

Clarendon

Early Education Services, Inc.



Learning
Experiences
And
Resources
Now!

Special Preschool STEM Edition!



LIGHT AND SHADOWS

Welcome!



Greetings! Clarendon is very pleased to present another special Preschool STEM edition of *LEARN*. This project is made possible through generous grant funding from the *Massachusetts Department of Early Education and Care*.

This month we focus on *Light and Shadows*, with ideas for children's explorations indoors and outdoors, using both natural and man-made sources of light. We hope that you will use some of these projects over time, developing more ideas based on the children's interests. Try to extend children's learning about light and shadows during routine times of day, like meal preparation or waiting for the bus. *Do you see any shadows in the kitchen? Where is the light coming from? Do you think the shadows will look the same tomorrow? Where do you see light at night?*

Please note that more wonderful activities can be found in the *Guidelines for Preschool Learning Experiences*, as well as in the *Resources* section of this guide. Remember that your daily interactions with your children and families not only help children to develop positive self-concepts, but also support new skills in science, technology, engineering and math! Please encourage their natural curiosity about light and shadow, and enjoy their enthusiasm.

DOCUMENTING CHILDREN'S EXPLORATIONS



Young children learn best when caring adults show interest in their efforts. Documenting children's projects provides opportunities to extend their learning, and provides information for you to assess their progress. *What did you do? How did it work? What else could you try? What might happen if...?* The work of Lillian Katz (please see *Resources*) expresses the importance of documenting children's work. The following are a few simple ways to include documentation in your daily practice:

- Provide paper and pencils, crayons or markers for children to draw pictures of their observations or projects. Clip boards or hardcover books with clips can be used outside.
- Encourage children to write or dictate their descriptions of observations or investigations.
- Use your phone, camera or I-Pad to take photos or videos of children's work.
- Encourage children to create books about their projects using either drawings or photos.
- Create displays of projects using drawings, photos and writing to revisit them with the children and share with families.
- Invite families to view videos of their children's work. Have a *Light and Shadows* celebration!

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LEARNING EXPERIENCES AND INVESTIGATIONS

OUR PHILOSOPHY

Children learn through positive interactions with caring adults who understand how children develop and provide opportunities for meaningful hands-on learning experiences. They learn best through engaging their senses and need individual support as they explore and discover themselves, others and the world around them in the context of their families and cultures.

ART

Shadow Painting

Materials: Black or blue paint and brushes, white paper, desk lamp, variety of objects

Procedure: Darken the room and use a desk or table lamp on a table to show children how they can make shadows on paper with objects. Ask children to choose objects (plastic animals, kitchen tools, etc.) and to work in pairs so that one child holds an object in the path of the light while another child paints the shadow. Talk about how the shadows change when an object is moved, and encourage children to predict outcomes and observe results.

Adaptations: Help younger children to trace around shadows first. Try tracing shadows outside with chalk on a sunny day.

Goals: Encourage exploration of shadows, art materials, cooperation and use of fine motor skills.



Objectives for Development and Learning:

7. Demonstrates fine-motor strength and coordination

21. Explores and describes spatial relationships and shapes.

Aligns with:

Visual Arts 20-Explore and experiment with wet and dry media in a variety of colors including black and white.

Cognitive Development 66-The younger toddler explores with sensory art materials and uses them to create visual effects.

Physical Health and Well-Being 10- The older infant demonstrates strength and coordination of small motor muscles.

BLOCKS

Light It Up!

Materials: Blocks, battery powered candles/tea lights, flashlights, string lights (optional)

Procedure: Show children the flameless candles and allow them to experiment with turning them off and on. *What makes them light up?* Encourage the children to design and build block structures and use the flameless candles to light them. Talk about trying different placement for better lighting of the spaces in their buildings. Add string lights if possible, and discuss electrical safety. Dim the lights and take photos!

Adaptations: Provide soft or foam blocks for younger children and carefully supervise their use of flameless candles or flashlights.

Goals: Provide an opportunity to explore light and shadow in a creative construction project.

Objectives for Development and Learning:

11e. Shows flexibility and inventiveness in thinking.

21. Explores and describes spatial relationships and shapes.

26. Demonstrates knowledge of the physical properties of objects and materials.

Aligns with:

Mathematics 11-Explore and identify space, direction, movement, relative position and size using body movement and concrete objects.

Technology and Engineering 23-Explore and describe a wide variety of natural and man-made materials through sensory experiences.

Cognitive Development 50-The younger toddler persists with trial and error approaches to solve a problem.

LEARNING EXPERIENCES AND INVESTIGATIONS

TOYS AND GAMES

Day and Night

Materials: Photos of activities that take place during day or night, index cards, glue sticks

Procedure: Ask the children to help make cards by gluing photos of daytime and night time activities. Encourage them to sort the cards by day and night, and talk about their own routines.

What do you do when you get up in the morning?

What happens next?

Adaptations: Make sequence cards of a sunrise or sunset.

Goals: Provide opportunities for sorting and discussion of daily routines.

Objectives for Development and Learning:

12. Remembers and connects experiences.

13. Uses classification skills.

Aligns with:

Earth and Space Sciences 9-Observe and describe or represent scientific phenomena meaningful to children's lives that have a repeating pattern (e.g., day and night).

MUSIC

Shadow Dancing

Materials: Table lamp, flashlights, music

Procedure: Place a table lamp so that it will cast shadows against a blank wall. Turn off other lights and play a variety of music, encouraging children to make shadows on the wall as they dance.

Challenge children to connect their shadows.

Adaptations: Show younger children their shadows on the wall. Add flashlights to create multiple shadows.

Goals: Promote creative physical activity, body awareness and understanding of shadows.

Objectives for Development and Learning:

4. Demonstrates traveling skills.

35. Explores dance and movement concepts.

Aligns with:

The Arts 2-Respond to a variety of musical rhythms through body movement. 4-Express themselves freely through movement.

Physical Sciences 20-Investigate and describe or demonstrate various ways that objects can move.

STORIES AND BOOKS

I Love My Shadow!

!Me Gusta Mi Sombra!

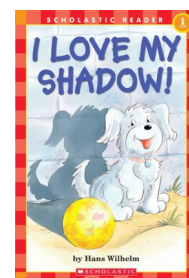
Materials: *I Love My Shadow/Me Gusta Mi Sombra* book (or watch it on Youtube; please see Resources),

dog stuffed animal or cut-out

Procedure: Read or tell the story. Ask children to talk about their experiences with shadows and what makes a shadow. Go outside with a stuffed animal or cut out of a dog and encourage children to act out the story. Remind children to never look directly at the sun.

Adaptations: Take photos of younger children with their shadows; take videos of older children as they act out the story.

Goals: Help children relate books to their own experiences and provide an opportunity for using language in dramatic play while learning about sun and shadows.



Objectives for Development and Learning:

18. Comprehends and responds to books and other texts.

36. Explores drama through actions and language.

Aligns with:

Earth and Space Sciences 8-Explore sunlight and shadows and describe the effects of sun or sunlight.

Language and Communication 17-The older infant builds and uses vocabulary through direct experiences and involvement with pictures and books.

Suggested books:

I Love My Shadow/Me Gusta Mi Sombra—Hans Wilhelm-T/PS/SA

My Shadow—Robert Louis Stevenson-PS/SA

Moonbear's Shadow—Frank Asch-I/T/PS

What Makes a Shadow?—Clyde Bulla-PS/SA

Shadows and Reflections—Tana Hoban-I/T/PS/SA

Guess Whose Shadow—Stephen Swinburne-T/PS/SA

Day Light, Night Light—Franklyn Branley-PS/SA

Nothing Sticks Like a Shadow—Ann Tompert-PS/SA

Me and My Shadow—Arthur Dorros-T/PS/SA

Shadow Night—Kay Choro-T/PS/SA

SPECIAL SECTION: INNOVATIVE PRESCHOOL STEM EXPERIENCES!

Funding for this project has been provided by the Massachusetts Department of Early Education and Care. We appreciate the generous support!

Science and Engineering Practices

Engage in discussion before, during and after investigations.

Support thinking with evidence.

Observe and ask questions about observable phenomena.

Use their senses and simple tools to observe, gather and record data.

Plan and implement investigations using simple equipment, designing/building a solution to a problem.

Construct theories based in experience about what might be going on.

Look for and describe patterns and relationships.



FOCUS ON SCIENCE: *Exploring Light and Shadow*

Materials: Flashlights, paper and pencils, sidewalk chalk, camera, large sheet of paper, large cardboard box

Procedure: Read a book about shadows and talk with the children about their experiences with shadows.

Make notes or a web on chart paper about their comments, questions and ideas. Use open-ended questions like *How can you make a shadow? What do you think we should try? Do you think the shape of a shadow can change? Where does light come from? Is the sun always in the same place in the sky?* Create a small area using the cardboard box and flashlights for ongoing explorations. Add a shadow box. Provide flashlights and ask the children to look for shadows indoors and outdoors and to trace some of the shadows they find on paper or using chalk outdoors. Encourage the children to ask their own questions, plan how to test ideas and make predictions. *How can you make your shadow longer?* Provide opportunities for children to share ideas with each other, and work on projects together like tracing and measuring shadows, creating a shadow puppet play or playing shadow tag. To document their work take photos or video of their investigations, and encourage them to draw and write or dictate their thoughts. Help them to graph or chart results.

Adaptations: Help non-mobile children to make shadow with hands, feet or objects. Encourage older children to make their own books about light and shadows. Hand-powered flashlights are available.

Goals: Encourage science inquiry skills including observing, comparing, predicting, testing ideas and reflecting, basic understanding of light and shadows, awareness of the patterns of day and night and movement of the sun.

Aligns with MA Preschool Guidelines:

Inquiry Skills 1-Ask and seek out answers to questions about objects and events with the assistance of interested adults. 4-Record observations and share ideas through simple forms of representations such as drawings.

Earth and Space Sciences 8-Explore sunlight and shadows and describe the effects of the sun or sunlight. 9-Observe and describe or represent scientific phenomena meaningful to children's lives that have a repeating pattern (e.g., day and night)

Technology and Engineering 24-Demonstrate and explain the safe and proper use of tools and materials.

Aligns with PreK STE Standards:

PreK-ESS1-2. Observe and use evidence to describe that the sun is in different places in the sky during the day.

PreK-PS4-2. Connect daily experience and investigations to demonstrate the relationships between the size and shape of shadows, the objects creating the shadow and the light source.

LEARNING EXPERIENCES AND INVESTIGATIONS

FOCUS ON TECHNOLOGY:

Flashlight Fun

Materials: Flashlights with batteries

Procedure: Provide each child with a flashlight and allow them to explore turning it on and off. Remind children not to shine the light into eyes. Talk about what the children think makes it light up and what they think is inside. *Do you think there are wires? Is there anything made of metal?* Ask the children to take the flashlights apart and talk about the different components they find (batteries, bulb, wires, metal, etc.) then challenge the children to put the flashlights back together. *Why do you think your flashlight won't light? What did your friend do differently?*

Adaptations: Allow younger children to play with turning the flashlight off and on.

Goals: Provide an opportunity to explore the inside of a common object, identify materials, and share ideas.



Play an Online Game!

Materials: Computer with Internet access

Procedure: Go to the following site:

http://www.bbc.co.uk/schools/scienceclips/ages/7_8/light_shadows.shtml



Help children learn to navigate through the games, gaining experience in using a mouse. Talk with them about the content of the games, including how the sun moves through the sky and the different shapes of shadows. Discuss why the sun is important. Be sure to begin with observations and hands-on investigations of these concepts.

Adaptations: Make cards based on the games for children to use offline.

Goals: Reinforce understanding of science concepts while providing experience with technology.

Aligns with PreK STE Standards:

PreK-PS1-1. Investigate the natural and human-made objects, describe, compare, sort and classify objects based on observable physical characteristics, uses, and whether something is manufactured or occurs in nature.

Aligns with PreK STE Standards:

PreK-ESS1-2. Observe and use evidence to describe that the sun is in different places in the sky during the day.

PreK-PS4-2. Connect daily experience and investigations to demonstrate the relationships between the size and shape of shadows, the objects creating the shadow and the light source.

Aligns with MA Preschool Guidelines:

Inquiry Skills 1-Ask and seek out answers to questions about objects and events with the assistance of interested adults.

Physical Sciences 1-Manipulate a wide variety of familiar and unfamiliar objects to observe, describe and compare their properties using appropriate language.

Technology and Engineering 23-Explore and describe a wide variety of natural and man-made materials through sensory experiences.

24-Demonstrate and explain the safe and proper use of tools and materials.

Aligns with MA Preschool Guidelines:

Inquiry Skills 1-Ask and seek out answers to questions about objects and events with the assistance of interested adults.

Earth and Space Sciences 8-Explore sunlight and shadows and describe the effects of sun or sunlight.

9-Observe and describe or represent scientific phenomena meaningful to children's lives that have a repeating pattern (e.g., day and night).

Technology and Learning 24-Demonstrate and explain the proper use of tools and materials.

LEARNING EXPERIENCES AND INVESTIGATIONS

FOCUS ON ENGINEERING

See-Through Cup Construction

Materials: Transparent colored cups, flameless tea lights/candles, stiff paper or cardboard, transparent colored page dividers

Procedure: Talk with children about creating a construction using the cups. *How can we build with these? What should we try? What is the best way to stack them? Do you think the cardboard can help you to build higher?* Encourage them to work cooperatively to build a structure that meets a need, like a home for animals or dolls. Allow them to use the lights inside the cups and introduce the concept of transparency.

Adaptations: Allow time for children to find and explore other transparent objects like color paddles or transparent page dividers with flashlights. Use colored cellophane for art projects.

Goals: Provide an opportunity to engage in design and construction while exploring light and transparency and working cooperatively.

Aligns with PreK STE Standards:

PreK-PS2-2. Through experience, develop awareness of factors that influence whether things stand or fall.
PreK-PS1-1. Investigate the natural and human-made objects, describe, compare, sort and classify objects based on observable physical characteristics, uses, and whether something is manufactured or occurs in nature.

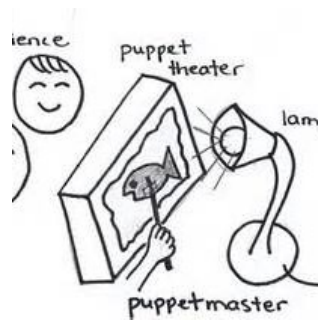
Aligns with MA Preschool Guidelines:

Inquiry Skills 1-Ask and seek out answers to questions about objects and events with the assistance of interested adults.

Physical Sciences 1-Manipulate a wide variety of familiar and unfamiliar objects to observe, describe and compare their properties using appropriate language.

Technology and Engineering 23-Explore and describe a wide variety of natural and man-made materials through sensory experiences.

24-Demonstrate and explain the safe and proper use of tools and materials.



Build a Shadow Theater

Materials: Shoeboxes or pieces of cardboard, tape, white or waxed paper, flashlight, variety of objects to cast shadows

Procedure: Cut off the top and bottom of the boxes.

Ask older children to make their own frame using cardboard. Help the children to tape paper across one of the openings. *What else could we use to attach the paper?* Place different objects in the box and light them from behind. Allow the children to select objects and have others guess what each object is while viewing from the other side. Encourage the children to experiment with moving the object and the light. *Can you make the object look bigger?* Ask them to think of other ways to make a shadow theater. *What else could we use to let the light shine through? Do we need a frame?*

Adaptations: Hang a white sheet to create a large puppet theater. Use cut out paper shapes instead of objects.

Goals: Encourage the use of simple materials and tools to create a structure that meets a need, as well as enhancing understanding of light and shadow.

Aligns with PreK STE Standards:

PreK-PS2-1. PreK-PS4-2. Connect daily experience and investigations to demonstrate the relationships between the size and shape of shadows, the objects creating the shadow and the light source.

Aligns with MA Preschool Guidelines:

Inquiry Skills 1-Ask and seek out answers to questions about objects and events with the assistance of interested adults.

2-Make predictions about changes in materials or objects based on past experience.

Technology and Engineering 24-Demonstrate and explain the safe and proper use of tools and materials.

LEARNING EXPERIENCES AND INVESTIGATIONS



FOCUS ON MATHEMATICS: *Shadow Patterns*

Materials: Table or desk lamp, white paper, pencils and markers, paint and brushes, natural and man-made objects

Procedure: Take a walk to look for shadows indoors or outdoors and ask the children to look for patterns. Talk about what makes a pattern. Use the lamp and a variety of objects (leaves, sticks, blocks, etc.) for them to create their own patterns with shadows and trace them on paper. Use words to describe size and relative position as children are working.

Adaptations: Shine multiple lights on a blank wall or paper and ask children to describe and paint or draw what they see. Call their attention to patterns created by the lights. Help younger children to notice the patterns.

Goals: Provide opportunities to observe, create, compare and describe patterns made by light and shadow.

Aligns with MA Preschool Guidelines:

Mathematics 3-Use positional language and ordinal numbers in everyday activities.

9-Recognize, describe, reproduce, extend, create and compare repeating patterns of concrete materials.

11-Explore and identify space, direction, movement, relative position and size using body movement and concrete objects.

12-Listen to and use comparative words to describe the relationships of objects to one another.

Measuring Shadows

Materials: Chalk or crayons, markers and roll of paper, string, paper to chart results

Procedure: Take children outside at three or four different times on a sunny day. Using either chalk or markers and paper, help the children to work in pairs to trace their shadows. Make sure each child stands in the same place and measure the shadows each time. Talk about how the shadows move and the movement of the sun. Encourage the children to measure the length of the shadow using string, their hands or their feet. Make a chart to record each measurement for each child.

Adaptations: Support non-mobile children in a standing position and ask another child to trace the shadow, or trace shadows of hands. Ask children to think of other items to use for measuring and try their ideas (blocks, etc.).

Goals: Provide an opportunity to explore sunlight and shadow, compare and measure and record results.



Aligns with MA Preschool Guidelines:

Mathematics 1. Listen to and say the names of numbers in meaningful contexts.

2. Connect many kinds/quantities of concrete objects and actions to numbers.

12-Listen to and use comparative words to describe the relationships of objects to one another.

14-Use non-standard units to measure length, weight and the amount of content in familiar objects

LEARNING EXPERIENCES AND INVESTIGATIONS

DRAMATIC PLAY

Shadow Puppets

Materials: Stiff paper, light source, blank wall or hanging sheet, scissors, tape, pencils or crayons, craft sticks.

Procedure: Encourage children to cut out shapes of their choosing to use as puppets and attach to craft sticks. Shine a light and create a production! Be sure to video.

Adaptations: Show the children how to make shadows with their hands and develop a story.

Goals: Engage children in imaginative dramatic play while extending their understanding of light and shadow.



Objectives for Development and Learning:

36. Explores drama through actions and knowledge.

Aligns with:

Theatre Arts 17-Create scenarios, props and settings for dramatizations and dramatic play.

Cognitive Development 70- The older toddler expands on pretend play and recreates familiar settings through the imaginative use of props and clothing.

OUTDOOR PLAY

Shadow Tag

Materials: Just a sunny day!

Procedure: Ask children to find their shadows and work in pairs. Designate one child as the chaser who tries to step on the other child's shadow when you say, GO!". Ask the children to call out "Gotcha" and "Caught", then reverse roles.

Adaptations: Ask one child to be "IT" or play flashlight tag indoors. Ask younger children to step on each others' shadows.

Goals: Promote physical activity, body awareness and understanding of shadows.

Objectives for Development and Learning

2c. Interacts with peers.

4. Demonstrates traveling skills.

Aligns with: Physical Development 2. Build body awareness, strength, and coordination through locomotion activities.

DISCOVERY

Mixing Colors with Light

Materials: Color paddles, colored cellophane or transparent colored page dividers, flashlights or desk lamp

Procedure: Talk about what might happen if you shine light through transparent objects with different colors. *What might happen if we put the red and yellow together?* Encourage the children to shine light through the transparent objects against a blank wall and try mixing colors. *Are the colors you made the same as when you mix paint?* Make a graph of children's predictions and results.

Adaptations: Cover the end of flashlights with colored cellophane attached with a rubber band.

Goals: Engage children in exploratory play to develop understanding of light and color.

Objectives for Development and Learning:

11d. Shows curiosity and motivation.

26. Demonstrates knowledge of the physical properties of objects and materials.

Aligns with:

Technology and Engineering 23-Explore and describe a wide variety of natural and man-made materials through sensory experiences.

Approaches to Learning 2-The older infant shows curiosity by exploring with the senses.

Cognitive Development 62-The older toddler asks questions and develops inquiry skills.



LET'S GET COOKING!



Sun and Moon

Suggested ingredients:

Round crackers

Carrot sticks or apple slices

Cream cheese

Berries

Banana

Read a story about the sun and the moon, then ask the children to help prepare a snack that looks like the sun and moon. Provide each child with a paper plate and plastic knife. Use a book to show a picture of a crescent moon and suggest that a banana has the same shape! Help each child to peel a banana. To make the sun, ask the children to use a round cracker for the center and carrot sticks or apple slices for the rays of the sun. Encourage them to spread cream cheese on the cracker and use berries to make a sunny face!

During snack time, talk about when the children see the sun and the moon, and ask if they have ever seen the moon in the sky during the day. Discuss other objects that they have seen in the sky.

Please remember to talk about where the ingredients come from and healthy eating. Have fun!

Life Science in the Kitchen

Using fresh fruits and vegetables in cooking projects provides us with wonderful opportunities to engage children's interests about where food comes from and how things grow. The *Guidelines for Preschool Learning Experiences* describes the importance of helping children to *observe and identify the characteristics and needs of living things: humans, animals and plants*. Here are a few ideas of how you can further children's understanding of these important concepts in the kitchen:

- Ask children about where they think food items come from. If they say, "The Store", that's a great start!
- Discuss differences between living and non-living things.
- Encourage them to explore fruit to look for seeds, and plant seeds to allow them to observe how things grow. Provide opportunities for children to see that plants need sunlight and water to grow.
- Read and talk about farms.
- Discuss how different foods need different climates to grow.
- Ask families to talk about the foods they like to grow.



Beware of choking hazards and food allergies when planning any cooking project!

Resources !

Places to Visit

<http://www.springfieldmuseums.org/>-The Springfield Museums have a planetarium!

www.smolakfarm.org-This farm in North Andover includes opportunities for children to plant, go on a hay ride and see animals.

<http://www.mos.org/planetarium>-The Museum of Science in Boston has a fabulous planetarium.

<http://www.bostonchildrensmuseum.org>-The Boston Children's Museum has *Peep's World* that includes an area to explore shadows, and has a special program called *My Sky!*

<http://www.massaudubon.org/get-outdoors/wildlife-sanctuaries/drumlin-farm>-Drumlin Farm in Lincoln is a wildlife sanctuary that also features sustainable farming. See the sun in action helping things grow!



INTERNET RESOURCES

<http://www.mass.gov/edu/docs/eec/2013/20131008-prek-ste-standards.pdf>- Find the new *Massachusetts Preschool STE Standards* here.

<http://www.doe.mass.edu/candi/commoncore/>- Look here for the *Massachusetts Curriculum Frameworks for Mathematics*.

<http://illinoisearlylearning.org/tipsheets/outdoor-sunshine.htm>-This tip sheet includes great ideas for science in the sun!

<http://www.pinterest.com/search/pins/?q=preschool%20science%20shadows>-This link will bring you to a multitude of ideas for exploring shadows. As always, be careful to choose those that are appropriate for your children!

<http://www.alsc.ala.org/blog/2014/02/preschool-shadow-science/>-This article has some great ideas for exploring light and shadows with young children.

<http://www.youtube.com/watch?v=iFK20209oFs>-This is a *Peep and the Big Wide World* video called Night Light.

<http://www.peepandthebigwideworld.com/resources/exploration/shadows/>-This Peep Explorer's Guide has excellent ideas for investigations and includes a video of children making and tracing shadows as a follow up to the *Peep* video above.

<http://www.youtube.com/watch?v=M9WwRfLrMBQ>, Watch a Youtube video of *I Love My Shadow!*

<http://www.astroviewer.com/current-night-sky.php?lon=-71.02&lat=42.34&city=Boston%2C+MA&tz=EST>-This site has a current map of the Boston night sky.

<http://www.projectapproach.org/>-See many examples of the Project Approach.

<http://constructingmodernknowledge.com/cm08/?p=1557>-Many excellent handouts describing components of Lillian Katz' work on the Project Approach can be found on this site.

A Message to Families...

Greetings! Your young scientist is learning about light and shadows in all areas of the curriculum this month. Clarendon educators are helping your child to think like a scientist by encouraging them to observe, compare, predict, try out their ideas and share the results of their investigations.

- By reading books about light and shadows, making up their own stories and creating shadow puppet shows, children are strengthening early literacy skills. In addition, children are encouraged to write or dictate their ideas about their experiments.
- Children are practicing math skills by comparing shapes and sizes of shadows and measuring shadows.
- Science projects with light and shadow, including lots of fun with flashlights, promote problem solving skills and understanding of basic science concepts.
- Building with blocks, transparent cups and battery powered candles help children to explore engineering concepts.
- Many projects require children to work and play together, and encourage each child's creativity.



Take a walk to look for shadows, help your child find his or her shadow or play with hand shadows against a wall. Play with a flashlight! Look at the night sky together and talk about how the sun moves across the sky during the day. Talk about light sources and teach your child about electrical safety. Try helping your child trace outlines of shadows and create a work of art. Please join us in making every moment a *Brain Building* moment for your child!

Ask me about:

- How to make a shadow.
- How I can make my shadow longer or shorter.
- A story about sun and shadows that I liked.
- What's inside a flashlight.
- An experiment I did with lights.
- Shadows I found outside.
- How I measured my shadow.
- Why sunlight is important.



INTERNET RESOURCES

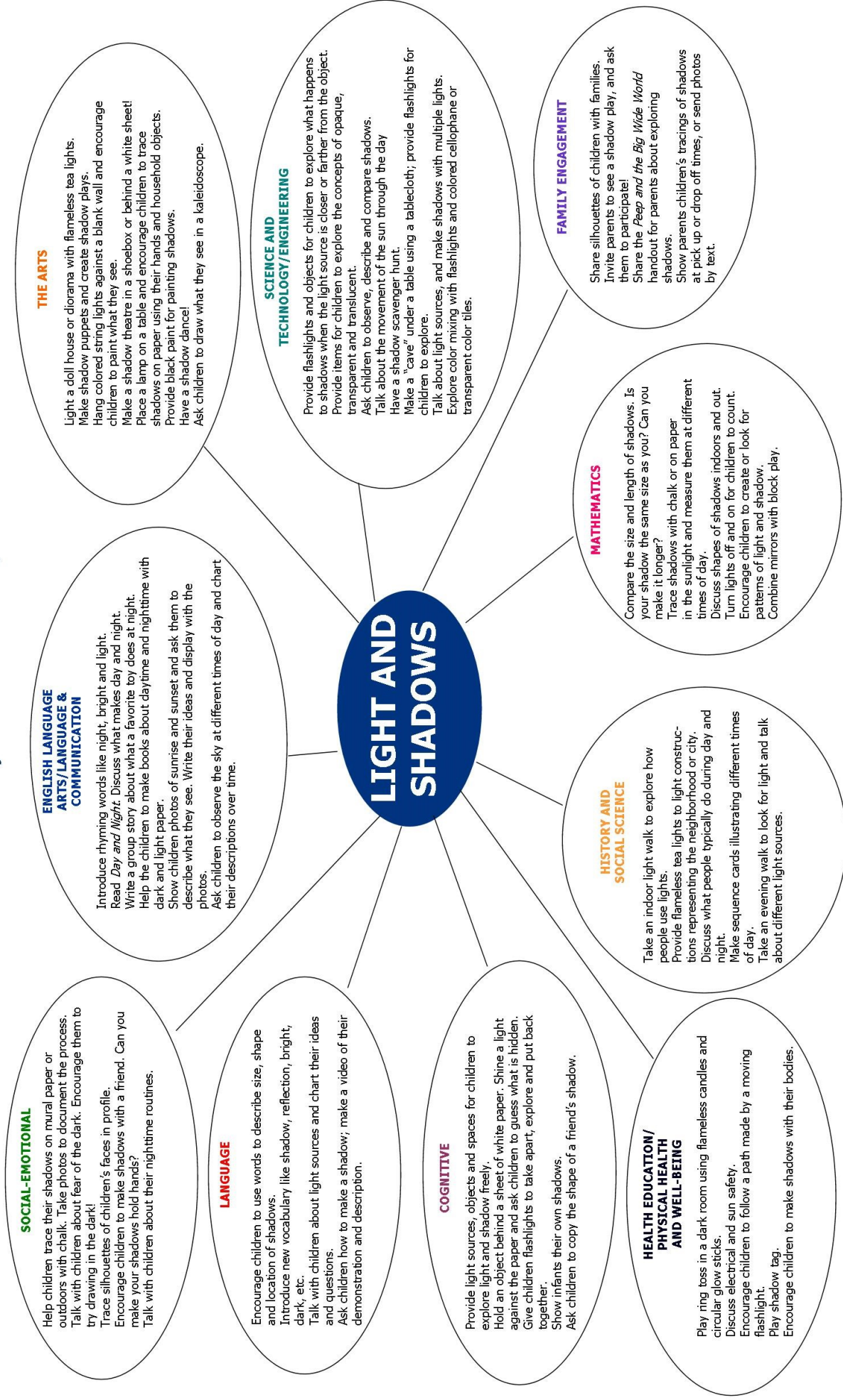
<http://www.youtube.com/watch?v=iFK20209oFs>-This is a *Peep and the Big Wide World* video called Night Light.

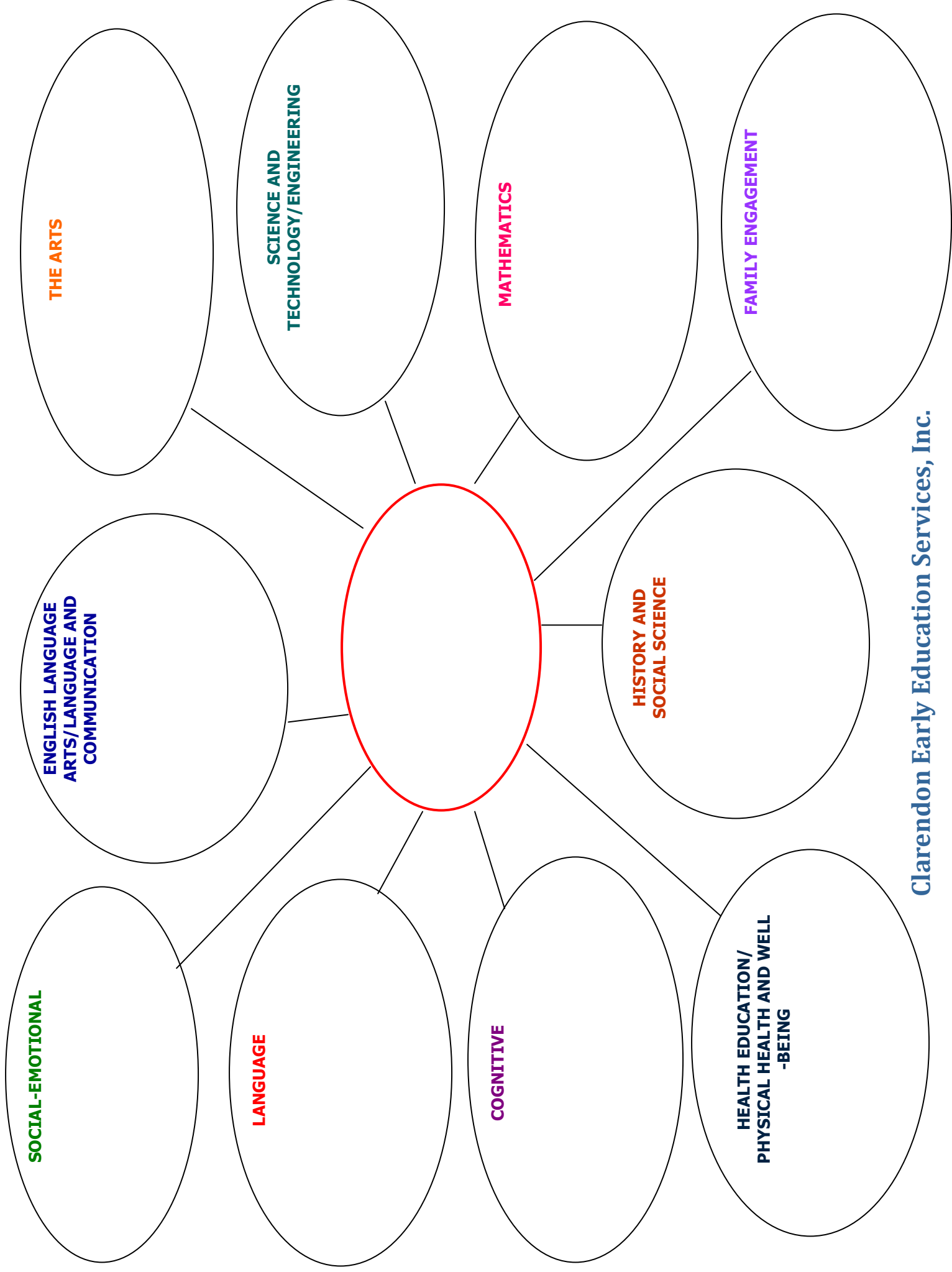
<http://brainbuildinginprogress.org/> -The *Brain Building in Progress* website has wonderful ideas to try with your child.

<http://illinoisearlylearning.org/tipsheets/fun-light.htm>-This tip sheet includes great ideas for fun with light and shadows!

<http://www.youtube.com/watch?v=M9WwRfLrMBQ>, Watch a Youtube video of *I Love My Shadow*!

<http://www.pbs.org/parents/creativity/challenge/shadowcasting.html>-This is a fun online game about making shadows with your hands.





This month in our program...

OUR FAVORITE ACTIVITIES...

CHANGES TO THE ENVIRONMENT...

SPECIAL EVENTS



CHILDREN'S INTERESTS TO FOLLOW UP...

Name: _____

Weekly curriculum planning time: _____

Weekly meeting with assistant (if applicable): _____