

Course Syllabus: Through the Microscope

	Objective	Activities
Day 1 Monday June 30	<ul style="list-style-type: none"> • Group Introductions • Safety • Organizing Notebooks • Scientific Method • Microscope Introduction • Mystery Slides 	<ul style="list-style-type: none"> • Name tags • “Under the Microscope” Icebreaker • “Safety Video” 10:30 lecture hall • Safety Rules & Contract • Observations of “Grab Bag” objects • Microscope Pre-Assessment • Format for observing mystery slides • Homework: Decorate portfolio & Multiple Intelligence Inventory
Day 2 Tuesday July 1	<ul style="list-style-type: none"> • Learn the parts of a microscope • Become familiar with focusing a microscope • General use and handling of a microscope • Learn about the history of the microscope & contributors 	<ul style="list-style-type: none"> • “The Compound Microscope” p.15-17 • “Bringing it into Focus” reading • “Give Me an e” p.24 • “Comic Strips” p.18 • Introduction of Scientific Research Assignment • Mystery Slide #1 observations & predictions • Homework: Label Microscope
Day 3 Wednesday July 2	<ul style="list-style-type: none"> • Learn about the history of the microscope & contributors • Construct permanent slides • Determine what a cell is 	<ul style="list-style-type: none"> • Work with partners to compile and organize information collected on scientists (Computer Lab 9:00-10:15am) • “Sew Long” p.25-26 • “Put a Cork In It” p.28-29 • Mystery Slide # 2 observations & predictions • Homework: Microscope POD
Day 4 Thursday July 3	<ul style="list-style-type: none"> • Determine the parts and functions of a plant cell 	<ul style="list-style-type: none"> • “Onion Rings” p.30-31 • “Greensleeves” p.32 • “Plant Pipelines” p.33 • Mystery Slide # 3 observations & predictions • Homework: Study for Quiz
Day 5 Friday July 4	<ul style="list-style-type: none"> • Review the parts and functions of a plant cell 	<ul style="list-style-type: none"> • “Leaf Me Alone” p.37-38 • Edible Plant Cells-create models of cells using Jell-O, licorice, nilla wafers, grapes • Mystery Slide # 4 observations & predictions

	Objective	Activities
Day 6 Monday July 7	<ul style="list-style-type: none"> Determine the parts and functions of an animal cell Determine the differences between plant and animal cells 	<ul style="list-style-type: none"> “Don’t be Cheeky” p.46-47 “Tartar Control” p. 48 “Inside a Cell” video 12:30-1:30 Comparison of animal and plant cells Mystery Slide # 5 observations & predictions
Day 7 Tuesday July 8	<ul style="list-style-type: none"> Trace the development of the microscope over the past 400 years Make observations of natural materials 	<ul style="list-style-type: none"> Field Trip to National Museum of Health & Medicine Reflections on field trip “Along Came a Spider” p.42 “Birds of a Feather” 44-45 Mystery Slide # 6 observations & predictions
Day 8 Wednesday July 9	<ul style="list-style-type: none"> Become familiar with the function of bacteria 	<ul style="list-style-type: none"> “Active Cultures” (yeast, yogurt, sauerkraut) “The Blob” p.70-71 “Microbiology Agar Plates” lab Mystery Slide # 7 observations & predictions
Day 9 Thursday July 10	<ul style="list-style-type: none"> Determine the effectiveness of antimicrobial products Explore materials of interest 	<ul style="list-style-type: none"> “Analysis of Anti-Microbial Products” “Hidden Worlds” video 12:30-1:30 Students will create a small portfolio of slides of their choosing to present on the final day of class Create slides from materials brought from home/visit campus to collect specimens Mystery Slide # 8 observations & predictions
Day 10 Friday July 11	<ul style="list-style-type: none"> Learn how to make a well slide and a wet mount slide 	<ul style="list-style-type: none"> “Water, Water Everywhere” p.39-41 “Sounds Fishy to Me” p.43 Visit pond on Campus to collect water samples Observe prepared slides of water organisms Mystery Slide # 9 observations & predictions
Day 11 Monday July 14	<ul style="list-style-type: none"> Collect water samples to prepare wet mount slides 	<ul style="list-style-type: none"> Create wet mount slides with water collected from the park Comparison of water samples Mystery Slide # 10 observations & predictions
Day 12 Tuesday July 15	<ul style="list-style-type: none"> Examine evidence left at the scene of a crime through the microscope 	<ul style="list-style-type: none"> “Give It a Whorl!” p.58-60 Practice fingerprinting “Hair’s Looking at You, Kid!” p. 61-62

	Objective	Activities
Day 13 Wednesday July 16	<ul style="list-style-type: none"> Analyze common fiber samples Assess the accuracy of mystery slide predictions Explore materials of interest 	<ul style="list-style-type: none"> “Fibre Optics” p.63-64 Reveal mystery slide answers Work on final project
Day 14 Thursday July 17	<ul style="list-style-type: none"> Determine the structure and optimal growth conditions for mold Explore aspects of food science 	<ul style="list-style-type: none"> “They Broke the Mould” p. 68-69 “One Potato, Two Potato” p.66-67 “I’m Spored” p. 72-73 Continue work on final projects Homework:
Day 15 Friday July 18	<ul style="list-style-type: none"> Continued observations of food products Reflect on new learning 	<ul style="list-style-type: none"> “The Yolks on You” p.76-77 Presentations of final projects Complete graphic organizer as groups present the information Review portfolios & final projects/complete final assessment of learning Evaluations Closing Activities (Afternoon)