



Marvelous Explorations through Science and Stories[®] (MESS)





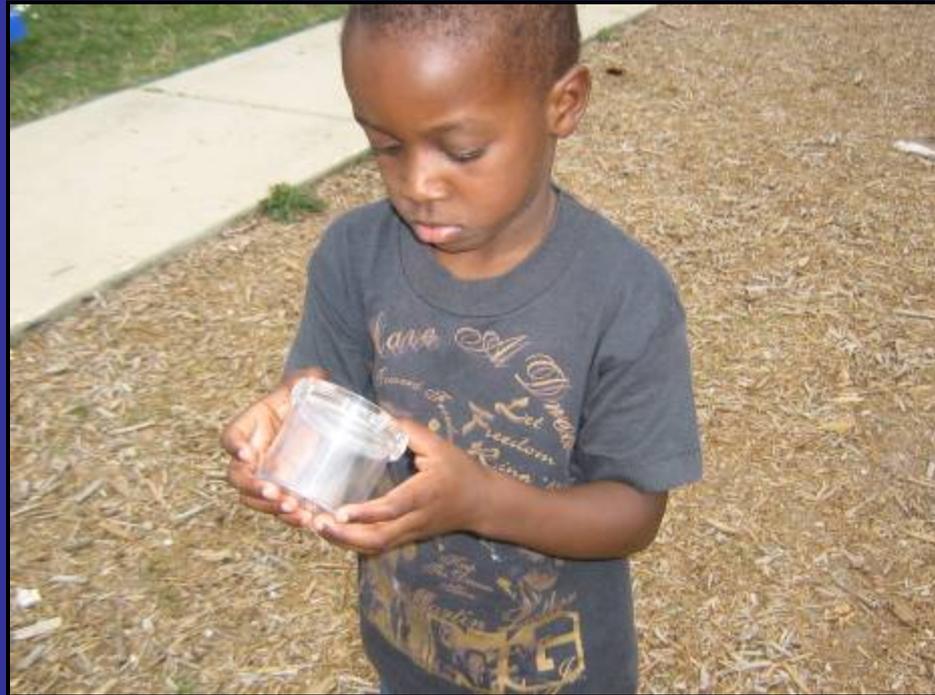
Agenda

- What is MESS ?
- Why science in early childhood education ?
- What is good early childhood science ?
- How does MESS work ?
- Teacher's Guide Overview
- Conclusion
- Q & A



What is *MESS*?

Science-centered curriculum enhancement





Video Clip



Why Focus on Science In Early Childhood?

- Young children are already engaged in science!
- Children learn best when we intentionally create appropriate learning environments.
- Adults play a key role as facilitators of children's early explorations.

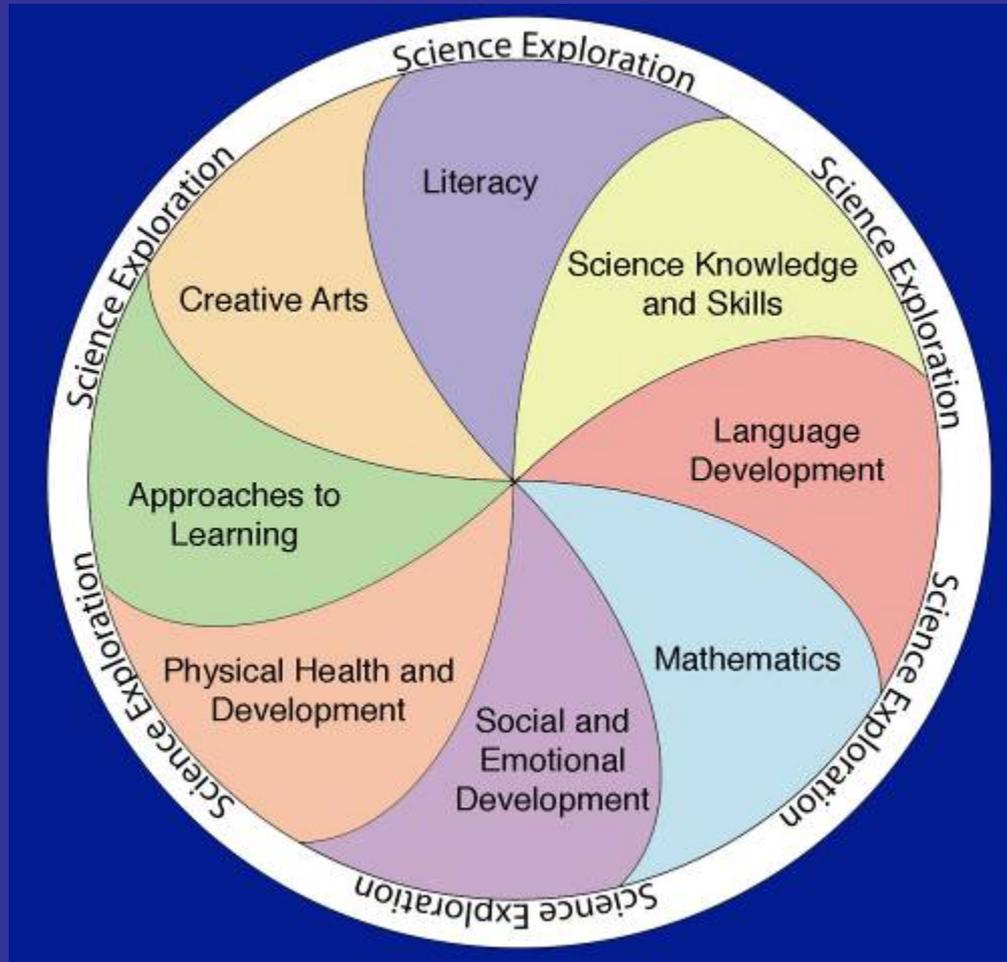


Science Skills Are Useful In Many Situations

Science process skills include:

- Using the senses to learn
- Observing
- Classifying
- Investigating
- Predicting
- Sharing ideas and discoveries with others

Science Supports Development Across Domains





Video Clip



Science Fosters Language Development

- Science talk includes sophisticated vocabulary, extended conversations, and references beyond the immediate “here and now.”
- These are all associated with vocabulary growth and later reading comprehension.

Science Supports Literacy Development





Science Supports Social Emotional Development





Science Fosters Curiosity, Persistence, and Motivation To Learn





Video Clip



Why is Science So Often Neglected?

- Teacher discomfort and uncertainty
- Fear and anxiety
- Inappropriate models of science
- Lack of appropriate resources



Video Clip



How Can *MESS* Help?

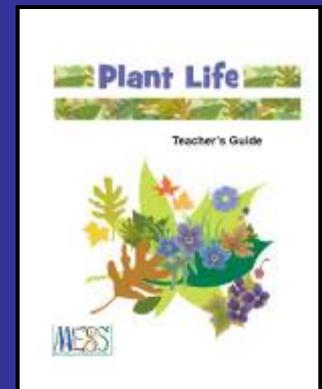
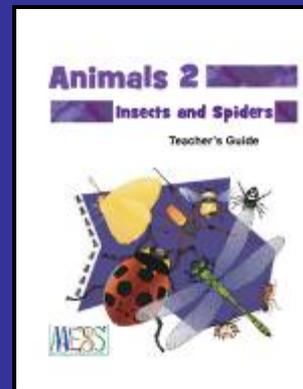
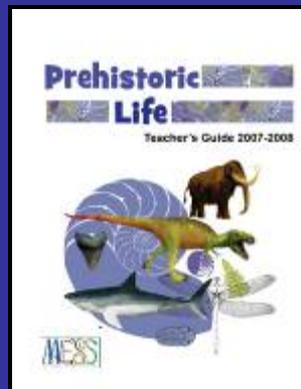
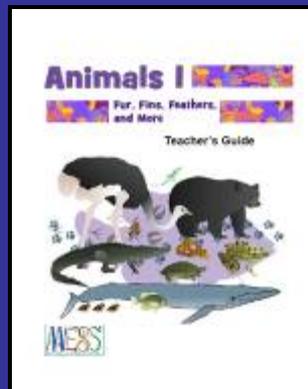
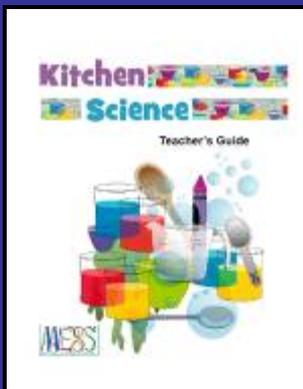
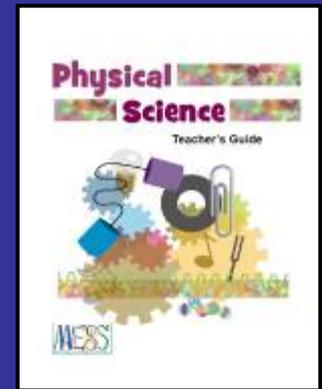
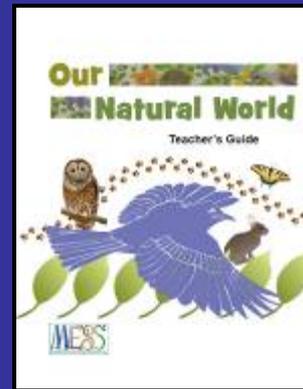
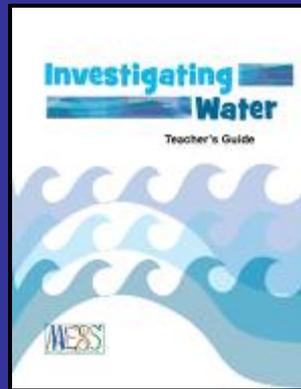
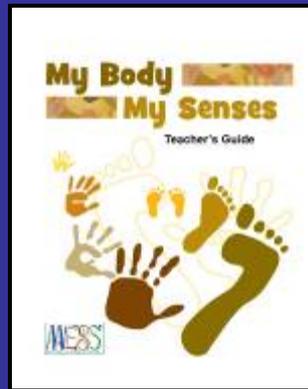
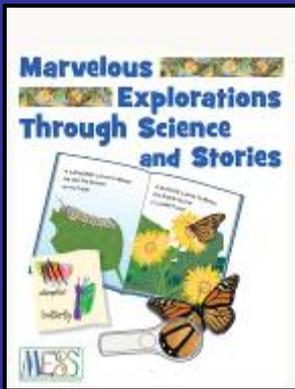
- Targets appropriate areas of exploration
- Provides background information
- Identifies books and materials
- Suggests ways to approach science questions



Development of *MESS*

- Field-tested in over 80 classrooms
- Funded since 2001 by grants from government agencies and private foundations
- 2004 Head Start Innovation and Improvement Project (IIP), Administration for Children and Families
- Recipient of Head Start Region IV Family Literacy Award and National Head Start Family Literacy Award in 2006

MESS Resources





Criteria for *MESS* Resources

- Is the science topic of interest to young children?
- Is the topic developmentally appropriate for preschoolers?
- Does the topic support in-depth exploration?
- Are there high quality books available to support exploration of the topic?
- Does the topic support science inquiry or object-based learning?

Early Childhood Learning and Knowledge Center (ECLKC)

<http://eclkc.ohs.acf.hhs.gov/hslc>

The screenshot displays the ECLKC website interface. At the top, it includes the site name and navigation links. The left sidebar contains a search bar and a vertical menu with categories like 'Early Childhood Development & Health', 'Education and Early Childhood Development', and 'Health'. The main content area is divided into several sections: 'What's New' featuring a science webcast about a child with a magnifying glass; 'Early Childhood Development Topics' with sub-sections for 'Assessing', 'Planning & Curriculum', and 'Focusing on Child Development'; and 'Featured Topics' which includes 'Math and Science Resources for Teaching Teams Working with Infants, Toddlers, and Preschoolers', 'America', 'Steps to Success for Early Literacy Mentor Coaches in Head Start and Early Head Start', and 'Tools and Resources'.

ECLKC Home | Early Childhood Development & Health | Education and Early Childhood Development

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Have a question?

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ECLKC Current Location

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Early Childhood Development & Health

Disabilities

Education and Early Childhood Development

- Assessing
- Creating Environments
- English Language Learners and Dual Language Acquisition
- Focusing on Child Development
- Individualizing
- Involving Families and Parents Management and Staff Support
- Planning and Curriculum

Health

- Mental Health

Early Head Start (EHS)

What's New

For Parents

- Dual Language Learners (DLL) and Their Families
- Family and Community Partnerships

What's New



Science Webcast #1: Let's do Science.
[Read more >](#)

- Science Webcast #2: Look What I Know. See What I can do!
- Science Webcast #3: Language and Literacy Through Science
- Science Webcast #4: Bringing it All Together

Early Childhood Development Topics

Assessing
Locate information for understanding children's ongoing progress and child outcomes.

Planning & Curriculum
Learn about the Goals, Experiences, Roles, Materials, and Sound child development & Standards (GERMSS) that make your curriculum healthy.

Focusing on Child Development
Get ideas on how to create learning experiences for infants, toddlers, and preschool children.

Featured Topics

Math and Science Resources for Teaching Teams Working with Infants, Toddlers, and Preschoolers
Explore strategies and experiences that promote children's development in math and science.

America
View experiences that focus on vocabulary, book reading, and child outcomes in the context of the artworks.

Steps to Success for Early Literacy Mentor Coaches in Head Start and Early Head Start
Discover resources and strategies to support the development of strong, effective early literacy mentor-coaching skills and systems.

Tools and Resources

- Head Start Leaders Guide to Positive Child Outcomes [PDF, 1.82MB]
- Head Start Child Outcomes Framework
- Super Things Parents and Caregivers Can Do
- A Checklist for Early Childhood



Investigating Water

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Teacher's Guide Format

Background Information

Materials List

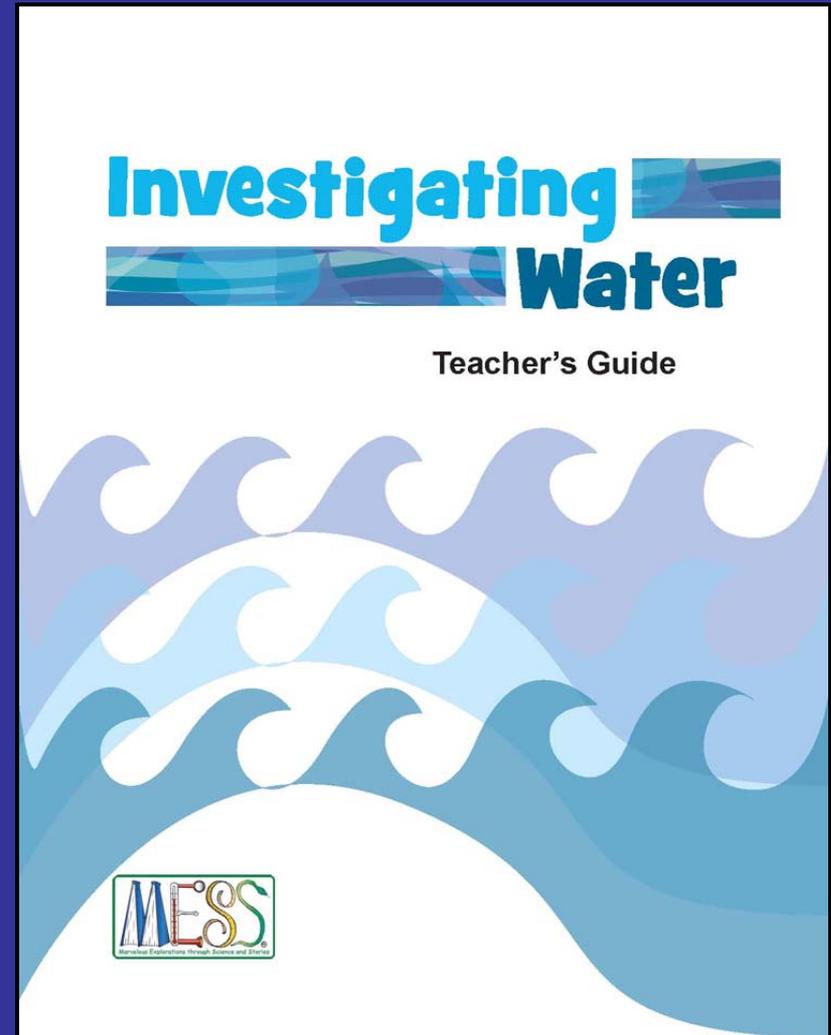
Core Experiences

- ✓ Aim
- ✓ Science Concept
- ✓ Vocabulary
- ✓ Approach
- ✓ Extensions
- ✓ Science Center
- ✓ Integrated Experiences

Take-Home Experience

Recommended Books

Head Start Domains and
Indicators from the Child
Outcomes Framework





Video Clip

Teacher Background Information

Investigating

Water

Teacher Background Information

What is the focus of this Kit?

This Kit engages children in the process of scientific inquiry using the context of a favorite early childhood pastime—water play!

What science concepts are covered in this Kit?

- ▶ We learn about our world by observing, questioning, investigating, describing, and discussing our findings.
- ▶ We use tools to collect data and extend our senses.
- ▶ All living things need water.
- ▶ Water takes the shape of its container.
- ▶ Water clings to itself.
- ▶ Water behaves differently on different surfaces.
- ▶ Water changes its form reversibly.
- ▶ Water flows.
- ▶ Water takes up space.
- ▶ Water has weight.
- ▶ Some objects float in water and some objects sink.
- ▶ Some things mix with water and other things do not.

What is scientific inquiry?

Scientific inquiry is driven by curiosity and wonder. It begins when we notice something that leads us to ask questions: “Why?” “What’s going on?” “How does that work?” The next step is to search for answers through observation, collecting and recording data, making representations of results, and drawing upon books and the expertise of others to further our understanding. Scientific inquiry rarely proceeds in a purely linear fashion. It is a back-and-forth process where new discoveries suggest other questions to pursue.

Why introduce children to science process skills during early childhood?

Science process skills (e.g., observing, questioning) overlap considerably with the skills needed to succeed in school. The process skills used in science are critical as children learn to read. The same problem solving skills are used to navigate the social world as well.

Teacher Background Information

Investigating Water

What can I do to support children’s inquiry?

Children have been learning by playing with water for as long as we can remember. We now know, however, that adults can help children explore water more productively by:

- ▶ designing a stimulating environment,
- ▶ focusing attention,
- ▶ asking questions to guide exploration,
- ▶ encouraging children to express their ideas in words and drawings,
- ▶ helping make connections between actions and results,
- ▶ showing enthusiasm, and
- ▶ modeling curiosity.

What are the properties of water?

Water flows. One property of liquid water is that it flows. Because of gravity, water naturally flows down, but it can be made to move upward—as when we suck on a straw—if enough force is applied.

Water clings to itself. Water molecules are attracted to one another. This attraction is called **cohesion**. To observe this attraction, squeeze small drops of water onto wax paper. As you pull the drops closer together, they will merge into one larger drop. This larger drop will resist being divided. If you gently press on the drop with your finger, it will flatten but it will not break.

Surface tension results from the attraction among water molecules at the surface. Surface tension creates a skin-like barrier between air and the water molecules below. You can observe surface tension by pouring water into a glass until it is very full. If you look carefully, you will see a dome over the rim of the glass. Surface tension keeps the water from spilling over. The surface tension of water is strong enough to support insects travelling on top of the water. Soap and oil weaken surface tension by reducing the strength of the attraction between water molecules.

Water behaves differently on different surfaces. Adhesion is the attraction of water molecules to other materials. Water is more strongly attracted to some materials than others, depending on their composition. When water sticks to

Teacher Background (Con't.)

Teacher Background Information

Investigating Water

things. Water flows farther and faster from a hole when more water is pressing on it than when less water is pressing on it.

Some objects float in water and some objects sink. Children may initially believe that all heavy objects sink while all light objects float. In fact, several factors determine whether an object will sink or float. (Consider the huge ships that travel the oceans.) An object that is hollow and filled with air will float; so will an object whose size and shape spread it out over the surface of water. (We sink when we try to stand in deep water but float if we lie on its surface.)

Whether an object sinks or floats depends on its **density** relative to the density of water. Something will float if it is less dense than water. This means that the substance weighs less than an equal amount of water. Air is less dense than water, so things that are filled with air will float. Pouring water into an object or adding weight by some other means can make it sink.

Some things mix with water and others things do not. For example, if you mix vinegar and water—both liquids—you end up with a vinegar-water solution. But if you mix cooking oil or corn syrup—also liquids—with either vinegar or water, they may mix for a moment, but eventually will separate into layers.

Solids also respond differently when mixed with liquids. Sugar and salt will **dissolve** in water. Other solids—such as sand or cornstarch—will not. When substances mix together, they are called a **solution**. When substances do not mix (e.g., vinegar and oil, sand and water), they are called a **suspension**.

What measures should I take to make sure that the experiences in this Kit are safe for young children?

Water experiences can pose potential hazards for young children, so it is critical to supervise the children at all times. Additional steps to ensure a safe environment for investigation include:

- ▶ clean, disinfect, and fill the water table with fresh water daily
- ▶ wash and disinfect water tools on a daily basis
- ▶ require children to wash their hands before playing at the water table
- ▶ monitor spills carefully to prevent accidents

Teacher Background Information

Investigating Water

Teacher Vocabulary

adhesion – the attraction of molecules to other materials

cohesion – the attraction of molecules to each other

density – the mass of a substance divided by its volume

displace – to take the place of something else

dissolve – to mix with a liquid so that the result is a liquid that is the same throughout

evaporation – when a liquid changes into a gas

gas – an invisible substance that has no shape and spreads to fill any space

liquid – a substance that can change its shape but cannot change its volume

molecule – a small substance composed of two or more atoms such as hydrogen and oxygen (e.g., a molecule of water)

solid – a material that keeps its shape

solution – a uniform mixture of two or more substances; salt water is a solution

suspension – a liquid or gas containing small solid particles that will settle upon standing; muddy water is a suspension

surface tension – a force that pulls drops of water or other liquids together making a skin on the surface

volume – the amount of space something takes up

water pressure – the force that water exerts on things



Materials List

Materials Needed for Core and Center Experiences

Materials

Books

Experience 1: What Is Water?

water tools—select from:
basters
bucket sieves
funnels
liter containers
plastic tubing
water pump
pump bottles
sponges
spray bottle
squirt bottles
water wheel
watering can
water smocks
water table
towels or mop for clean-up

I Am Water by Jean Marzollo
Splish Splash by Joan Bransfield
Graham
Water, Water by Eloise Greenfield

Experience 2: Why Is Water Important?

photos of animals drinking water
photos of living and nonliving things

Precious Water by Brigitte Weninger
and Anne Möller
The Water Hole by Graeme Base
I Am Water by Jean Marzollo
A Cool Drink of Water by Barbara Kerley
Drinking Water by Mari C. Schuh
Water as a Liquid by Helen Frost

Experience 3: What Is the Shape of Water?

container of water
plastic tubing
funnels
liter containers
assortment of containers of
various sizes and shapes
flat surface or shallow pan
water smocks
towels or mop for clean-up

What Is a Scientist? by Barbara Lehn
I Get Wet by Vicki Cobb
Being a Scientist by Natalie Lunis
and Nancy White
Curious Kittens by Roy Volkman
Puddles by Jonathan London



Core Experiences: Aim & Science Concept



Does Water Take Up Space?

Science Concept
Water takes up space.

Aim

Children will be able to predict what will happen when solid objects are added to a container of water.

Materials

large measuring cup
marker or tape
rocks
towels or mops for clean-up

Books

Mr. Archimedes' Bath by
Pamela Allen
King Bidgood's in the Bathtub by
Audrey Wood

Vocabulary

after
before
down
overflow
spill
up

Approach

- ▶ In advance, do the experiment yourself. You may be surprised to see how high the starting water level needs to be in order for the water to overflow!
- ▶ Fill the measuring cup with water, leaving about two inches at the top. Mark the water level with tape or a marker.
- ▶ To begin the investigation, show the children the rocks and ask: *What do you think will happen if we put all of these rocks in the water? Do you think the water will stay here (point to the water level)? Do you think the water will go up? Do you think the water will go down? Why?*
- ▶ Distribute the rocks among the children and ask them to gently place the rocks in the cup of water one at a time.
- ▶ Focus the children's attention on the level of the water each time a new rock is placed in the cup. Continue doing this until the water overflows.



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Extension

Repeat the procedure using other materials such as pennies or marbles, or even materials that float.

Integrated Experiences

Literacy: Help the children record their observations in their journals using illustrations and words, or create a class log on a large sheet of paper.

Math: During the experiment, have the children count the rocks as they are added or removed from the container.

- ▶ Explain that the water overflowed because the rocks took up space where the water once was.
- ▶ Now ask: *What will happen to the level of the water if we take the rocks out of the cup?* Have the children remove the rocks one by one, focusing the children's attention on the water level. Explain that the water level goes down because the water is moving in where the rocks were before.



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Core Experiences: Vocabulary

Experience 13 Exploring Floating and Sinking I

Science Concept
Some objects float in water and some objects sink.

Aim
Children will investigate floating and sinking.

Materials
materials for charting results
floating and sinking collection
ship photo
clear container of water

Book
10 Little Rubber Ducks by Eric Carle
The Puddle by David McPhail
Ducky by Eve Bunting

Vocabulary
ball
block
bobber
bolt
cork
crayon
egg
float
key ring
rubber duck
shell
sink
washer

Approach

- In advance, prepare a chart to record the results of the investigation.
- Begin this experience by explaining that you are going to spend several days exploring floating and sinking. Select an object to demonstrate what it means to float. Explain that float means that something stays at the top of the water. Then demonstrate what it means to sink. Explain that things that go to the bottom sink.
- Encourage the children to share their ideas about floating and sinking.
Ask: What can you think of that sinks or goes to the bottom in the bathtub? Can you think of anything that floats or stays at the top of the water?
- Select an object and ask: *Do you think this will float at the top of the water or sink to the bottom?*
Encourage the children to explain why.
- Record on the chart whether the



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Extension

Explore floating and sinking with other objects found in the classroom.



Literacy 1: Help the children record their observations in their journals using words and pictures, or create a class log on a large sheet of paper.

Literacy 2: Create a classroom display depicting different types of boats. Label and illustrate with photographs or the children's drawings.

Creative Arts 1 (Dramatic Play) Place cardboard boxes large enough to sit in, tubes to serve as oars, something heavy to be an anchor, and other props in the dramatic play area to encourage pretend play around a "boat" theme.

Creative Arts 2 (Art) Provide an assortment of materials (e.g., styrofoam trays, small pieces of wood) and encourage the children to make and decorate boats.

Creative Arts 3 (Music and Movement) Have the children sing "Row, Row, Row Your Boat."

- Present the remaining objects one by one and ask the children to predict whether the object will sink or float. Encourage them to explain their thinking.
- When you have finished testing all of the items, sort them into groups of things that float and those that sink.
- Talk about the features that things that sink or float have in common. Show the children the photo of the ship and explain that all heavy things do not sink. The ship is heavy, but the weight is spread out over a large space.

object	Sink or Float?	
	Sink	Float
shell	✓	
duck		✓
key	✓	
boat	✓	
block		✓

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Core Experiences: Approach



Exploring Water Drops

Science Concept
Water clings to itself

Aim

Children will make and manipulate water drops.

Materials

containers of water
pipettes
photos of water drops
wax paper
food coloring (optional)

Books

I Love the Rain
by Margaret Park Bridges
Raindrops
by Larry Dane Brimner

Vocabulary

drop
large
pipette
round
small
wax paper

Approach

- In advance, experiment with making water drops on wax paper so that you can effectively guide the children's explorations. Cut a small square of wax paper for each child.
- Begin by asking the children to share what they already know about water drops. Ask questions such as: *How would you describe a water drop? Where have you seen water drops? Where do water drops come from?* Show the children the pipettes and wax paper and explain that they are going to explore water drops.
- In small groups, give each child a pipette and sheet of wax paper. Place a container of water nearby. Demonstrate how to make drops of water on the wax paper and encourage each child to do the same. Instruct the children to look at the drops from above and from the side to see the shape of the drop. Help them identify the shape as round. Compare the drops to those shown in the water drop photographs.
- Encourage the children to experiment. Guide their explorations by asking questions such as: *How can you make little drops? How can you make a big drop? What happens when you move the drops close together?*

Hint

It is easier to observe the drops if you tint the water with food coloring.

Extension 1

Explore how to make drops using hands, fingers, and other tools such as spray bottles and basters.

Extension 2

Experiment making water drops on different surfaces such as the table top, foil, paper, or sand.

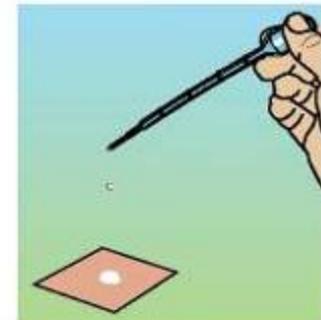
Integrated Experiences

Literacy 1: Take photos of children's explorations of water drops. Add to the class science log.

Literacy 2: Have the children represent the water drops they created using clay.

Math 1: During the investigation, have the children compare the size of individual drops to the size of drops pushed together.

Math 2: During the investigation, direct the children to make a specific number of drops or count the drops they make.



Core Experiences: Extension, Science Center, Integrated Experiences



Exploring Water Flow 2

Science Concept
Water flows.

Aim

Children will investigate water flow.

Materials

water flow cups
water smocks
water table
towels or mops for clean-up

Books

Splash Splash by Joan
Bransfield Graham
Water Dance by Thomas Locker

Vocabulary

fastest	see
slowest	show
flow	slow
look	stream

Approach

- ▶ In advance, experiment with water flows through the water tools so that you can effectively guide the children's explorations.
- ▶ Gather a small group of children around the water table. Show the children one of the cups with holes. Draw the children's attention to the holes and ask questions such as: *What do you think will happen if I put water in the cup? Will all the water stay in the cup? Why do you think that?*



- ▶ Distribute the cups and encourage the children to compare the streams that flow from the different holes. Ask: *Which one comes out the fastest? Which one comes out slow? Which ones goes the farthest?*
- ▶ Have the children experiment with changing the flow by plugging up holes or adjusting the amount of water in the cup. *What can you do to make the water come out of only one hole? What happens to the flow when there is a lot of water in the cup? What about when there is only a little water in the cup?*

What's happening?

How fast water flows depends on water pressure. Water will flow farther and faster if there is a greater amount of water pressing down on it.

Extension

Explore streams of water further using plastic tubing and bucket sieves. Compare the size of the streams and encourage the children to try to combine small streams into large ones using their fingers.

Integrated Experiences

Literacy: Document your investigation of water flow in a class display. Add photos and children's drawings.

Math: Take the containers outdoors or cover the floor with brown butcher paper and measure how far the streams of water fall.

Creative Arts (Dramatic Play): Put firefighter hats and short lengths of rubber tubing or rope and other props in the dramatic play area to encourage pretend play around the theme of fighting fires.





Take-Home Experience

MESS® Take-Home Kit Information/Experience Card

Investigating Water

Welcome to the Investigating Water MESS® Take-Home Kit. This page suggests ways to further explore what your child has been learning at school.

In this Kit you will find:

- ▶ *The Water Hole* by Graeme Base
In this counting book, one, then two, and eventually ten animals come to drink at the shrinking water hole.
- ▶ a rain gauge

This month your child is learning:

- ▶ that all living things need water
- ▶ about measuring tools

How to use this book:

- ▶ Point to the animals as you help your child count them.
- ▶ Ask: *What is happening to the water hole? What do you think will happen to the water hole when it rains?* Explain that when it rains the water hole will fill up again.
- ▶ Read the book again and look carefully at the illustrations. Count the frogs in each picture. Try to find other animals hiding in the background.

How to use the object:

- ▶ Look at the rain gauge with your child. Point to the lines and numbers and explain how we use them to measure rainfall.
- ▶ Put the rain gauge outside and see if it collects any rain, use it to collect water from a sprinkler, or try it out in the shower or sink.

To further support your child's learning:

- ▶ Talk about the weather. Keep track of how often it rains.
- ▶ Visit a lake, river, or other body of water and talk about how important water is to all living things.





Video Clip

Recommended Books

MESS[®] Recommended Books

Investigating Water

Recommended Books

Allen, Pamela. *Mr. Archimedes' Bath*. New York: HarperCollins, 1980. As Mr. Archimedes and his Australian animal friends try to figure out why the bathtub keeps overflowing, they unknowingly discover the scientific principle of water displacement.

Allen, Pamela. *Who Sank the Boaf?* New York: Putman & Grossset, 1998. A cow, donkey, sheep, pig, and mouse decide to go rowing in a small boat. When one of them gets in, the boat goes from floating to sinking. Colorful illustrations add to the comic tension.

Base, Graeme. *The Water Hole*. New York: Harry N. Abrams, 2001. Arranged around the activities at an animal watering hole, this counting/puzzle/storybook demonstrates animal diversity, dependence on water holes, and the cycle of seasons. The animal sounds lighten the serious message.

Brett, Jan. *The Umbrella*. New York: Scholastic, 2004. With umbrella in hand, Carlos ventures into the cloud forest to look for native animals. From the drip, drip of water drops to the sinking of the umbrella (by a hummingbird, no less), he manages to miss all the exciting animal adventures.

Bridges, Margaret Park. *I Love the Rain*. San Francisco: Chronicle Books, 2005. From hating the rain to loving it, Moly's friend Sophie guides her see the wonder in rain. The splashy, detailed watercolor illustrations help set the mood for stimulating imaginations.

Brimmer, Larry Dane. *Raindrops*. New York: Children's Press, 1999. From one raindrop to a lazy lake for sailing, the concepts that water flows and it clings to itself are detailed in bright, bold pictures.

Bunting, Eve. *Ducky*. New York: Houghton Mifflin, 1997. With thousands of other floating toys, a rubber duck falls off a cargo ship in the middle of the ocean. The lonely duck encounters both scary sea creatures and all kinds of weather before the ocean currents deliver him to land. There he is added to the "ducks found" list before happily becoming the bath toy he was intended to be.

Carle, Eric. *10 Little Rubber Ducks/10 patitos de goma*. New York: HarperCollins, 2005. Based on the same true story as Bunting's *Ducky*, the adventures of 10 rubber ducks from factory to a storm at sea make counting fun and useful. Ordinal numerals and colorful cutout collages help the reader keep track of the ducks. Interactive sound adds a fun finishing touch.

MESS[®] Recommended Books

Investigating Water

Shulevitz, Uri. *Snow*. New York: Farrar Straus Giroux, 1998. As snowflakes slowly come down and melt, most people in the city downplay the snowfall potential. Watercolor illustrations add detail to the sparse text about the boy who believes and even celebrates a white city.

Tompert, Ann. *Just a Little Bit*. Boston: Houghton Mifflin, 1993. An elephant and a mouse want to try out the seesaw, but the weight imbalance does not allow much action. They get help from numerous other animals, but it isn't until a little brown beetle is added to the mouse's end that something happens.

Trumbauer, Lisa. *Why We Measure*. Mankato, MN: Yellow Umbrella Books, 2003. Rulers, maps, speedometers, scales, measuring tapes, etc. are all tools we use to measure various things. Small-book format is limiting but this one has a good introduction to the concept of measurement.

Volkmann, Roy. *Curious Kittens*. New York: Random House Children's Books, 2001. In simple color photos and very limited text, two little kittens wonder about the swimming experience in a fishbowl. They explore several ways to solve the problem of getting wet. It is the scientific process in action.

Weninger, Brigitte & Möller, Anne. *Precious Water*. New York: North-South Books, 2000. A clear glass of water is the introduction to "all things need water." Plants, "animals, and people" are all examples. Collage pictures and limited text are sufficiently detailed for good discussion.

Wood, Audrey. *King Bidgood's in the Bathtub*. New York: Harcourt Brace, 1985. A number of the king's subjects fail to persuade King Bidgood to leave his bathtub—until his page does the obvious thing. Good observers, however, will note what happens to the water level in the tub as each attempt is made. Repetitive text and period illustrations add to the mood. Caldecott Honor book.

Other Recommended Books

Bryant-Mole, Karen. *Floating and Sinking*. Des Plaines, IL: Heinemann Interactive Library, 1998. This book is filled with definitions, demonstrations, and questions about floating and sinking things, enough to make this a teacher reference. A bibliography, glossary, and index are appended.

Bullock, Linda. *You Can Use a Balance*. New York: Scholastic, 2004. Simple text and photographs illustrate the use of a balance for comparing weights.

Domains & Indicators

Head Start Domains and Indicators Associated with Core and Center Experiences

Domain & Indicators	Experience																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	T-H
MATHEMATICS CONTINUED																	
Shows growth in matching, sorting according to 1 or 2 attributes such as color or size.			*	*													
Builds an increasing understanding of directionality, order and positions of objects, and words such as up, down, over, under, top, bottom, inside, outside, in front, and behind.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Enhances abilities to recognize, duplicate and extend simple patterns using a variety of materials.									*	*							
Shows increasing abilities to match, sort, put in a series, and regroup objects according to one or two attributes.													*				
Begins to make comparisons between several objects based on a single attribute.			*	*									*				
SCIENCE																	
Begins to use senses and a variety of tools and simple measuring devices to gather information, investigate materials, and observe processes and relationships.	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Develops increased ability to observe and discuss common properties, differences and comparisons among objects and materials.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Begins to participate in simple investigations to test observations, discuss and draw conclusions and form generalizations.	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Develops growing abilities to collect, describe and record information through a variety of means, including discussion, drawings, maps and charts.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Begins to describe and discuss predictions, explanations, and generalizations based on past experiences.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Expands knowledge of and abilities to observe, describe and discuss the natural world, materials, living things, and natural processes.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Expands knowledge of and respect for their body and the environment.		*															*



Video Clip

Science Resources on the ECLKC

<http://eclkc.ohs.acf.hhs.gov/hslc>

The screenshot displays the ECLKC website interface. At the top, navigation links include 'ECLKC Home', 'Early Childhood Development & Health', and 'Education and Early Childhood Development'. Two circular logos for 'CONNECTING LEARNERS' and 'CONNECTING TEACHERS' are visible. A search bar is present with a 'GO' button. Below the search bar are links for 'ECLKC' and 'Current Location', and 'Login | Registration'.

The main content area is divided into several sections:

- What's New:** Features a 'Science Webcast #1: Let's do Science' with a thumbnail image of a child looking through a magnifying glass. A list of other webcasts is provided:
 - Science Webcast #2: Look What I Know. See What I can do!
 - Science Webcast #3: Language and Literacy Through Science
 - Science Webcast #4: Bringing it All Together
- Early Childhood Development Topics:** Lists three categories:
 - Assessing:** Locate information for understanding children's ongoing progress and child outcomes.
 - Planning & Curriculum:** Learn about the Goals, Experiences, Roles, Materials, and Sound child development & Standards (GERMSS) that make your curriculum healthy.
 - Focusing on Child Development:** Get ideas on how to create learning experiences for infants, toddlers, and preschool children.
- Featured Topics:** Includes 'Math and Science Resources for Teaching Teams Working with Infants, Toddlers, and Preschoolers' and 'America'.
- Tools and Resources:** Lists 'Head Start Leaders Guide to Positive Child Outcomes [PDF, 1.82MB]', 'Head Start Child Outcomes Framework', 'Super Things Parents and Caregivers Can Do', and 'A Checklist for Early Childhood'.

A left-hand navigation menu includes categories such as 'Disabilities', 'Education and Early Childhood Development', 'Assessing', 'Creating Environments', 'English Language Learners and Dual Language Acquisition', 'Focusing on Child Development', 'Individualizing', 'Involving Families and Parents Management and Staff Support', 'Planning and Curriculum', 'Health', 'Mental Health', 'Early Head Start (EHS)', 'What's New', 'For Parents', 'Dual Language Learners (DLL) and Their Families', and 'Family and Community Partnerships'.

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