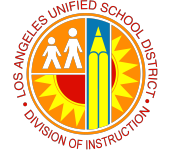




Kindergarten: FOSS

Life Science - Animals Two by Two



| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|---|---|
| <p>1. Goldfish and Guppies Students observe the structures and behaviors of goldfish. They feed the fish and enrich the environment in which the fish live. They compare the structures and behaviors of the goldfish to those of other fish, guppies. Students compare photos of fish and read about fish.</p> | <ul style="list-style-type: none"> • Fish have identifiable structures • Fish behavior is influenced by conditions in the environment • Fish have basic needs • Fish change their environment • Each kind of fish has unique structures and behaviors • All animals deserve respect and gentle care | <ul style="list-style-type: none"> • Part 1 Teacher Observation: Knows animals have structures/Communicates by drawing, dictating, and writing/Communicates observations orally/Teacher Masters 2 -3 (pages 174-175)/Assessment Checklist (pages 205-206) • Part 2 Teacher Observation: Knows animals have needs/Knows animals have behaviors/Communicates observations orally/ Knows that sometimes stories give animals attributes they don't have/Teacher Masters 4 (page 176) /Assessment Checklist (pages 205-206) • Part 3 Teacher Observation: Knows animals have behaviors/Communicates observations by drawing, dictating, and writing/Communicates observations orally/Uses relative position words appropriately/ Teacher Masters 5-6 (pages 177-178)/Assessment Checklist (pages 205-206) • Part 4 Teacher Observation: Knows animals have structures/Communicates observations by drawing, dictating and writing/Communicates observations orally/Teacher Masters 7 (page 179)/Assessment Checklist (pages 205-206) • Narrative Report (page 207) |

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|--|--|
| <p>2. Land and Water Students observe the structures and behaviors of land snails. They race the snails. Water snails are compared to land snails. Students work with a variety of shells, discussing similarities and differences in their size, shape, color, and texture. Students match shell pairs, make designs, and create patterns. They read about snails.</p> | <ul style="list-style-type: none"> • Snails have identifiable structures and behaviors • Snails have senses • Snail behavior is influenced by conditions in the environment • Snails have basic needs • There is great diversity among snails | <ul style="list-style-type: none"> • Part 1 Teacher Observation: Knows animals have structures/Communicates by drawing, dictating, and writing/Communicates observations orally/Uses relative position words appropriately/Teacher Masters 8-9 (pages 180-181)/Assessment Checklist (pages 205-206) • Part 2 Teacher Observation: Knows animals have behaviors/ Communicates observations orally/ Teacher Masters 10 (page 182)/Assessment Checklist (pages 205-206) • Part 3 Teacher Observation: Compares structures and behaviors of animals/Communicates observations orally/Teacher Masters 11 (page 183)/ Assessment Checklist (pages 205-206) • Part 4 Teacher Observation: Incorporates new vocabulary/Organizes observations/Compares structures and behaviors of animals/Knows that sometimes stories give animals attributes they don't have/Teacher Masters 12 (page 184)/ Assessment Checklist (pages 205-206) • Narrative Report (page 207) |
| <p>3. Big and Little Worms Students dig for red worms, rinse them off, and look at their structures. They study their behavior. They compare the red worms to night crawlers, which are much larger. Students compare photos and read about worms.</p> | <ul style="list-style-type: none"> • Worms have identifiable structures • Worm behavior is influenced by conditions in the environment • Worms have basic needs Each kind of worm has unique structures and behavior | <ul style="list-style-type: none"> • Part 1 Teacher Observation: Knows animals have structures/Knows animals have needs/ Communicates observations by drawing, dictating, and writing/Teacher Masters 14-15 (pages 186-187)/ Assessment Checklist (pages 205-206) • Part 2 Teacher Observation: Knows animals have behaviors/Teacher Masters 16 (page 188)/ Assessment Checklist (pages 205-206) |

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|--|--|---|
| <p>3. Big and Little Worms (cont'd)</p> | | <ul style="list-style-type: none"> Part 3: Knows animals have behaviors/Incorporates new vocabulary/Compares structures and behaviors of similar animals/Teacher Masters 17 (pages 189)/ Assessment Checklist (pages 205-206) Narrative Report (page 207) |
| <p>4. Pill bugs and Sow bugs Students begin by observing structures of the two kinds of isopods. They learn to identify which are pill bugs and which are sowbugs. They may have isopod races. Students make a terrarium in which all the land animals live together. Students compare photos and read about isopods. They read about and compare illustrations of a variety of animals.</p> | <ul style="list-style-type: none"> Isopods have identifiable structures and behaviors Animals have similar needs Each kind of isopod has unique structures and behavior Isopod behavior is influenced by conditions in the environment | <ul style="list-style-type: none"> Part 1 Teacher Observation: Knows animals have structures and behaviors/ Communicates observations orally/Teacher Masters 18 (page 190)/ Assessment Checklist (pages 205-206) Part 2 Teacher Observation: Organizes observations/Compares structures and behaviors of animals Communicates observations orally/Teacher Masters 19-20 (pages 191-192)/Assessment Checklist (pages 205-206) Part 3 Teacher Observation: Compares structures and behaviors of animals/Communicates observations orally/Uses relative position words appropriately/Teacher Masters 21 (page 193)/ Assessment Checklist (pages 205-206) Part 4 Teacher Observation: Knows animals have needs/ Incorporates new vocabulary/Communicates observations orally/Teacher Masters 22 (page 194)/ Assessment Checklist (pages 205-206) Narrative Report (page 207) |

Kindergarten: FOSS

Life Science - Animals Two by Two



Kindergarten: FOSS Earth Science - Trees



| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|--|--|--|
| <p>1. Fall Trees Students begin their study of trees by going on a walk to look at the variety and structure of trees in the schoolyard. A living tree becomes part of the classroom for 2 weeks, and students work with representational materials to look more closely at the shapes of trees and their parts. Students adopt trees to observe changes throughout the year, and complete the activity by planting their class tree on the school grounds.</p> | <ul style="list-style-type: none"> • Trees are a resource • Trees are identifiable by their shapes • Trees have identifiable structures • Individual trees can be described by their properties, including size, shape, and texture • Trees are growing, living organisms | <ul style="list-style-type: none"> • Part 1 Teacher Observation: Observes trees, using five senses/Identifies and compares structures on different trees/Knows trees are a resource for people and animals/Communicates observations/Teacher Masters 2 (pages 170)/Assessment Checklist (pages 223-224) • Part 2 Teacher Observation: Knows trees are living organisms and have basic needs/Teacher Masters 3-5 (pages 171-172)/Assessment Checklist (pages 223-224) • Part 3 Teacher Observation: Knows trees have structures/Identifies and compares structures on different trees/Communicates observations/Teacher Masters 6 (page 174)/Assessment Checklist (pages 223-224) • Part 4 Teacher Observation: Knows trees have structures/Identifies and compares structures on different trees/Communicates observations/Teacher Masters 7-8 (pages 175-176)/Assessment Checklist (pages 223-224) • Part 5 Teacher Observation: Knows trees have structures/Identifies and compares structures on different trees/Communicates observations/Teacher Masters 9 (page 177)/Assessment Checklist (pages 223-224) |

Kindergarten: FOSS
Earth Science - Trees

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|--|--|---|
| <p>1. Fall Trees (cont'd)</p> | | <ul style="list-style-type: none"> Part 6 Teacher Observation: Knows trees have structures/ Identifies and compares structures on different trees/Communicates observations/Teacher Masters 10-12 (pages 178-180)/Assessment Checklist (pages 223-224) Part 7 Teacher Observation: Identifies and compares structures on different trees/Can describe different shapes of trees/Knows that trees are a resource for people and animals/Communicates observations/ Teacher Masters 13-14 (pages 181-182)/ Assessment Checklist (pages 223-224) Part 8 Teacher Observation: Know trees are living things and have basic needs/Teacher Masters 3 (page 171)/Assessment Checklist (pages 223-224) Narrative Report (page 225) |
| <p>2. Leaves Students take a schoolyard walk, focusing on the leaves of trees. They match leaves with geometric shapes, go on a leaf hunt to compare leaves, work at centers with representational materials, and make a leaf book. They study photos on sets of cards showing different landforms and look for similarities and differences. Students read about where and how trees grow. This investigation concludes with a book, <i>Our Very Own Tree</i>.</p> | <ul style="list-style-type: none"> Leaves have identifiable structures Leaves grow on the tips and sides of small branches Many kinds of trees lose their leaves in the fall Leaves from the same trees have the same shapes Leaves have many properties that can be compared Leaves can be identified by their shapes, edges, tips, and colors <p>Earth has different landforms</p> | <ul style="list-style-type: none"> Part 1 Teacher Observation: Observes leaves, using five senses/Identifies and compares the properties of leaves/Compares and sorts leaves by one physical property (color, shape, texture, size, edge)/Teacher Masters 15 (page 183)/Assessment Checklist (pages 223-224) Part 2 Teacher Observation: Identifies and compares the properties of leaves/Compares and sorts leaves by one physical property (color, shape, texture, size, edge)/Communicates observations/Teacher Masters 16-20 (pages 184-188)/Assessment Checklist (pages 223-224) |

Kindergarten: FOSS
Earth Science - Trees

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|---|---|
| <p>2. Leaves (cont'd)</p> | | <ul style="list-style-type: none"> Part 3 Teacher Observation: Identifies and compares the properties of leaves/ Compares and sorts leaves by one physical property (color, shape, texture, size, edge)/Identifies characteristics of landforms (mountains, valleys, rivers, ocean, desert, swamps)/ Teacher Masters 21-22 (pages 189-190)/ Assessment Checklist (pages 223-224) Part 4 Teacher Observation: Identifies and compares the properties of leaves/Communicates observations /Teacher Masters 20-23 (pages 189, 191)/ Assessment Checklist (pages 223-224) Part 5 Teacher Observation: Identifies and compares the properties of leaves/Compares and sorts leaves by one physical property (color, shape, texture, size, edge)/Teacher Masters 24-25 (pages 192-193)/ Assessment Checklist (pages 223-224) Part 6 Teacher Observation: Identifies and compares structures on different trees/Knows trees are living things/Communicates observations/Teacher Masters 26 (page 194)/Assessment Checklist (pages 223-224) Narrative Report (page 225) |
| <p>3. Trees Through the Seasons Students extend their understanding of trees as a growing, changing, living part of their world. They keep a class calendar monitoring weather conditions each day. During each season, they visit the schoolyard trees and observe their twigs, leaves, flowers, and seeds. They compare tree structures at different seasons. Students read about trees through the seasons.</p> | <ul style="list-style-type: none"> Trees are resources from the earth that provide humans and other animals with food Trees are growing, living organisms Fruits and nuts provide protection and food for the seeds Trees change through the seasons as the weather changes | <ul style="list-style-type: none"> Part 1 Teacher Observation: Knows trees are living things and have basic needs/Knows trees are a resource for people and animals/Communicates observations orally and through drawing/Teacher Masters 27 (page 195)/Assessment Checklist (pages 223-224) |

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|---|--|
| <p>3. Trees Through the Seasons (cont'd)</p> | <ul style="list-style-type: none"> • Some trees lose their leaves in winter, while others do not • Evergreen trees can be identified by the properties of their leaves (or needles) | <ul style="list-style-type: none"> • Part 2 Teacher Observation: Knows trees are a resource for people and animals/Knows trees have structures/Communicates observations orally and through drawing/Assessment Checklist (pages 223-224) • Part 3 Teacher Observation: Records weather changes from day to day and through the seasons/ Communicates observations orally and through drawing/Teacher Masters 29 (page 197)/ Assessment Checklist (pages 223-224) • Part 4 Teacher Observation: Knows wether changes from day to day and through the seasons/Knows trees change through the seasons/ Teacher Masters 31 (page 199)/Assessment Checklist (pages 223-224) • Part 5 Teacher Observation: Knows trees are living things and have basic needs/Knows trees have structures/Teacher Masters 32 (page 200)/ Assessment Checklist (pages 223-224) • Part 6 Teacher Observation: Knows trees change through the seasons/Knows trees are living things/ Teacher Masters 29 (page 197)/Assessment Checklist (pages 223-224) • Part 7 Teacher Observation: Knows trees are living things and have basic needs/Knows trees have structures/Communicates observations orally and through drawing/Teacher Masters 33 (page 201)/ Assessment Checklist (pages 223-224) |

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|----------|---|
| <p>3. Trees Through the Seasons (cont'd)</p> | | <ul style="list-style-type: none"> • Part 8 Teacher Observation: Knows trees have structures/Identifies and compares structures on different trees/Communicates observations orally and through drawing/Teacher Masters 34 (page 202)/Assessment Checklist (pages 223-224) • Part 9 Teacher Observation: Knows trees change through the seasons/Knows trees are living things/Communicates observations orally and through drawing/Teacher Masters 29 (page 197)/ Assessment Checklist (pages 223-224) • Narrative Report (page 225) |

Kindergarten: FOSS
Earth Science - Trees



Kindergarten: FOSS

Physical Science - Wood and Paper



| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|---|--|
| <p>1. Getting to Know Wood Students work with five different wood samples to observe their properties. They begin with free exploration, go on a hunt for matching samples, drop water on the samples, and float them in basins. They test the wood to find out how many paper clips it takes to sink it, then organize their results by making a concrete graph.</p> | <ul style="list-style-type: none"> • Wood is a resource that comes from different kinds of trees and it can be conserved • Some woods are processed and transformed by people • Wood is used for many everyday things • Wood has many observable physical properties • Wood floats in water. Some kinds of wood sink more easily than others • Wood absorbs water | <ul style="list-style-type: none"> • Part 1: Teacher Observation: Knows wood has observable physical properties/Compares properties of wood/Knows wood is a resource that comes from trees/Communicates observations/Assessment Checklist (pages 231-232) • Part 2: Teacher Observation: Compares and sorts wood by properties/Knows that many objects are made from wood/Teacher Masters 2 (page 198)/ Assessment Checklist (pages 231-232) • Part 3: Teacher Observation: Knows wood has observable physical properties/Communicates observations and uses new vocabulary/Teacher Masters 3 (page 199)/Assessment Checklist (pages 231-232) • Part 4: Teacher Observation: Knows wood has observable physical properties/Compares properties of wood/Communicates observations and uses new vocabulary/Teacher Masters 4 (page 200)/ Assessment Checklist (pages 231-232) • Part 5: Teacher Observation: Knows wood has observable physical properties/Compares properties of wood/ Communicates observations and uses new vocabulary/Teacher Masters 5 (page 201)/ Assessment Checklist (pages 231-232) • Narrative Report (page 233) |

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|--|---|--|
| <p>2. Changing Wood Students use sandpaper to change the shape of wood. They compare sawdust and shavings and how they interact with water. They simulate the manufacture of two kinds of wood they observed in Investigation 1, particleboard and plywood.</p> | <ul style="list-style-type: none"> • Wood has many observable properties • Wood that is waterlogged sinks • Sanding can change the shape of wood • Sawdust can be recycled into usable wood • Gluing thin sheets of wood together produces much stronger wood • Some objects occur in nature. Others are made by people • Water left in the open evaporates into the air | <ul style="list-style-type: none"> • Part 1: Teacher Observation: Knows wood has observable properties/Uses tools appropriately/ Communicates observations orally and in drawings/ Teacher Masters 6 (page 202)/Assessment Checklist (pages 231-232) • Part 2: Teacher Observation: Knows wood has observable physical properties/Compares properties of wood/Can describe the relative position of the sawdust and shavings in water/Communicates observations/Teacher Masters 7 (page 203)/ Assessment Checklist (pages 231-232) • Part 3: Teacher Observation: Knows that water in an open container evaporates/Compares the properties of wood/Knows that some objects occur in nature;others made by people/Teacher Masters 8 (page 204)/Assessment Checklist (pages 231-232) • Part 4: Teacher Observation: Knows wood has observable properties/Compares the properties of wood/Knows that some objects occur in nature; others are made by people/Communicates observations orally and in drawings/Teacher Masters 9 (page 205)/ Assessment Checklist (pages 231-232) • Narrative Report (page 233) |
| <p>3. Getting to Know Paper Students observe and compare the properties of ten kinds of paper and go on a hunt for matching samples. They test the papers for different</p> | <ul style="list-style-type: none"> • Paper has many observable properties • Many objects are made from paper • The properties of different papers determine their use | <p>Part 1: Teacher Observation: Knows paper has observable properties/Knows that paper is a resource that comes from trees; people make paper from wood/Knows many objects are made from paper/Compares and sorts paper by properties/ Teacher Masters 10 (page 206)/Assessment Checklist (pages 231-232)</p> |

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|--|---|
| <p>3. Getting to Know Paper (cont'd) properties, comparing how well they fold and which has the best surface for writing. They drop water on the samples to compare absorption, then soak the samples overnight.</p> | <ul style="list-style-type: none"> • People make paper from wood • Wood is a resource that comes from trees • Resources can be conserved • Water left in the open evaporates into the air | <ul style="list-style-type: none"> • Part 2: Teacher Observation: Knows paper has observable properties/Compares properties of paper/Teacher Masters 11 (page 207)/Assessment Checklist (pages 231-232) • Part 3: Teacher Observation: Knows paper has observable properties/Compares properties of paper/Teacher Masters 12 (page 208)/Assessment Checklist (pages 231-232) • Part 4: Teacher Observation: Knows paper has observable properties/Compares properties of paper/Teacher Masters 13 (page 209)/Assessment Checklist (pages 231-232) • Narrative Report (page 233) |
| <p>4. Changing Paper Students learn two ways to transform paper, making it stronger and more durable. They make a piece of recycled paper and papiermâché bowls. They work with water, freezing and melting it to see the change in its properties. They evaporate water.</p> | <ul style="list-style-type: none"> • New paper can be made from old paper • Recycling extends the use of trees and other resources from the earth • The properties of recycled paper can be compared to those of new paper • Objects can be made from paper • Water left in the open evaporates into the air • Water changes to a solid when it freezes and to a liquid when ice melts | <ul style="list-style-type: none"> • Part 1: Teacher Observation: Knows paper has observable properties/Knows that many objects are made from paper/Knows that paper is a resource that comes from trees and that recycling extends the use of the trees/Communicates observations orally and in drawings/Teacher Masters 14 (page 210)/Assessment Checklist (pages 231-232) • Part 2: Teacher Observation: Knows paper has observable properties/Knows that many objects are made from paper/Communicates observations orally and in drawings/Teacher Masters 15 (page 211)/Assessment Checklist (pages 231-232) |

Kindergarten: FOSS
 Physical Science – Wood and Paper

| Investigation Title and Synopsis | Concepts | Assessments and TE Page Numbers |
|---|---|---|
| <p>4. Changing Paper (cont'd)</p> | | <ul style="list-style-type: none"> Part 3: Teacher Observation: Identifies resources from Earth such as trees, water, land, and air/ Knows that natural resources from Earth are used in everyday life/Knows that many resources can be reused and recycled as they can be conserved/ Assessment Checklist (pages 231-232) Part 4: Teacher Observation: Knows that water has observable properties/Knows water can be a liquid, solid and can change from one form to another/Assessment Checklist (pages 231-232) Narrative Report (page 233) |
| <p>5. Constructions Students explore a variety of techniques for making things from paper and wood. They combine all the processes to make a free-form wood, paper, and cloth sculpture.</p> | <ul style="list-style-type: none"> Knowledge of the properties of wood, paper, and fabric can be used to make useful or artistic constructions Paper containers we use every day began as flat pieces of paper Paper can be woven by using an under-over alternating pattern Some fabrics are woven | <ul style="list-style-type: none"> Part 1: Teacher Observation: Knows paper has observable properties/Knows that many objects are made from paper/Communicates observations orally and in drawings/Teacher Masters 16 (page 212)/ Assessment Checklist (pages 231-232) Part 2: Teacher Observation: Knows paper has observable properties/Knows that many objects are made from paper/Communicates observations orally and in drawings/Teacher Masters 17 (page 213)/ Assessment Checklist (pages 231-232) Part 3: Teacher Observation: Knows wood, paper, and fabric have observable properties/Knows that many objects are made from wood, paper, and fabric/Knows that people can construct useful and artistic things from wood, paper, and fabric/Teacher Masters 18 (page 214)/Assessment Checklist (pages 231-232) Narrative Report (page 233) |

Kindergarten: FOSS
Physical Science – Wood and Paper