

2Science at a Glance: G3 Plant Unit

<u>Day</u>	<u>Student Materials</u>	<u>Teacher Materials</u>	<u>Set-up</u>
Day 1	<p>Each team member will need:</p> <ul style="list-style-type: none"> science notebook <p>Each team will need:</p> <ul style="list-style-type: none"> 4 different-colored straws (a different color for each team member). 1 sheet of 11" x 14" copy paper 4 ft. of masking tape 1 premade "fossil dig" in an aluminum pan (see "Day 1 Teacher Fossil-Dig Instructions") 	<p>Teacher will need:</p> <ul style="list-style-type: none"> image of the taped dig paper-folding video clip 1 sheet of 11" x 14" copy paper 1 straw 1 marker pen 	<p>Setup:</p> <ul style="list-style-type: none"> Before Day 1, the teacher will make a fossil-dig site inside an aluminum tray for each group of students. The tray will contain soil and buried fragments of a plaster cast of a leaf. See Day 1 Teacher Fossil-Dig Instructions. For each team, prepare one zip top bag of materials that includes 1 sheet of 11" x 14" copy paper, 4 different-colored straws, and 4 ft. of tape. Place the premade fossil digs and the bags of materials in a central location for distribution.
Day 2	<p>Each team member will need:</p> <ul style="list-style-type: none"> science notebook Day 2 Student Fossil-Dig Instructions (paper copies or electronic access) goggles <p>Each team will need:</p> <ul style="list-style-type: none"> the paper grid plan they made in the previous class 4 craft sticks 1 premade "fossil dig" in an aluminum pan 1 small, flat paint brushes 2 paper plates 	<p>Teacher will need:</p> <ul style="list-style-type: none"> premade fossil dig (1 per team) Day 2 Student Fossil-Dig Instructions (paper copy or electronic access) 	<p>Setup:</p> <ul style="list-style-type: none"> Student Fossil-Dig Instructions may be copied, one for each team, or projected on a device. Prepare a bag of supplies (1 per team) that includes 1 copy of the Student Fossil-Dig Instructions (unless using electronically), 4 craft sticks, 1 flat paint brushes, 2 paper plates. Place the premade fossil digs and supply bags in a central location for distribution; each team should excavate the same tray they studied on Day 1.
Day 3	<p>Each team member will need:</p> <ul style="list-style-type: none"> science notebook goggles <p>Each team will need:</p> <ul style="list-style-type: none"> team "fossil dig" paper grid map with recorded information plates with fossil pieces 	<p>Teacher will need:</p> <ul style="list-style-type: none"> Fossils PPT 	<p>Setup:</p> <ul style="list-style-type: none"> Prepare to project Fossils PPT after student presentations.

Day 4	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook • goggles <p>Each team will need:</p> <ul style="list-style-type: none"> • <u>Making Fossils Student Guide</u> document • 1 - 3-oz. cup of plaster of paris (2/3 full) • 1- 3-oz. cup of water (1/2 full) • 1 small packet of air-dry clay • 1 rolling pin or any object suitable for rolling out clay • 1- 5-oz. paper ice cream cup • 1 large paper clip • newspapers and paper towels (to keep work area clean) • sticky note to label tray with team identifier (teams or teacher may decide on team identifiers, such as a name or number) 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • <u>Making Fossils Student Guide</u> to project and/or read aloud to class • instructional video: “How to Make Molds and Casts” • assortment of plant leaves (small sized to fit into cups), preferably with a stem or strong veins (to be collected by the teacher) • NOTE: The teacher will need to collect enough leaves for use on days 4 and 5! 	<p>Setup:</p> <ul style="list-style-type: none"> • Print 1 copy of the <u>Making Fossils Student Guide</u> for each team.docx • Organize the following materials into tubs or trays, 1 tray per team: <ul style="list-style-type: none"> ○ goggles ○ 1-3-oz. cup of plaster of paris (2/3 full) ○ 1-3-oz. cup of water (1/2 full) ○ 1 small packet of air-dry clay ○ 1 rolling pin or any object suitable for rolling out clay ○ 1-5-oz. paper ice cream cup ○ 1 large paper clip ○ newspapers and paper towels (to keep work area clean) ○ sticky note to label tray with team identifier (teams or teacher may decide on team identifiers, such as a name or number) • Provide ample room to work in and designate an area to set fossils to dry at the end of the activity.
Day 5	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook • goggles <p>Each team will need:</p> <ul style="list-style-type: none"> • bag of 8 leaves (for a team of 4) • hand lenses • <u>Leaf Morphology</u> chart (paper copy or access to electronic version) • <u>Leaf Structure</u> diagram (paper copy or access to electronic version) 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • a sample leaf • <u>Day 5 Plant Leaf</u> PPT • <u>Plant Adaptations</u> PPT • <u>Leaf Morphology</u> chart (paper copy or access to electronic version) • <u>Leaf Structure</u> diagram (paper copy or access to electronic version) • Gallon zip top bags or trays • bag of assorted leaves 	<p>Setup:</p> <ul style="list-style-type: none"> • Before the class, the teacher will need to collect a variety of leaf samples for learners to examine. A mixture of both green and dried leaves is preferred, with some samples attached to a stem (if possible, give similar sets of leaves to each group). • Organize a bag or tray for each team that contains different leaf samples (6-8 samples for each team to allow each team member to work with 2 leaf samples), a <u>Leaf Morphology</u> chart, the <u>Leaf Structure</u> diagram, hand lenses, and goggles. • Make paper copies of the <u>Leaf Morphology</u> chart and the <u>Leaf Structure</u> diagram for each team, if needed, or provide access to an electronic version. • Place all the materials in a central location for distribution.

Day 6	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook • goggles <p>Each team will need:</p> <ul style="list-style-type: none"> • set of Day 6 images • copy of the <u>Plant Observations</u> document • <u>Leaf Morphology</u> chart (copy or electronic access) • live moss specimen • hand lenses • rulers or measuring tapes 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • <u>Day 6 Images</u> PPT • gallon zip-top bags (2 for each team; see setup) 	<p>Setup:</p> <ul style="list-style-type: none"> • *As suggested in the <u>Before the Unit Begins</u> document, the teacher may choose to make copies of the <u>Plant Observations</u> chart on 11 x 17 paper or reproduce it on chart paper. • Make color copies of the “Day 6 Images” PPT for each team. Alternatively, you can make the <u>Day 6 Images</u> PPT available electronically. If using paper copies, cut and place images in a zip-top bag labeled Day 6. • For each team, prepare a second zip-top bag containing hand lenses, ruler or measuring tape, and a copy of the <u>Leaf Morphology</u> chart. This bag will be used daily during observation. • It is important not to identify the plants as representatives of “the first land plants” until after the children have completed their observations. • Place a live moss specimen and both material bags in a designated area for distribution.
Day 7	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook • goggles <p>Each team will need:</p> <ul style="list-style-type: none"> • 1 set of <u>Day 7 Images</u> (paper copies or electronic access) • <u>Plant Observations</u> chart • <u>Leaf Morphology</u> chart (paper copy or electronic access) • live fern specimen • hand lenses • rulers or measuring tapes 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • <u>Day 7 Images</u> PPT • 1- gallon zip-top plastic bag (see setup) 	<p>Setup:</p> <ul style="list-style-type: none"> • Make color copies of the Day 7 images and cut out 1 set per team (or allow electronic access). If using paper copies, cut and place images in a zip-top bag labeled Day 7. • It is important not to identify the plants as representatives of “vascular plants” until after the children have completed their observations. • Place live fern and material bags (with hand lenses, ruler or measuring tape, and <u>Leaf Morphology</u> chart) in a designated area for distribution.

Day 8	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook • goggles <p>Each team will need:</p> <ul style="list-style-type: none"> • <u>Day 8 Images</u> PPT (paper copies or electronic access) • <u>Plant Observations</u> chart • <u>Leaf Morphology</u> chart (paper copies or electronic access) • assortment of pinecones and pine needles • hand lenses • rulers or measuring tapes 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • <u>Day 8 Images</u> PPT • 1- gallon zip-top bag(see setup) 	<p>Setup:</p> <ul style="list-style-type: none"> • Before the class, the teacher will collect an assortment of pinecones and pine needles and prepare a bag containing samples of both for each team. • Make color copies of the <u>Day 8 Images</u> PPT and cut out 1 set of images per team (or allow electronic access). If using paper copies, cut and place images in a zip-top bag labeled Day 8. • It is important not to identify the specimens as representatives of “gymnosperms” until after the children have completed their observations. • Place sample bags and material bags (containing hand lenses, ruler or measuring tape, and the <u>Leaf Morphology</u> chart) in a designated area for distribution.
Day 9	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook • goggles <p>Each team will need:</p> <ul style="list-style-type: none"> • a set of <u>Day 9 Images</u> (paper copies or electronic access) • <u>Plant Observations</u> chart • <u>Leaf Morphology</u> chart (paper copies or electronic access) • live representative angiosperm plant • hand lenses • rulers or measuring tapes 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • <u>Day 9 Images</u> PPT • 1- gallon zip-top bag (see setup) 	<p>Setup:</p> <ul style="list-style-type: none"> • Before the class, make color copies of the “Day 9 Images” PPT and cut out 1 set for each team (or allow electronic access). If using paper copies, cut and place images in a zip-top bag labeled Day 8. • It is important not to identify the specimens as representatives of “angiosperms” until after the children have completed their observations. • Place sample bags and material bags (containing hand lenses, ruler or measuring tape, and <u>Leaf Morphology</u> chart) in a designated area for distribution.
Day 10	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook <p>All teams will need:</p> <ul style="list-style-type: none"> • copy of <u>Making Connections</u> doc • <u>Plant Observations</u> chart • access to inquiry charts • access to all plant specimens • access to all plant images (Days 6–9) 		<p>Setup:</p> <ul style="list-style-type: none"> • Make copies of the <u>Making Connections</u> document (one per team). • Make all plant images, inquiry charts, and <u>Plant Observation</u> charts accessible for learners. • Assemble all plant specimens together where they can be seen by the class.

Day 11	<p>Each team member will need:</p> <ul style="list-style-type: none"> • science notebook • copy of Paleobotanist Log <p>All teams will need:</p> <ul style="list-style-type: none"> • <u>Plant Observations</u> chart • All bags of representative plant images (from previous lessons) • <u>Leaf Morphology</u> chart (one per team) • access to inquiry charts, <u>Fossils PPT</u> (Day 3), the <u>Plant Adaptations PPT</u> (Day 5) 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • <u>Paleobotanist Log</u> (paper or electronic version) • <u>Day 11 Fossil Images PPT</u> 	<p>Setup:</p> <ul style="list-style-type: none"> • Print color copies of the <u>Day 11 Fossil Images PPT</u> or make available digitally for devices. • Print copies of Paleobotanist Log- 1 per student • Place all bags of plant images, <u>Leaf Morphology</u> charts, inquiry charts, <u>Plant Observations</u> charts, and materials bags (containing hand lenses and ruler or measuring tape) in a designated area for collection. • On a sheet of chart paper or the whiteboard, write the title <u>Paleobotanist Log</u>, then copy the chart from the lesson.
Day 12	<p>Each team member will need:</p> <ul style="list-style-type: none"> • a copy of their <u>Paleobotanist Log</u> • science notebook <p>Each team will need:</p> <ul style="list-style-type: none"> • <u>Plant Observations</u> chart • all bags of representative plant images • <u>Leaf Morphology</u> chart • access to inquiry charts 	<p>Teacher will need:</p> <ul style="list-style-type: none"> • <u>Paleobotanist Log</u> (paper copy or electronic version) • <u>Day 11 Plant Fossils Images PPT</u> • <u>Day 12 Plant Fossils Key</u> document 	<p>Setup:</p> <ul style="list-style-type: none"> • Make fossil images available digitally for devices or provide paper copies • Be prepared to share the <u>Day 11 Plant Fossils Images PPT</u> and the <u>Day 12 Plant Fossils Key</u> electronically for students • Make all charts, <u>Paleobotanist Logs</u>, and the <u>Making Connections</u> document accessible in a designated area
Day 13	<p>Materials Needed:</p> <ul style="list-style-type: none"> • science notebooks with all documents, notes, etc. • material to make the book, including traditional materials (e.g., paper and writing/drawing materials) or access to a digital platform that supports the writing of a book • access to inquiry charts • access to bags of representative plant images and fact sheets • <u>Plant Observations</u> charts 		<p>Setup:</p> <ul style="list-style-type: none"> • Designate a central location where children can access all the materials needed for their culminating project. • If using technology, assure that each team has access to information as needed.
Day 14	<p>Materials Needed:</p> <ul style="list-style-type: none"> • science notebooks with all documents, notes, etc. • material to make the book, including traditional materials (e.g., paper and writing/drawing materials) or access to a digital platform that supports the writing of a book • access to inquiry charts • access to bags of representative plant images and fact sheets • <u>Plant Observations</u> charts 		<p>Setup:</p> <ul style="list-style-type: none"> • Designate a central location where children can access all the materials needed for their culminating project. • If using technology, assure that each team has access to information as needed.

Day 15	Materials Needed: <ul style="list-style-type: none">• Teams will need the books they have created	Setup: <ul style="list-style-type: none">• Ideally, the tables or desks should be set up in a semicircle where all teams can see each other. This configuration will help engage all children in the discussion.• Each presenting team will stand in front of the class, prepared to answer any questions.• The teacher should sit within the semicircle as well.• Decide the order in which the teams will present
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