

Penny Lab

Name: _____ Period: _____



Introduction:

Cohesion is when water molecules are attracted to other water molecules. The oxygen end of water has a negative charge and the hydrogen end has a positive charge. The hydrogens of one water molecule are attracted to the oxygen from other water molecules. This attractive force is what gives water its cohesive properties.

Surface Tension is the name we give to the cohesion of water molecules at the surface of a body of water. The cohesion of water molecules forms a surface "film" or "skin." Some substances may reduce the cohesive force of water, which will reduce the strength of the surface "skin" of the water. Surface tension can be measured and observed by dropping water (drop by drop) onto a penny. The number of water drops that can fit on a penny will surprise you.

1. **Initial Observation:** Observe surface tension by seeing how many drops of water can fit on a penny.

Number of Drops: _____

Question: How does soap affect the water's surface tension?

2. Develop a hypothesis that answers the experimental question.

3. Test your hypothesis by comparing the number of drops of tap water that can fit on a penny to the number of drops of soapy water that can fit on a penny. Because water drops may vary depending on how well you drop the water, it is best to run many trials and take an average. Record your data in the table below.

	Trial 1	Trial 2	Trial 3	Average
Tap Water	_____	_____	_____	_____
Soapy Water	_____	_____	_____	_____

Answers To Penny Surface Tension Lab

Francis M. Fennell

Answers To Penny Surface Tension Lab:

Integrated Science Laboratory Manual Michael J. Padilla,2000 Includes 74 investigations pre lab discussions and critical thinking questions safety manual and student safety test teaching support

Super Simple Science Experiments

for Curious Kids Andrea Scalzo Yi,2022-07-19 Fun and Easy Hands On Projects for At Home Science Turn your home into your laboratory as you explore and experiment through dozens of science projects with Andrea Scalzo Yi bestselling author and the creative mastermind behind Raising Dragons With just a few common household items you ll learn creative problem solving skills nurture your curiosity and experiment just like a real scientist Jam packed with 100 exciting experiments you ll never run out of projects to amaze and astound Create colorful reactions with a Lemon Volcano investigate surface tension using Magic Milk and explore centripetal force with your own Tornado in a Bottle You can even unlock your inner artist with beautiful Sun Print artwork all you need is the sun and some paper no paint required Each engaging experiment includes a simple explanation of the science behind it as well as variations on the project so you and your family can make the most of each activity Get out your lab coats and strap on your safety goggles it s time to tinker and test with Super Simple Science Experiments for Curious Kids

Earth Central Debbie Keiser,2007-07 What s inside Earth Why do we have earthquakes What causes the ocean tides These questions and many others are examined as students study Earth from the inside out Students also become geologists as they consider plate tectonics earthquakes volcanoes and their causes They become oceanographers and meteorologists to gain a better understanding of elements affecting the surface of our world through a study of weather patterns and tides and currents in the ocean Your students will come to appreciate the atmosphere that makes life on Earth possible as they learn about our planet s position in the solar system After Earth Central students will have a deeper love and understanding of their planet

Engaging Eager and Reluctant Learners Dennis Adams,Mary Hamm,2017-03-08 This book will help educators design STEM programs and lessons that foster teamwork and thinking while getting students actively involved in their own learning There are many practical ideas and lesson plans that will help teachers reach both eager and reluctant learners The suggestions for STEM curriculum and instruction are research based and standards driven This book looks at collaborative learning differentiation and diversity all the while building instruction in the STEM subjects and good hands on materials This is done in a way that is designed to help every student feel successful and part of the class as a whole It shows a deep respect for the unique relationship between teachers and their students as they try to navigate their way into the future Suggestions are designed to help learners question analyze interpret problem solve and discover The STEM subjects of science technology engineering and math are essential to understanding the world of today and the world of tomorrow The authors view is that it takes more than innovation alone for innovation to be useful products of the imagination must be arranged in ways that allow them to be used to solve real world problems

Science

Fiction, Science Fact! Ages 8-12 Jules Pottle,2018-05-30 Science Fiction Science Fact Ages 8 12 is a book for story loving

primary teachers who want to find a creative way to teach science Contextualising science in a story that pupils know and love the book contains a wide range of activities and investigations to help Key Stage 2 pupils engage in science learning while also extending aspects of the English national curriculum The book offers valuable support to busy teachers and by ensuring science lessons are enjoyable and accessible for pupils helps children get involved in investigations in a way that is memorable for them Using coloured illustrations and diagrams throughout the book contains the relevant scientific context alongside a link to one of nine exciting children s stories clever and unique suggestions to storify the science instructions for teachers to give to their pupils tips on how to deliver the lesson in an immersive way guidance on assessing pupils level of understanding Science Fiction Science Fact Ages 8 12 is packed full of ideas for weaving science into cross curricular lessons and is an invigorating and essential resource for Key Stage 2 teachers and science co ordinators seeking to inject some creativity into their science lessons

The Art and Science Connection Kimberley Tolley,1994 These innovative resources use a thematic holistic hands on approach in teaching children about the natural world through creative art activities Both books support the National Science Standards for meaningful integration of art and science concepts and processes Each book contains 30 lessons and blackline masters

Science Experiments, Grades 5 - 8

Williams,2015-01-01 With this comprehensive classroom supplement students learn to focus on the scientific method and developing hypotheses Topics covered include geology oceanography meteorology astronomy investigations into water salinity radiation planets and more A variety of experiment models are also included for further concept reinforcement Mark Twain Media Publishing Company specializes in providing captivating supplemental books and decorative resources to complement middle and upper grade classrooms Designed by leading educators the product line covers a range of subjects including mathematics sciences language arts social studies history government fine arts and character Mark Twain Media also provides innovative classroom solutions for bulletin boards and interactive whiteboards Since 1977 Mark Twain Media has remained a reliable source for a wide variety of engaging classroom resources

The New Art and Science of Teaching Science Brett Erdmann,Steven M. Wood,Troy Gobble,Robert J. Marzano,2022-09-06 Strengthen science education practice based on Robert J Marzano s instructional framework the New Art and Science of Teaching Readers will learn 10 design areas within the categories of feedback content and context examine proven instructional elements embedded in the framework and gain strategies for improving teacher effectiveness and collaboration in the science classroom Driven by data this book positions teachers to nurture student success Teacher leaders can unite their teams to Understand the New Art and Science of Teaching model as it applies to science instruction Learn to engage and motivate students through a wide variety of instructional strategies Better utilize formal and informal assessments Improve the organization and layout of the classroom to facilitate student growth Understand how to implement the various guiding questions for curriculum design to best plan classroom strategies Contents Introduction Part I Feedback Chapter 1 Providing and Communicating Clear

Learning Goals Chapter 2 Using Assessments Part II Content Chapter 3 Conducting Direct Instruction Lessons Chapter 4 Conducting Practicing and Deepening Lessons Chapter 5 Conducting Knowledge Application Lessons Chapter 6 Using Strategies That Appear in All Types of Lessons Part III Context Chapter 7 Using Engagement Strategies Chapter 8 Implementing Rules and Procedures and Building Relationships Chapter 9 Developing Expertise Afterword Appendix A The New Art and Science of Teaching Framework Overview Appendix B List of Figures and Tables References and Resources Index *Chem C&A Chemla&Min Wksh* McGraw-Hill Education, 1996-08 *Holt Chemistry* Ralph Thomas Myers, 2004

Prentice Hall Science Explorer: Teacher's ed, 2005 **The Science Teacher**, 2008 SCC Library has 1964 cur **Chemistry** Lemay, Prentice-Hall Staff, 1996 **Collaborative Inquiry in Science, Math, and Technology** Dennis Adams, Mary Hamm, 1998 This book shows elementary teachers how to integrate math science and technology in a cooperative learning environment **Even More Brain-powered Science** Thomas O'Brien, 2011 The third of Thomas OOCOBrienOCOs books designed for 5OC012 grade science teachers Even More Brain Powered Science uses questions and inquiry oriented discrepant eventsOCoexperiments or demonstrations in which the outcomes are not what students expectOCoto dispute misconceptions and challenge students to think about discuss and examine the real outcomes of the experiments OOCOBrien has developed interactive activitiesOComany of which use inexpensive materialsOCoto engage the natural curiosity of both teachers and students and create new levels of scientific understanding **Water** Martin Allen, 1998 Reproducible activities correlated to the National Science Education Standards that engage students minds as they observe examine investigate the properties of water from surface tension density to salinity buoyancy and much more **English Mechanic and Mirror of Science and Art**, 1925 **English Mechanic and World of Science**, 1871 **Using the Purple Loosestrife Problem as a Case Study Approach to Teaching Botany** Lisa Marie Weise, 2000 **Silver Burdett Ginn Mathematics** Francis M. Fennell, 1998 NC State textbook adoption 1998 2003

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