, Part 1, Introduction to Wood Samples, complete Preparing a New Kit, p. 5, Step 2: Prepare Wood Samples
For Investigation 3: Getting to Know Paper, Part 1, Paper Hunt, complete Preparing the Kit for Your Classroom, Step 4: Prepare Consumable Paper Samples.
HINT: Use a piece of cardboard or chipboard as a template for cutting the consumable papers.

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- **Preparing the Kit for the Classroom – Science Notebooks /Journals and Reading Resources**

Consider how you will use science journals for this module.

Consult the Teacher Guide: Investigation 1: Getting to Know Wood, Interdisciplinary Extensions, p. 33 Communicate Through Science Journals and Student Sheet IDM No. 19.

Download the FOSS Science Notebooks folio found in the “Program Resources” (use the scroll bar) section of the NYC Science Teacher Resources page http://www.fossweb.com/NYC/teacher_resources/bin-release/index.html?grade=k&module=1#

The FOSS “Wood and Paper Science Stories” is included in the kit.

The use of two trade books is supported in the Reading Connections folio of the Wood and Paper Teacher Guide:

“El Piñatero / The Piñata Maker” by George Ancona ISBN # 0152000607, Harcourt Brace, New York, 1994 is read after completing Investigation 4: Changing Paper, Part 2: Papier-Mâché

“Mighty Tree” by Dick Gackenbach ISBN # 0152010133, Harcourt Brace & Co. (Voyager Books), New York, 1992 is read after completing Investigation 5 Constructions, Part 2: Paper Weaving.

Review the supporting materials for the objectives of these selections. Obtain a copy of these books or review additional recommendations listed in the “Resources” folio. You can download a copy of the Resources Database at www.fossweb.com to share with your librarian for assistance in identifying books available in your school.

- Review suggestions for fiction and nonfiction student reading in the Resources section of the Wood and Paper Teacher Guide.

Download the Material Safety Data Sheet for Wood and Paper [Particle Board, Plywood]

Follow the link: http://www.delta-education.com/science/foss/foss_msds.aspx

Consider Safety:

Sanding wood and working with sawdust and wood shavings may be a problem for students with asthma. Consider using a bandana or handkerchief to cover the nose and mouth.

Remind students to wash their hands after working with small particles. Don't let the particles touch the students' eyes.

Preparing the Cornstarch Matrix for Investigation 2: Changing Wood, Part 3: Making Sawdust Wood.

Here are some suggestions from Leigh Agler, FOSS Developer, on making the perfect cornstarch matrix:

I've always cooked the matrix on medium heat with great success. Here's what I do, and it shouldn't take more than 5–10 minutes.

- Mix equal parts cornstarch and water (about 3.5 cups water per box).
- Stir like crazy until it is smooth and very liquidy.
- Heat on MEDIUM heat, stirring CONSTANTLY.
- About 5 minutes into it, the spoon will glob up with cooked mixture and the bottom of the pot will begin to glob up.
- Scrape the spoon and mush the thick mixture from the spoon on the side of the pot.
- Continue stirring until about 1/2 of the pot is like thick mashed potatoes.
- Remove the pot from the heat and stir like crazy (by this time your arm is coming off, so requisition a friend) until the entire pot of mixture is smooth.
- Pour and scrape into a plastic storage container and cool. The next day, it will be like Crisco. That's OK. It's an art, and one that will make you proud to say, "I can cook the perfect cornstarch matrix!"

If you wish to prepare vocabulary cards for Investigation 1: Getting to Know Wood, see p. 7 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Wood and Paper module page.

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WEEK 1	<p>Lesson 1 (45 min)</p> <p>Objective(s): An <u>informal</u> pre-assessment of student knowledge of the properties of matter and the use of tools to explore the properties of materials.</p>	<p>Alignment with NYS Core Curriculum: PS 3.1b, c, d, e, f, g</p>	
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Note: Administration of the pre-assessment should be a few days BEFORE the start of the unit. – Teacher Guide, Assessment Folio, pp. 1-4 – Kit preparation: See Teacher Guide, Materials, pp. 1-8 and Teacher Preparation Video or DVD (or view at www.fossweb.com/NYC). – Note: See Teacher Guide, Materials, p. 4 for Materials Supplied by the Teacher. – Gather materials as noted above. – Review the Overview folio of the Teacher Guide taking special note of pp. 3-5: Science Background; pp. 10-11: Organizing the Classroom; p. 15: Safety in the Classroom; p.18: Module Matrix 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – End-of-Module Assessment, Assessment Checklist and Narrative Report Assessment Duplication Masters Nos. 1, 2, 3 – Letter to Parents, Teacher Sheet No. 1 <p>Note: The “Letter to Parents” in your Teacher Guide informs parents and caregivers about upcoming experiences for students. Resources found on Fossweb.com will help you connect parents and caregivers to student learning.</p> <p><i>Log on to www.fossweb.com/nyc.: Enter your username and password (“fossnyc”) Go to Teacher Resources (at the bottom of the LEFT sidebar). Click on Unit 2 “Wood and Paper” Scroll through “Module Teaching Resources” Open the FOSS at Home Folder Download the “FOSS® at Home” Folio</i></p> <p>Parents can access this information through the national website: <i>Log onto www.fossweb.com Go to “Grades K-2” Go to “Wood and Paper” Click on “Teacher/Parent Info” Click on “Home/School Connection” Download the “FOSS® at Home” Folio (or Home / School Connection Student Sheets)</i></p>	<p style="text-align: center;">Homework/ Extra Practice</p> <p>Send Home “Letter to Parents.”</p>

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WEEK 1 (continued)	Lesson 2 (45 min) Objective(s): <ul style="list-style-type: none"> • Wood has many observable properties. • Wood is a resource that comes from different kinds of trees. • Some woods are processed and transformed by people. 		Alignment with NYS Core Curriculum: PS 3.1b, c, f	
	Advanced Planning/ Notes to Teacher <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Getting to Know Wood, pp. 1-7 – Teacher Guide Inv. 1: Getting to Know Wood, Part 1: Introduction to Wood Samples, Materials and Getting Ready, pp. 8-11 – Teacher Guide Inv. 1: Getting to Know Wood, Interdisciplinary Extensions, p. 33 Communicate Through Science Journals. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Wood and Paper. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 1: Getting to Know Wood Part 1: Introduction to Wood Samples, pp. 12-14, Steps 1-10 – Investigation Duplication Master: Teacher Sheet No. 1 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/ Extra Practice

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WEEK 1 (continued)	<p>Lesson 3 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Wood has many observable properties. • Wood is used for many everyday things. 		<p>Alignment with NYS Core Curriculum: PS 3.1b, c, f</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Getting to Know Wood, pp. 1-7 – Teacher Guide Inv. 1: Getting to Know Wood, Part 2: Wood Hunt, Materials and Getting Ready, pp. 15-17 – Teacher Guide Wood and Paper Reading Connections folio, p. 3 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 1: Getting to Know Wood Part 2: Wood Hunt, pp. 18-19, Steps 1-10 – Investigation Duplication Master: Student Sheets Nos. 2, 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 3-8 <i>The Story of a Chair</i> <p>For link to the Wood and Paper Science Stories Audio Stories Log on to www.fossweb.com/nyc: Go to Grade K, click on Wood and Paper. Click on “Media”; Click on Audio Stories.</p>	<p style="text-align: center;">Homework/ Extra Practice</p> <p>Home School Connection, IDM No. 22</p>

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WEEK 2	Lesson 4 (45 min) Objective(s): <ul style="list-style-type: none"> • Wood has many observable properties. • Wood floats in water. • Wood absorbs water. 		Alignment with NYS Core Curriculum: PS 3.1b, c, f, g
	Advanced Planning/ Notes to Teacher <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Getting to Know Wood, pp. 1-7 – Teacher Guide Inv. 1: Getting to Know Wood, Part 3: Wood and Water, Materials and Getting Ready, pp. 20-21 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 1: Getting to Know Wood Part 3: Wood and Water, pp. 22-23, Steps 1-10 – Investigation Duplication Master: Teacher Sheet No. 3 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice
	Lesson 5 (45 min) Objective(s): <ul style="list-style-type: none"> • Wood has many observable properties. • Wood floats in water. • Some kinds of wood sink more easily than others. 		Alignment with NYS Core Curriculum: PS 3.1b, c, d, f, g
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Getting to Know Wood, pp. 1-7 – Teacher Guide Inv. 1: Getting to Know Wood, Part 4: Sink the Pine and Plywood, Materials and Getting Ready, pp. 24-25 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 1: Getting to Know Wood Part 4: Sink the Pine and Plywood, pp. 26-27, Steps 1-9 – Investigation Duplication Master: Teacher Sheet No. 4 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice

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	<p>Lesson 6 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Wood floats in water. • Some kinds of wood sink more easily than others. 	<p>Alignment with NYS Core Curriculum: PS 3.1c, d, g</p>	
WEEK 2 (continued)	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Getting to Know Wood, pp. 1-7 – Teacher Guide Inv. 1: Getting to Know Wood, Part 5: Sinking Investigation, Materials and Getting Ready, pp. 28-29 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 1: Getting to Know Wood Part 5: Sinking Investigation, pp. 30-32, Steps 1-10 – Investigation Duplication Master: Teacher Sheet No. 5 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist <p>Note: This part is considered as optional. If you decide not to do it at this point in the module, consider returning to it as an end of year activity. You can do it outdoors in the warm weather.</p> <p><i>Follow the link:</i> http://www.fossweb.com/modulesK-2/WoodandPaper/index.html Go to Teacher / Parent Info Go to Teacher Resources Go to Taking Science Outdoors Download: Science in the Schoolyard Guide: FOSS® Wood and Paper</p>	<p>Homework/Extra Practice</p>
<p>If you wish to prepare vocabulary cards for Investigation 2: Changing Wood, see p. 7 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Wood and Paper module page.</p>			

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	<p>Lesson 7 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Wood has many observable properties. • Sanding can change the shape of wood. • Sawdust and wood shavings are tiny pieces of wood. 	<p>Alignment with NYS Core Curriculum:</p> <p>PS 3.1b, c, e,</p>	
WEEK 3	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Changing Wood, pp. 1-7 – Teacher Guide Inv. 2: Changing Wood, Part 1: Sanding Wood, Materials and Getting Ready pp. 8-9 – Teacher Guide Inv. 1: Getting to Know Wood, Interdisciplinary Extensions p. 33 Communicate Through Science Journals. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Wood and Paper. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 2: Changing Wood Part 1: Sanding Wood, pp. 10-11, Steps 1-10 – Investigation Duplication Master: Teacher Sheet No. 6 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/ Extra Practice</p>

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WEEK 3 (continued)	Lesson 8 (45 min) Objective(s): <ul style="list-style-type: none"> • Wood has many observable properties. • Wood that is waterlogged sinks. 		Alignment with NYS Core Curriculum: PS 3.1b, c, e
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Changing Wood, pp. 1-7 – Teacher Guide Inv. 2: Changing Wood, Part 2: Sawdust and Shavings, Materials and Getting Ready, pp. 12-13 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 2: Changing Wood Part 2: Sawdust and Shavings, pp. 14-15, Steps 1-12 – Investigation Duplication Master: Teacher Sheet No. 7 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist <p>Note: Prepare the Cornstarch Matrix for Lesson 9: Inv. 2, Part 3. (See Preparing the Cornstarch Matrix on page 4.) See the Teacher Guide, Inv. 2, Part 3, p. 17, Step 6 <i>or</i> consult the Module Teaching Notes section of the Teacher Resources on the national fossweb page: http://www.fossweb.com/modulesK-2/WoodandPaper/index.html You can view the prep on the Teacher Prep Video for Inv. 2, Part 3 — but note that this method has been updated in the Teacher Guide and Module Teaching Notes.</p>	Homework/Extra Practice Home School Connection, IDM No. 23

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WEEK 3 (continued)	Lesson 9 (45 min) Objective(s): <ul style="list-style-type: none"> • Some objects occur in nature. Others are made by people. • Sawdust can be recycled into usable wood. 		Alignment with NYS Core Curriculum: PS 3.1c, e
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Changing Wood, pp. 1-7 – Teacher Guide Inv. 2: Changing Wood, Part 3: Making Sawdust Wood, Materials and Getting Ready, pp. 16-17 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 2: Changing Wood Part 3: Making Sawdust Wood, pp. 18-19, Steps 1-8 – Investigation Duplication Master: Teacher Sheet No. 8 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice
WEEK 4	Lesson 10 (45 min) Objective(s): <ul style="list-style-type: none"> • Some objects occur in nature. Others are made by people. • Sawdust can be recycled into usable wood. 		Alignment with NYS Core Curriculum: PS 3.1c, e
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Changing Wood, pp. 1-7 – Teacher Guide Inv. 2: Changing Wood, Part 3: Making Sawdust Wood, Materials and Getting Ready, pp. 16-17 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 2: Changing Wood Part 3: Making Sawdust Wood, pp. 18-19, Steps 9-10 – Investigation Duplication Master: Teacher Sheet No. 8 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice

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WEEK 4 (continued)	Lesson 11 (45 min) Objective(s): <ul style="list-style-type: none"> • Some objects occur in nature. Others are made by people. • Gluing (laminating) thin sheets of wood together produces much stronger wood. 		Alignment with NYS Core Curriculum: PS 3.1c, e
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Changing Wood, pp. 1-7 – Teacher Guide Inv. 2: Changing Wood, Part 4: Making Sandwich Wood, Materials and Getting Ready, pp. 20-21 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 2: Changing Wood Part 4: Making Sandwich Wood, pp. 22-23, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 9 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/ Extra Practice
	Lesson 12 (45 min) Objective(s): <ul style="list-style-type: none"> • Some objects occur in nature. Others are made by people. • Gluing (laminating) thin sheets of wood together produces much stronger wood. 		Alignment with NYS Core Curriculum: PS 3.1c, e
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Changing Wood, pp. 1-7 – Teacher Guide Inv. 2: Changing Wood, Part 4: Making Sandwich Wood, Materials and Getting Ready pp. 20-21 – Teacher Guide Wood and Paper Reading Connections folio, p. 4 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 2: Changing Wood Part 4: Making Sandwich Wood, pp. 22-23, Steps 6-8 – Investigation Duplication Master: Teacher Sheet No. 9 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 9-12 <i>Are You a Scientist?</i> <p>For link to the Wood and Paper Science Stories Audio Stories Log on to www.fossweb.com/nyc: Go to Grade K, click on Wood and Paper. Click on “Media”; Click on Audio Stories.</p>	Homework/ Extra Practice

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If you wish to prepare vocabulary cards for Investigation 3, see p. 7 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Wood and Paper module page.

	<p>Lesson 13 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Paper has many observable properties. • Many objects are made from paper. • People make paper from wood. Wood is a resource that comes from trees. 	<p>Alignment with NYS Core Curriculum:</p> <p>PS 3.1b, c, f</p>	
WEEK 5	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Getting to Know Paper, pp. 1-7 – Teacher Guide Inv. 3: Getting to Know Paper, Part 1: Paper Hunt, Materials and Getting Ready, pp. 8-10. – Teacher Guide Wood and Paper Reading Connections folio, p. 5 – Teacher Guide Inv. 1: Getting to Know Wood, Interdisciplinary Extensions, p. 33 Communicate Through Science Journals. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Wood and Paper. 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Getting to Know Paper Part 1: Paper Hunt, pp. 11-12, Steps 1-10 – Investigation Duplication Master: Student Sheets Nos. 10, 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 13-18 <i>The Story of a Box</i> <p>For link to the Wood and Paper Science Stories Audio Stories Log on to www.fossweb.com/nyc: Go to Grade K, click on Wood and Paper. Click on “Media”; Click on Audio Stories.</p>	<p style="text-align: center;">Homework/Extra Practice</p>

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WEEK 5 (continued)	Lesson 14 (45 min) Objective(s): <ul style="list-style-type: none"> Paper has many observable properties. The properties of some kinds of paper make them useful for writing or drawing. 		Alignment with NYS Core Curriculum: PS 3.1b, c, e, f	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 3: Getting to Know Paper, pp. 1-7 Teacher Guide Inv. 3: Getting to Know Paper, Part 2: Writing and Drawing on Paper, Materials and Getting Ready pp. 13-14 	Investigation/Activity <ul style="list-style-type: none"> Investigation 3: Getting to Know Paper Part 2: Writing and Drawing on Paper, pp. 15-17, Steps 1-9 Investigation Duplication Master: Teacher Sheet No. 11 Investigation Duplication Master: Student Sheet No. 19 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/ Extra Practice
	Lesson 15 (45 min) Objective(s): <ul style="list-style-type: none"> Paper has many observable properties. The properties of different papers determine their use. 		Alignment with NYS Core Curriculum: PS 3.1b, c, f	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 3: Getting to Know Paper, pp. 1-7 Teacher Guide Inv. 3: Getting to Know Paper, Part 3: Folding Paper, Materials and Getting Ready, pp. 18-19 	Investigation/Activity <ul style="list-style-type: none"> Investigation 3: Getting to Know Paper Part 3: Folding Paper, pp. 20-21, Steps 1-11 Investigation Duplication Master: Teacher Sheet No. 12 Investigation Duplication Master: Student Sheet No. 19 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/ Extra Practice Home School Connection, IDM Nos. 24, 25

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WEEK 6	<p>Lesson 16 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Some kinds of paper absorb water while others do not. • Paper changes when soaked in water. Some papers break down into small fibers. 		<p>Alignment with NYS Core Curriculum: PS 3.1b, c, e, f, g</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Getting to Know Paper, pp. 1-7 – Teacher Guide Inv. 3: Getting to Know Paper, Part 4: Paper and Water, Materials and Getting Ready, pp. 22-23 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Getting to Know Paper Part 4: Paper and Water, pp. 24-25, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 13 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>
	<p>Lesson 17 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Some kinds of paper absorb water while others do not. • Paper changes when soaked in water. Some papers break down into small fibers. 		<p>Alignment with NYS Core Curriculum: PS 3.1b, c, e, f, g</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Getting to Know Paper, pp. 1-7 – Teacher Guide Inv. 3: Getting to Know Paper, Part 4: Paper and Water, Materials and Getting Ready, pp. 22-23 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Getting to Know Paper Part 4: Paper and Water, pp. 24-25, Steps 6-9 – Investigation Duplication Master: Teacher Sheet No. 13 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>

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If you wish to prepare vocabulary cards for Investigation 4, see p. 7 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Wood and Paper module page.

	<p>Lesson 18 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Recycling extends the use of trees. • New paper can be made from old paper. • The properties of recycled paper can be compared to those of new paper. 	<p>Alignment with NYS Core Curriculum:</p> <p>PS 3.1b, c</p>	
<p>WEEK 6 (continued)</p>	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Changing Paper, pp. 1-7 – Teacher Guide Inv. 4: Changing Paper, Part 1: Paper Recycling, Materials and Getting Ready, pp. 8-10 – Teacher Guide Inv. 1: Getting to Know Wood, Interdisciplinary Extensions, p. 33 Communicate Through Science Journals. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Wood and Paper. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 4: Changing Paper Part 1: Paper Recycling, pp. 11-13, Steps 1-8 – Investigation Duplication Master: Teacher Sheet No. 14 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist <p>Note: Recycled paper will need to dry before conducting the rest of the investigation.</p>	<p>Homework/Extra Practice</p>

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	<p>Lesson 19 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Recycling extends the use of trees. • New paper can be made from old paper. • The properties of recycled paper can be compared to those of new paper. 	<p>Alignment with NYS Core Curriculum:</p> <p>PS 3.1b, c</p>	
WEEK 7	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Changing Paper, pp. 1-7 – Teacher Guide Inv. 4: Changing Paper, Part 1: Paper Recycling, Materials and Getting Ready, pp. 8-10 – Teacher Guide Wood and Paper Reading Connections folio, pp. 6-7 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 4: Changing Paper Part 1: Paper Recycling, pp. 11-13, Steps 9-11 – Investigation Duplication Master: Teacher Sheet No. 14 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 19-23 <i>Land, Air and Water</i> <p>For link to the Wood and Paper Science Stories Audio Stories Log on to www.fossweb.com/nyc: Go to Grade K, click on Wood and Paper. Click on “Media;” Click on Audio Stories.</p>	<p>Homework/Extra Practice</p>

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WEEK 7 (continued)	Lesson 20 (45 min) Objective(s): <ul style="list-style-type: none"> • Objects can be made from paper. • Paper can be soaked in wheat paste to make it soft and moldable when wet, and stiff and strong when dry. 	Alignment with NYS Core Curriculum: PS 3.1b, c		
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Changing Paper, pp. 1-7 – Teacher Guide Inv. 4: Changing Paper, Part 2: Paper Mâché, Materials and Getting Ready pp. 14-15 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 4: Changing Paper Part 2: Paper Mâché, pp. 16-18, Steps 1-7 – Investigation Duplication Master: Teacher Sheet No. 15 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice	
	Lesson 21 (45 min) Objective(s): <ul style="list-style-type: none"> • Objects can be made from paper. • Paper can be soaked in wheat paste to make it soft and moldable when wet, and stiff and strong when dry. 	Alignment with NYS Core Curriculum: PS 3.1b, c		
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Changing Paper, pp. 1-7 – Teacher Guide Inv. 4: Changing Paper, Part 2: Paper Mâché, Materials and Getting Ready pp. 14-15 – Teacher Guide Wood and Paper Reading Connections folio, p. 8 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 4: Changing Paper Part 2: Paper Mâché, pp. 16-18, Steps 8-13 – Investigation Duplication Master: Teacher Sheet No. 15 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read <i>The Piñata Maker</i> by George Acona. 	Homework/Extra Practice Home School Connection, IDM No. 26	

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If you wish to prepare vocabulary cards for Investigation 5, see p. 7 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Wood and Paper module page.

	<p>Lesson 22 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Knowledge of the properties of paper can be used to make useful or artistic constructions. • Paper containers we use every day begin as flat pieces of paper. 	<p>Alignment with NYS Core Curriculum:</p> <p>PS 3.1c, e, f, g</p>	
WEEK 8	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 5: Constructions, pp. 1-7 – Teacher Guide Inv. 5: Constructions, Part 1: Paper Boxes, Materials and Getting Ready, pp. 8-9 – Teacher Guide Inv. 1: Getting to Know Wood, Interdisciplinary Extensions p. 33 Communicate Through Science Journals. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Wood and Paper. 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 5: Constructions Part 1: Paper Boxes, pp. 10-11, Steps 1-9 – Investigation Duplication Master: Teacher Sheet No. 16 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p style="text-align: center;">Homework/Extra Practice</p>

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WEEK 8 (continued)	<p>Lesson 23 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Knowledge of the properties of paper can be used to make useful or artistic constructions. • Paper can be woven using an under-over alternating pattern. 		<p>Alignment with NYS Core Curriculum: PS 3.1c, e, f, g</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 5: Constructions, pp. 1-7 – Teacher Guide Inv. 5: Constructions, Part 2: Paper Weaving, Materials and Getting Ready, pp. 12-14 – Teacher Guide Wood and Paper Reading Connections folio, p. 9 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 5: Constructions Part 2: Paper Weaving, pp. 10-11, Steps 1-6 – Investigation Duplication Master: Teacher Sheet No. 17 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p> <p>Home School Connection, IDM Nos. 27, 28</p>
	<p>Lesson 24 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Knowledge of the properties of paper can be used to make useful or artistic constructions. • Paper can be woven using an under-over alternating pattern. 		<p>Alignment with NYS Core Curriculum: PS 3.1c, e, f, g</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 5: Constructions, pp. 1-7 – Teacher Guide Inv. 5: Constructions, Part 2: Paper Weaving, Materials and Getting Ready, pp. 12-14 – Teacher Guide Wood and Paper Reading Connections folio, p. 9 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 5: Constructions Part 2: Paper Weaving, pp. 10-11, Steps 7-11 – Investigation Duplication Master: Teacher Sheet No. 17 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read <i>Mighty Tree</i> by Dick Gackenbach. 	<p>Homework/ Extra Practice</p> <p>Home School Connection, IDM Nos. 27, 28</p>

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WEEK 9	<p>Lesson 25 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Knowledge of the properties of wood and paper can be used to make useful or artistic constructions. • Some objects are found in nature; others are made by people. • Wood can be held together with glue. 	<p>Alignment with NYS Core Curriculum: PS 3.1c, e, f, g</p>	
	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 5: Constructions, pp. 1-7 – Teacher Guide Inv. 5: Constructions, Part 3: Wood and Paper Sculptures, Materials and Getting Ready, pp. 18-19 – Teacher Guide Wood and Paper Reading Connections folio, pp. 10-11 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 5: Constructions Part 3: Wood and Paper Sculptures, pp. 20-21, Steps 1-7 – Investigation Duplication Master: Teacher Sheet No. 18 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>
	<p>Lesson 26 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Knowledge of the properties of wood and paper can be used to make useful or artistic constructions. • Some objects are found in nature; others are made by people. • Wood can be held together with glue. 	<p>Alignment with NYS Core Curriculum: PS 3.1c, e, f, g</p>	
	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 5: Constructions, pp. 1-7 – Teacher Guide Inv. 5: Constructions, Part 3: Wood and Paper Sculptures, Materials and Getting Ready, pp. 18-19 – Teacher Guide Wood and Paper Reading Connections folio, pp. 10-11 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 5: Constructions Part 3: Wood and Paper Sculptures, pp. 20-21, Steps 8-11 – Investigation Duplication Master: Teacher Sheet No. 18 – Investigation Duplication Master: Student Sheet No. 19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Suggestion: Take a “Gallery Walk” to view the student constructions. – Sing “I Am Wood” found in the FOSS Science Stories, p. 24 	<p>Homework/Extra Practice</p>

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WEEK 9 (continued)	Lesson 27 (45 min) Objective(s): End of Modules Assessment		Alignment with NYS Core Curriculum: PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers Teacher Guide, Assessment Folio, pp. 1-4	Investigation/Activity – Complete the End of Module Assessment – Narrative Report – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice