

TO DO AHEAD OF TIME

William and Mary What's the Matter? Curriculum Unit

Before Unit Starts: collect one, empty, 2L bottle

You will need a small amount of ice for the following lessons: 1 (for demo), 4 (1 small Ziploc per group), 8 (enough to fill the small plastic tub $\frac{1}{2}$ way), Lesson 10 (one cup of ice), Lesson 13 (1 small Ziploc per student)

You will need a LARGE amount of ice for lesson 7 (enough for each student to mostly fill a GALLON Ziploc bag

- Lesson 1- What is change?
 - Freeze water with blue food coloring
 - Draw the Frayer Model Map on one large piece of chart or butcher paper
- Lesson 2- What is a scientist?
 - Make word wall cards
 - Draw the Taba Concept Model Map on one large piece of chart or butcher paper
- Lesson 3- Introduction to Matter
 - Draw the introduction to matter concept map on one large piece of chart or butcher paper
 - Make 25 copies (one per student) of page 48- Properties of Matter
 - Pull out the following word wall cards to use: matter, states, properties, solid, liquid, gas
 - Gather the following: textbook, put shaving cream on a paper towel, bottle of soft drink or tea,
 - Blow up the balloon
 - Fill a clear cup or water bottle with colored water
 - Fill tub about $\frac{3}{4}$ full with water and wad up a piece of paper
 - Fill one egg with water, one egg with a block and leave one empty; put tape around seam so students will not open
- Lesson 4- What scientists do: observe, question, learn more
 - fill 6 SNACK Size Ziploc bags with ice
 - fill 6 SNACK Size Ziploc bags with syrup
 - fill 6 SNACK Size Ziploc bags with water
 - fill 6 SNACK Size Ziploc bags with ice
 - fill 6 SNACK Size Ziploc bags with cola
 - mix packet of Kool Aid with water
 - fill 6 SNACK SIZE Ziploc bags with Kool Aid
 - DO NOT THROW OUT ZIPLOC BAGS OF LIQUIDS AFTER THE ACTIVITY

- Make 6 copies of Wheel of Reasoning (one per group) OR display on an interactive board so the whole class can see
- Make 25 copies of pages 54-55- Physical Properties of Solids and Liquids
- Lesson 5- What scientists do: experiment, create meaning, tell others-
 - Copy superintendent's letter and put in an envelope
 - Make sure groups that choose to work with solids have scissors and the Ziploc bag of solids
 - Make sure the groups that work with liquids have 4 empty cups and the Ziploc bags of liquids
 - Make 6 copies (one per group) of pages 60-63- Scientific Investigation Sheet, Experiment Process, Data Table: Part 1, Data Table: Part 2
- Lesson 6- The case of the mystery goop-
 - Copy Mystery Goop letter
 - Draw the properties of matter concept map on one large piece of chart or butcher paper
 - Pull out the following word wall card to use: molecules
 - Fill Dixie cups with about 6 teaspoons of cornstarch and 1 tablespoon of water (ENOUGH CUPS FOR EVERY STUDENT TO HAVE A CUP)
 - Fill one cup with water for each group (6 groups) and put a dropper in each cup
 - Spread out lots of newspaper to catch spills
 - Make 25 copies (one per student) of page 73- Particles of Solids, Liquids, and Gases
- Lesson 7- Physical changes by changing temperatures-
 - Get a bag of ice
 - Pull out the following word wall card to use: freezing point, melting point, heat, energy, physical change, chemical change
 - Put 4 or 5 chocolate chips in each SNACK Size Ziploc bag (enough for every student to have one baggie)
 - Copy ice cream recipe for each student
- Lesson 8- Who stole the principal's water?-
 - Draw the changes in matter concept map on one large piece of chart or butcher paper
 - Inflate balloon
 - Fill tub $\frac{1}{2}$ to $\frac{3}{4}$ of the way with ice
 - Copy principal's letter and ask principal if he/she would be willing to read the letter to your students
 - Split the cm cubes into 6 groups

- Make 25 copies (one per student) of page 83- Changes in the States of Matter
- Make 25 copies (one per student) of page 84- Need to Know Chart
- Lesson 9- Who stole the principal's water part 2-
 - Pass out Need to Know charts from the last lesson
 - Make 6 copies of Questions for the Matter Conference (one per group) OR display on an interactive board or poster so the whole class can see
 - Pull out the following word wall card to use: dissolve
 - Fill a pitcher with very warm water
 - Write group numbers 1-6 on the outside of the pan with a permanent marker
 - Fill one clear cup with very cold water
 - Make 25 copies (one per student) of pages 89-90- Experimental Design
 - Make 25 copies (one per student) of page 91- Ocean Water Data Log
 - Make 25 copies (one per student) of pages 92-94- Matter Conference Experiment
- Lesson 10- Measuring mass-
 - Get one cup of ice
 - Pull out the following word wall card to use: mass
 - Blow up one balloon and find one small book or something smaller than the balloon that is heavier
 - Put balance in a spot where all kids can see during demonstration
 - Make 25 copies (one per student) of page 101- Using a Balance
 - Make 25 copies (one per student) of pages 102-103- Comparing Mass
 - Make 25 copies (one per student) of pages 104-105- Investigation Record Sheet
- Lesson 11- Measuring volume- gravel instead of marbles?
 - Write the information from page 112- Units of Volume- on one large piece of chart or butcher paper
 - Divide gravel into 6 or 7 rocks per group
 - Fill 6 cups with water and add food coloring
 - Put the fable "The Crow and the Pitcher" in an easy to find location (page 108 teacher's edition)
 - Make 25 copies (one per student) of page 111- Measuring Volume
 - Make 25 copies (one per student) of page 113- Volume Investigation
- Lesson 12- Evaporation findings- checking results of lesson 9
 - Pull out the following word wall card to use: evaporation

- Pass out data sheets from evaporation experiment (lesson 9)
- Lesson 13- Condensation-
 - Draw the Condensation Word Study diagram on one large piece of chart or butcher paper
 - Get enough ice to fill 25 Ziploc SNACK bags
 - Pull out the following word wall card to use: condensation
 - Fill Ziploc SNACK bags with ice (one per student)
 - Set up demo area with Ziploc bag of ice, food coloring, and paper towels
- Lesson 14- Planning the investigation and hosting the matter conference-
 - Tear enough white butcher paper for each group to have 1 or 2 sheets
- Lesson 15- Concluding the unit
 - Separate index cards into stacks for each group and display the word wall words where all students can easily see them
 - Pass out scissors for each student
 - Make 25 copies (one per student) of page 126- Examples of Change Cutouts
 - Make 25 copies (one per student) of page 127- Examples of Change Chart