

Module: Properties of Water and Photosynthesis

Page
Number *CD
Reference

Table of Contents

| | | Page Number | *CD Reference |
|--|---|----------------|------------------|
| Section 1: Leading Documents | | 1 | 1a |
| SCIKeys Information | Biology Module Yr1 Summary | 2 | 1b |
| | Science Keys Graphic | 3 | 1c |
| Contact Information | Arkansas Science Specialists | 4 | 1d |
| 7-E and Inquiry | 7-E Instructional Model | 6 | 1e |
| | Nature of Inquiry | 7 | 1f |
| Agenda | Training Agenda | 8 | 2 |
| Module 1 | Comprehensive Unit Guide | 9 | 3a |
| | Biology Module Yr1 Training Powerpoint | See Presentor | 3b |
| | Summative Post Test | 14 | 3c |
| Section 2: Water Documents | | 17 | |
| Properties of Water | Water Unit Guide | 18 | 1a |
| | Background Information | 22 | 1b |
| | Explain the Lab | 24 | 2a |
| | Lab Materials | 28 | 2b |
| | Complete Lab | 30 | 2c |
| | Lab Station Information | 41 | 2d |
| | Student Lab Sheet | 48 | 2e |
| Open Response | Properties of Water OR and Rubric | 56 | 3 |
| Water Assessments | Water Formative Assessment | 58 | 4a |
| | Water Summative Assessment | 60 | 4b |
| Connections | Water Cross Curriculum Connections | 62 | 5a |
| | Water Concept Map | 63 | 5b |
| Section 3: Photosynthesis Documents | | 64 | |
| Unit Summary | Photosynthesis Unit Guide | 65 | 1a |
| | Background Information | 70 | 1b |
| Kinesthetic Photosynthesis | Kinesthetic Lesson Guide | 73 | 2a |
| | Kinesthetic Lesson with Templates | 76 | 2b |
| | Photosynthesis Formula Sign | 86 | 2c |
| Large Leaf Model | Leaf Model Lesson Guide | 87 | 3a |
| | Large Leaf Model Lesson with Templates | 91 | 3b |
| | Small Leaf Model Lesson | 103 | 3c |
| | Small Leaf Model Student Handout | 105 | 3d |
| Modeling Chloroplast | Modeling Chloroplast Lesson Guide | 108 | 4a |
| | Modeling Chloroplast Lesson with Student Handouts | 111 | 4b |
| Leaf Disk | Leaf Disk Lesson Guide | 118 | 5a |
| | Leaf Disk Lesson with Student Handouts | 121 | 5b |

Module: Properties of Water and Photosynthesis

Page
Number ***CD**
Reference

Table of Contents

| | | | |
|----------------------------|---|-----|-----|
| | | | 1a |
| Light Dependent Role Play | Light Dependent Role Play Lesson Guide | 127 | 6a |
| | Light Dependent Role Play Lesson with Templates | 130 | 6b |
| | Light Dependent Role Play Narration | 151 | 6c |
| Light Independent Reactior | Light Independent Reaction Lesson Guide | 156 | 7a |
| | Light Independent Reaction Lesson with Student Handouts | 159 | 7b |
| Connections | Photosynthesis Concept Map | 172 | 8a |
| | Photosynthesis Cross Curricular Connection | 173 | 8b |
| Assessments | Formative Assessment | 174 | 9a |
| | Standards Based Formative Assessment | 176 | 9b |
| Instructional Strategies | Light Dependent - Light Independent Graphic Organizer/Key | 181 | 10a |
| | Mitochondria-Chloroplast T-Chart | 185 | 10b |
| | Photosynthesis-Respiration Venn Diagram | 186 | 10c |
| | Photosynthesis Song | 187 | 10d |

Section 4: Resource Materials

Documents listed below are available on the Wiki and Teacher Resource CD

| | | | |
|----------------------------|--|--|----|
| Lab Reports | Lab Report Template - Simple | | 1a |
| | Lab Report Rubric - Simple | | 1b |
| Open Response | Osmosis Open Response with Rubric | | 2a |
| | OR Tutorial 1 | | 2b |
| | OR Tutorial 2 | | 2c |
| Lesson Template | 7-E Lesson Plan | | 3 |
| Instructional Strategies | Graphic Organizer Ideas | | 4a |
| | PLAN Explanation Examples | | 4b |
| | QAR Instructional Strategies | | 4c |
| | RAFT Explanation Examples | | 4d |
| | RAFT Rubric | | 4e |
| Standards Based Curriculum | Standards Based Assessment for Learning Strategies | | 5a |
| | Standards Based Lesson Template | | 5b |
| | Standards Based Lesson Example | | 5c |
| | Standards Based 5-Keys Assessment | | 5d |
| Innovation | 21st Century Learning Framework | | 6a |
| | 2061 Science Web Reference | | 6b |
| Additional Lesson | Investigating Photosynthesis and Respiration Complete Lesson | | 7a |
| | Build a Large Leaf Lab Original Lesson | | 7b |
| | Counting Leaf Stomata Lab | | 7c |
| | Slow Frozen People | | 7d |
| | Sea Slug Video Lesson | | 7e |

Module: Properties of Water and Photosynthesis

| | Page Number | *CD Reference |
|--------------------------|--|------------------|
| Table of Contents | | |
| | | 1a |
| | | 7f |
| | | 7g |
| Articles: | Defining Inquiry Article | 8a |
| | Photosynthesis Inquiry | 8b |
| | Modeling Photosynthesis | 8c |
| Website Resources: | Biology Weblinks | 9 |
| Kit Information: | Molecular Kit Instruction Manual | 10a |
| | Investigating Photosynthesis | 10b |
| | Order Form for Carbon Models AESC Individual | 10c |
| | Order Form for NAESC Model Components | 10d |
| MSDS Sheets: | Bromothymol Blue | |
| | Bromothymol Blue Solution | |
| | Calcium Milk | |
| | Dishwashing Detergent | |
| | Eye Drops | |
| | Food Coloring - Blue | |
| | Food Coloring - Blue #2 | |
| | Food Coloring - Green | |
| | Food Coloring - Green #3 | |
| | Food Coloring - Red #3 | |
| | Food Coloring - Red #40 | |
| | Food Coloring - Yellow #5 | |
| | Food Coloring - Yellow #6 | |
| | Food Vegetable Dyes | |
| | Isopropyl Alcohol 70% | |
| | Isopropyl Alcohol 42050 | |
| | Johnson Baby Shampoo | |
| | Lemon Juice | |
| | Milk Powder | |
| | Soap Solution 69620 | |
| | Sodium Bicarbonate 70700 | |
| | Water | |

* The "CD Reference number" refers to the file location on the Teacher Resource CD.