SPACE CITY

Alief ISD

Early Childhood Center



EXPLORATION™ zones

by Exhibit Concepts, Inc.

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EXPERIENTIAL EDUCATION CLASSROOMS

Welcome to your new classroom! You may be experiencing many emotions—excitement, uncertainty, even apprehension. This is completely expected. Experiential learning may be new to you as a concept or theory, but rest assured, many of the principles that bind experiential learning have likely been applied by you for years. Experiential learning embodies the active participation, social engagement, and meaningful connections that we know are the pillars of play-based learning. Play is how young children learn!

This guide is intended to support you as you transition to a new classroom environment. You will find helpful background information on the theory, activity ideas organized by skill domains, experiential learning resources, and tools to assist you in reflective teaching practices. Most importantly, have fun with your students in this new learning environment. The classroom space really is a second teacher and the possibilities are endless!

What is Experiential Education?

Experiential education is a theory that acknowledges humans as active participants in the learning process. In the classroom, students are at the center of the learning process, actively engaging and participating in decision-making. Students' interests and needs drive topics of study with small group and individual projects evolving from their curiosities and real-life events. Experiential learning environments, like museums and zoos, naturally provide opportunities for inquiry-based learning that inspire curiosity and passion. These same features and opportunities are available in experiential learning classrooms.

How does experiential education impact your role as a teacher?

Teachers learn about students by actively listening and observing. You listen to conversations, observe students' choices, and communicate with families. Through this listening and observing, you can make assumptions about what students know and provide new materials, activities, and experiences that help expand upon this knowledge. By asking open-ended questions and encouraging students to make observations, students begin to build a schema that continues to grow.

How does experiential education impact the students' role?

Students are at the center of the learning process. Students' interests and needs drive topics of conversation and participation in activities. Students in experiential learning classrooms make choices and decisions throughout the day. They choose whether they play alone or in a group, they choose activity options that sound most appealing, and they choose to engage with interesting materials and equipment.

How Do I Use an Experiential Education Classroom?

A new classroom can be overwhelming, not only for you, but for your students too. Being prepared can help manage those overwhelming feelings and set you up for success in your new environment. Before introducing the classrooms to your students, take a gallery walk in each classroom, taking in the sights and sounds without interruptions. As you are noticing and observing features in the classroom, think about big ideas or themes that might naturally stem from these features. You can list activities or play-based items that might align with these ideas; several activity ideas and accompanying items are provided in the educator guide to help you get started. Introduce the classrooms to the students by taking a community gallery walk. Ask students to describe what they notice, how they feel, and what they would like to know more about.

What Will I Find in Each Experiential Education Classroom?

Each experiential education classroom includes similar best practices and strategies for working with young children, not only in the design but in the supportive activities. The unique themes and content can lead to new ideas and projects stemming from students' interests and questions. Each classroom includes:

- **A General Supply Kit:** A collection of materials that can be used in open-ended ways
- **Magnetic Boards:** Engagement tools for group learning or individual interactions
- **A Classroom Library:** Developmentally appropriate Spanish and English, non-fiction and fiction books, that support the theme
- **Sensory Exploration:** A station or area that encourages inquiry-based investigations
- **An Educator Guide:** A facilitation tool that includes supportive activities and ideas for assessment

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How I'm Feeling

SC.01

I.B.2.a Child begins to understand the connection between emotions and behaviors.
I.B.2.b Child uses verbal and nonverbal communication to communicate basic emotions and feelings.
I.D.1 Child understands (receptive) and uses (expressive) a wide variety of words to label, describe and make connections among objects, people, places, actions, and events.

Through the read aloud *A Place for Pluto* by Stef Wade, students learn that Pluto was once classified as a planet but is no longer. How do you think this makes Pluto feel? During morning meeting, students have daily check-ins regarding their own feelings which helps build a classroom community. A plush Pluto is passed around as students post their own feelings using planet emote cards on the How is Pluto Today magnetic board.

DOING THE ACTIVITY

1. Read *A Place for Pluto* by Stef Wade, asking students how Pluto is feeling throughout the read aloud. Ask students how they would feel if they were Pluto in each situation.
2. Introduce the planet emote cards during morning meeting. Students can recognize and share their own feelings during daily check-ins using the plush Pluto and planet emote cards. As students pass around the plush Pluto, they share their current emotions by placing a planet emote card on the magnetic board.

TEACHING STRATEGIES

- Continue hosting discussions about belonging and having friendly behavior, which aids in building a healthy classroom community. Comment on behavior such as, "You two are doing a great job putting the blocks in the basket together" and "Thank you for sharing the blocks."
- Make coffee filter planets/dwarf planet (Pluto). Use an intact coffee filter as scale for Jupiter and cut the remaining planets/dwarf planet in descending order by size. Ask the students to color the planets/dwarf planet using markers, referencing the murals in the classroom. When finished coloring, spray the planets gently with a water-filled spray bottle and watch the colors blend!

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Our Sun Communicates
SC.02

II.D.2 Child understands (receptive) and uses (expressive) the instructional language of the classroom.
VI.C.3 Child observes and describes what happens during changes in the earth and sky.

People have used the position of the Sun to tell time for millennia. Before the invention of clocks, a sundial was used to track time and can still be used! With educator assistance, students make their own sundial using simple materials such as paper plates, wooden dowels, modeling clay, and markers. Students can place their sundial outside to see how it changes throughout the day.

DOING THE ACTIVITY

1. Ask students if they know what a clock helps us do. Explain that before the invention of clocks, people would tell time using the Sun and an instrument called a sundial. Tell students they will be making a sundial to make observations.
2. Have students turn the paper plate over and place modeling clay in the center. You can write the number 12 on the top of the plate (similar to a clock) and proceed with the rest of the numbers on a clock (students can do this part if developmentally appropriate). Have students place a dowel in the center of the modeling clay after writing the numbers.
3. Take the sundial out close to noon and place in the Sun. Tape the sundial down and draw a circle around the sundial using chalk. Ask students to make shadow observations (the dowel is casting a shadow to the 12). Continue making shadow observations at various times throughout the day.

TEACHING STRATEGIES

- Remind students they should never directly look at the Sun. They are to look at the shadow on the paper plate.
- Make a human sundial! Using sidewalk chalk, draw a large circle. Make evenly spaced marks around the outside edge for each hour of the day. Mark the center with a dot. Ask a child to stand on the center, draw a line on the shadow, and mark the time. Keep recording the results throughout the day.

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Space City Word Bank: Space Syllables
SC.03

II.D.3 Child consistently understands (receptive) and uses (expressive) new vocabulary acquired through books, conversations, and play.
III.B.4 Child manipulates compound words with pictorial or gestural support.
III.B.5 Child begins to blend and segment syllables in multisyllabic words.

Each themed classroom includes a word bank. A featured activity will be included with each themed word bank. **Space Syllables:** Students clap the beats (syllables) to word bank words with support from the educator. Word bank words can be written on sentence strips to be used during morning meeting or other routine periods in the schedule.

DOING THE ACTIVITY

1. Write word bank words on sentence strip paper and cut according to word length. Place the word bank words in the pocket chart for use during morning meeting or other group meeting times. Model clapping the beat (syllables) to word bank words as students follow along.
2. You can continue to model clapping the beat to word bank words as part of daily routines and even during transition periods (lining up and walking outside, transitioning to nap, etc.).

TEACHING STRATEGIES

- Instead of clapping the beat to word bank words, jump up and down to recognize syllables. You can even create a number line on the floor using painter's tape and have students jump to the appropriate number of syllables as you say a word.
- Use manipulatives and picture cards to recognize syllables. Students can move counters as they say each syllable in the word. Ask them to count the manipulatives to reinforce the number of syllables in the word.

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Our Solar System

SC.04

III.A.1 Child engages in story-related pre-reading activities.
III.D.1 Child retells or re-enacts a story with a clear beginning, middle, and end.
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.

Students participate in a read aloud of *Our Solar System* by Connie and Peter Roop, using solar system manipulatives to read along with the text. Students can use the solar system manipulatives to retell the story or tell a new story.

DOING THE ACTIVITY

1. Read *Our Solar System* by Connie and Peter Roop, paying attention to new vocabulary. Make associations to classroom murals and other visuals such as the solar system model, as you come across new vocabulary.
2. During a second reading of *Our Solar System*, pass out the 3D planet manipulatives and ask students to assume the roles of celestial bodies. Encourage them to move their body to fit descriptions in the story.

TEACHING STRATEGIES

- Encourage students to use the 3D planets to retell the story in their own words.
- Use the 3D planets in the Satellite Sensory Table. Add rocks (meteorites) and black rice or beans to simulate outer space.

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Star Match

SC.05

III.C.1 Child recognizes and names at least 20 letters (upper- or lower-case letters).

Combining sensory experiences with letter matching can be an intentional, open-ended activity. Using star patterned alphabet cards, students find the matching star letter in a bin of dark sensory materials (black beans). Educator can integrate fine motor development by including jumbo classroom tweezers.

DOING THE ACTIVITY

Write uppercase and lowercase letters on the sticker labels and then adhere labels to stars. Place the stars in the container and cover with black beans. Encourage students to find uppercase/lowercase pairs using the jumbo tweezers or their hands and match to the alphabet board.

TEACHING STRATEGIES

- Use a craft tray instead of the plastic container (less depth) for students that need the added support.
- Find a dark room or closet to show students the glow-in-the-dark feature of the stars!

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Space City Alphabet: Letter Constellations

SC.06

III.C.1 Child recognizes and names at least 20 letters (upper- or lower-case letters).
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.

Each themed classroom includes a magnetic alphabet. A featured activity will be included with each themed magnetic alphabet. **Letter Constellations:** Using laminated capital and lowercase letters, students use star stickers to create a letter constellation on the template, building awareness around writing as a process. Students also work on developing fine motor skills.

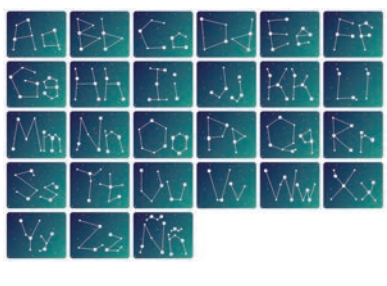
DOING THE ACTIVITY

1. After reviewing the term constellation (a group of stars forming an imaginary picture in the sky), students can make their own letter constellations using the reusable letter cards and foam star stickers. Encourage students to outline the letters to create constellations (be sure to use the foam stickers with the reusable letter cards).
2. Students can use the star stickers and black construction paper to make constellations (star patterns) in pictures and patterns of their choosing. Encourage the students to connect the stars using chalk and create a story about their constellation.

TEACHING STRATEGIES

- Make constellations out of pipe cleaners! Bend pipe cleaners into shapes and add beads in various locations. Encourage students to create a story about their constellation.
- Use a hole punch to make “stars” on black construction paper in a pattern or picture. Then, shine a flashlight through the paper while holding the paper five inches from a wall. Students can see their constellation shine on the wall!

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Lite-Brite Exploration

SC.07

VIII.A.1 Child uses a variety of art materials and activities for sensory experience and exploration.
V.C.2 Child creates shapes using materials and/or manipulatives.
IX.B.1 Child shows control of tasks that require small-muscle strength and control.

In the classroom, Lite-Brite provides opportunity for free exploration or opportunity for educator-led experiences. Large-scale letter templates encourage students to practice letter formations in a non-conventional way.

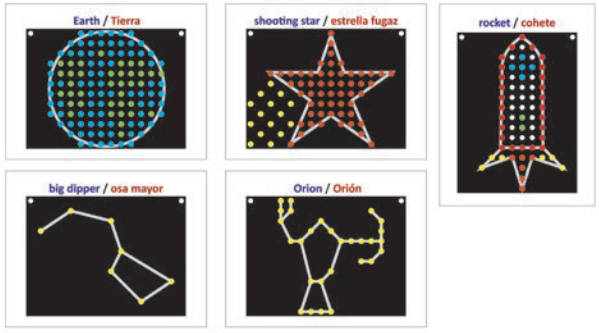
DOING THE ACTIVITY

1. The Lite-Brite board can be used as a center-based, free-choice activity. Introduce and demonstrate interacting with the Lite-Brite board and templates. Encourage students to explore the templates and/or create pictures and patterns of their own.
2. Use the Lite-Brite board for sorting and counting activities. Students can sort by color and use the pegs as math manipulatives in educator-directed activities.

TEACHING STRATEGY

Make connections to the tabletop Peg Creations Light Board (similar features and functions). The individual light boards can be used by students who would like to work independently and students who need additional support.

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Celestial Body Magnets
SC.08

V.E.1 Child sorts objects that are the same and different into groups and uses language to describe how the groups are similar and different.
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.

Students use celestial body magnets to compare features, sizes, and identity. The magnets can be used during free-choice periods or educator can provide sorting categories.

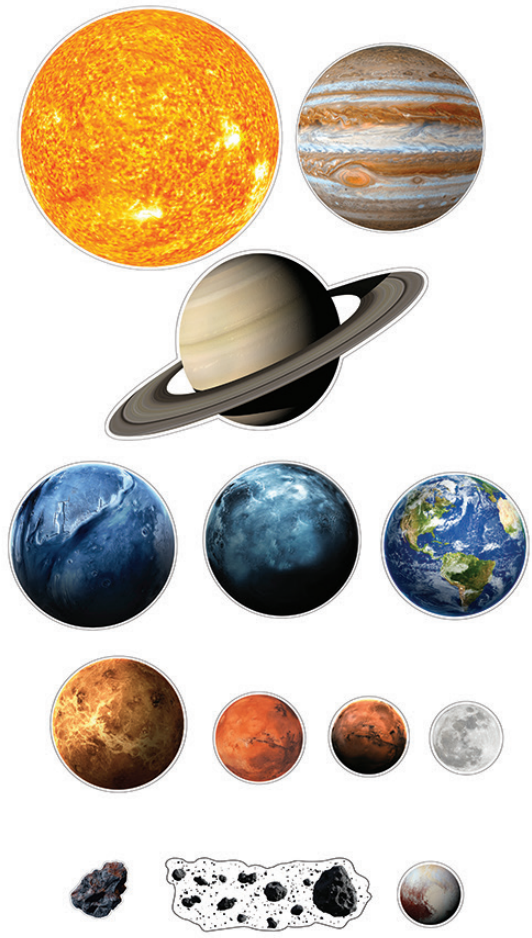
DOING THE ACTIVITY

Place the celestial body magnets on the magnetic wall for free exploration. Encourage students to organize the planets from closest to farthest from the Sun, using the classroom solar system model (SC.04). Challenge the students to sort the magnets into categories such as planets, objects, stars, and moons.

TEACHING STRATEGIES

- Ask students to work together as “scientists” to sort the objects into categories based on their characteristics (student-driven). It’s up to them to determine what categories to create.
- Add the magnets to the writing center to entice tracing. Students can trace the celestial body magnets and add details with art materials like paint, scraps of paper, yarn, and crayons.

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Planets Are Different

SC.09

V.E.1 Child sorts objects that are the same and different into groups and uses language to describe how the groups are similar and different.
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.
X.A.1 Child opens and navigates through digital learning applications and programs, when appropriate.

Planets are different. They are different sizes, different distances from the Sun, some are rocky, and some are gassy. We know Earth is small, rocky, and solid. What about the other planets? Students investigate rocks, minerals, and planet cards to make comparisons between size and surface type.

DOING THE ACTIVITY

1. You will need a mobile device to use the Planet 4D cards. Download the brainSTEM app through the Apple App Store or Google Play. Open the app, place the Planet 4D card on a surface and scan with your device's camera. Input the serial number in the pop-up serial box.
2. Explore the 4D planet cards as a large or small group, making comparisons between planet size, make, and distance from the Sun. Focus on planet Earth and allow students to freely explore the rocks and minerals set. Students can use the globe to discover the Earth is mostly covered in water, but also has land (rocks and minerals).

TEACHING STRATEGY

Use the globe to highlight where the students live. You can talk about the distance to other locations around the world by measuring with standard and nonstandard forms of measurement and comparing length (shortest to longest distance from Texas).

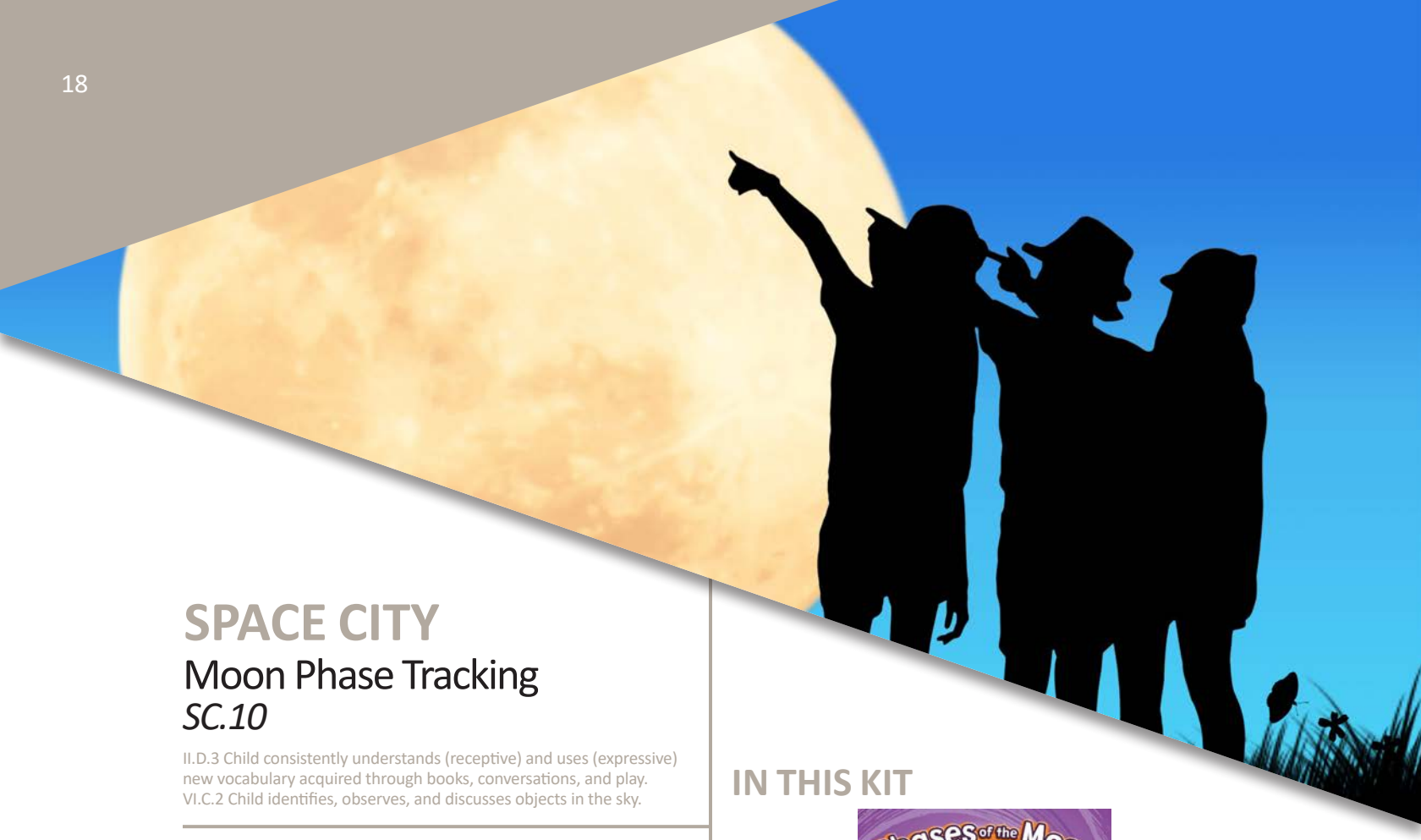
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Moon Phase Tracking

SC.10

II.D.3 Child consistently understands (receptive) and uses (expressive) new vocabulary acquired through books, conversations, and play.
VI.C.2 Child identifies, observes, and discusses objects in the sky.

Moon phases are the shapes of the Moon we see on Earth as direct sunlight hits the Moon. This concept is reinforced through a reading of *Phases of the Moon* by Catherine Ipcizade. As a class, students track the phases of the moon during morning meeting using a moon phase tracking chart. The class can record the moon phases using a felt board and moon phase felt pieces.

DOING THE ACTIVITY

1. Read *Phases of the Moon* by Catherine Ipcizade, paying attention to new vocabulary such as shadow and light. Moon phase terminology such as waning gibbous and waning crescent are not developmentally appropriate. Focus attention on aspects students can see regarding the Moon.
2. During morning meeting, record the Moon phase (shape) from the previous night, either from student observations or your own observations. Discuss the shape of the Moon made by the light source (Sun).

TEACHING STRATEGIES

- In addition to daily Moon phase documentation, record the Moon phases on a chart paper calendar. Draw a calendar and record the daily moon phase. Reflect on the collective moon phases at the end of the month. What do students notice about the phases?
- Encourage children to make Moon observations each night at home. Share observations during morning meeting.

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Making Craters

SC.11

VI.A.1 Child observes, investigates, describes, and discusses characteristics of common objects.
VI.C.2 Child identifies, observes, and discusses objects in the sky.
IX.A.2 Child coordinates sequence of movements to perform tasks.

Craters are impacts made by objects in the sky like meteors, meteorites, or space junk. Students simulate making craters in a surface by dropping objects of varying sizes from varying heights and talking about the crater's size and shape.

DOING THE ACTIVITY

1. Fill the container with sensory sand, kinetic sand, or flour. Have students drop the various balls onto the surface from the same height and make observations. Ask students the following questions: "How are the craters (dents) different?," and "Why do you think they are different?" Make connections to craters (dents) found on the Moon and the Earth.
2. Repeat using another surface material and make observations about the craters. Do the craters look the same or different than the craters on other surfaces?

TEACHING STRATEGIES

- Try dropping other items from the classroom like marbles or rocks onto the surfaces and ask students to make observations about shape and size.
- Mix 4 cups of flour with ½ cup of cooking oil to make Moon dough. Students can make craters in the moon dough using rocks, marbles, or other hard objects.

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SPACE CITY

Making Observations
SC.12

IV.A.1 Child intentionally uses marks, letters, or symbols to record language and verbally shares meaning.
VI.A.1 Child observes, investigates, describes, and discusses characteristics of common objects.
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.

Scientists make observations and record things they see to learn new information. Students can be scientists too! Many tools help us make observations, including telescopes. Students explore telescopes in the classroom to see objects in the (classroom) sky up close and make comparisons between what they see with their naked eye and the telescope.

DOING THE ACTIVITY

1. Introduce the telescope to the students as an important tool to learn about space, astronomy, and the Earth around them. Scientists use telescopes and other tools to find out information about the planets, stars, and galaxies they are studying. Encourage students to freely look through the telescope at items in the classroom and describe what they are seeing.
2. Take the students outside and have them point out things they see in the sky or at a distance such as clouds, birds, and airplanes. Students can use the class journal to record the things they see (classroom community journal).

TEACHING STRATEGY

Build telescopes in the classroom using two convex lenses and a craft roll. Students can decorate their craft roll and share the lenses among one another to make observations (tape a lens on each end). Ask students to compare observations between the classroom telescope and the self-made telescope.

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SPACE CITY

Prism Exploration Center

SC.13

VI.A.4 Child observes, investigates, describes, and discusses sources of energy including light, heat, and electricity.
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.

Acrylic prisms are a fun, hands-on tool that students can explore with light to make observations and predictions. Using flashlights, acrylic prisms, and different colored paper, students can observe the bending of light as it moves through a prism and make predictions as they explore with different shapes and sizes.

DOING THE ACTIVITY

1. Prisms are a great introduction to rainbows. Allow students to experiment with the prisms and flashlight. Can they create a rainbow? What do they notice about the rainbow that they created?
2. Place the white paper on the table and use a flashlight to display a rainbow on the paper. Students can trace the rainbow with crayons or colored pencils as a friend holds the flashlight.

TEACHING STRATEGIES

- Hang prisms around your classroom, close to a window. Children can go on a rainbow hunt as the prisms bend the sunlight.
- Create prism patterns with patterned colored paper. Draw a pattern on colored paper. Place a prism on the paper and explore how the prism interrupts the pattern.

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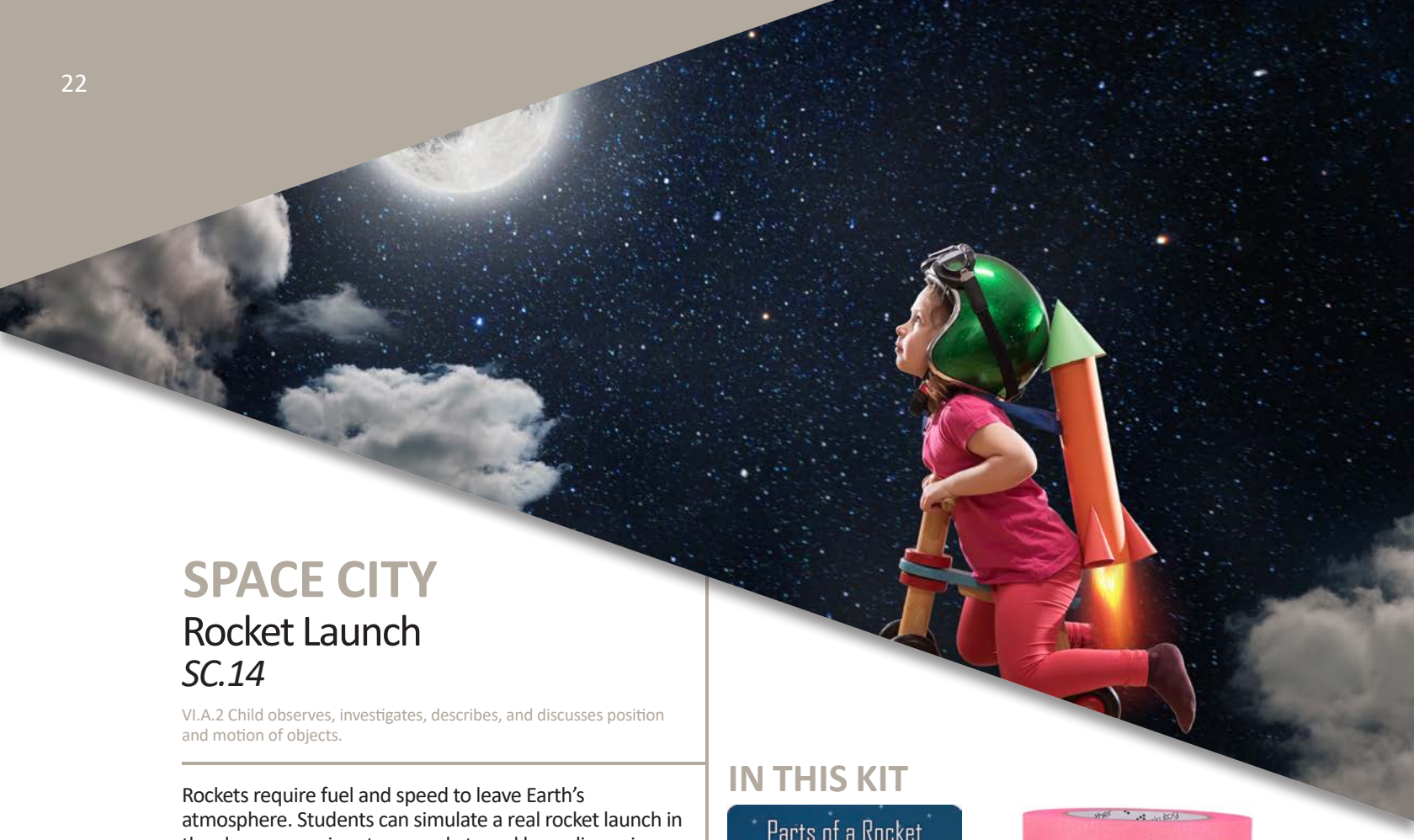






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EXPLORATION™ zones



SPACE CITY

Rocket Launch

SC.14

VI.A.2 Child observes, investigates, describes, and discusses position and motion of objects.

Rockets require fuel and speed to leave Earth's atmosphere. Students can simulate a real rocket launch in the classroom using stomp rockets and have discussions about fuel, cause and effect, and testing and trying again.

DOING THE ACTIVITY

1. Plan to do this activity outdoors, in an auditorium, or a gym as the rockets can travel 200 feet into the air. Before launching the rockets, have a discussion about rocket features using the diagram. Ask students what a rocket needs to launch into the air (fuel). As the students are launching rockets from the launch pad, have a discussion about the fuel for the classroom rockets (air).
2. Students can make their own rocket out of construction paper and tape. With adult assistance, have students cut the construction paper in half and roll it into a roll. Tape the roll. Cut a circle out of the other piece of construction paper and cut a small triangle out of the circle. Fold the circle into a cone shape, tape the cone, and then tape the cone on top of the body. Last, cut out three triangles to make fins and tape onto the body.

TEACHING STRATEGY

You can make your own rocket launcher using a half- inch PVC pipe and a two-liter bottle. Simply insert the PVC pipe into the bottle, place the rocket onto the end of the PVC pipe, and squeeze the two-liter bottle. Students can make comparisons between the two launchers (Which launcher sent the rocket farther? Why do you think so? Do they use the same fuel?).

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SPACE CITY

Faces of the Moon

SC.15

VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.
VII.A.1 Child identifies similarities and differences between himself, classmates, and other people through specific characteristics and cultural influences.

In Western culture, people have been telling stories about the "man in the Moon" for many years. These faces are actually craters and mountains, and we see different views of the Moon depending on where we are on Earth. After reading several books about the Moon, students can have conversations about the Moon phases and faces, and can create their own faces on the Moon using facial feature graphics.

DOING THE ACTIVITY

1. Many people look up at the Moon and see a face staring back at them! This "face" has inspired many stories and legends throughout the years. After reading several books about the Moon phases and faces, ask students if they think a man really lives on the Moon. Explain the Moon is filled with craters and mountains that appear differently to us on Earth. People use their imagination to describe what they see when they look up at the Moon.
2. Place the Moon and facial feature graphics on the table for free exploration. Students can make faces to mimic their feelings and/or create faces from Moon observations.

TEACHING STRATEGY

Encourage students to observe the night sky at home. During morning meeting, have discussions about the faces or objects students saw through their observations.

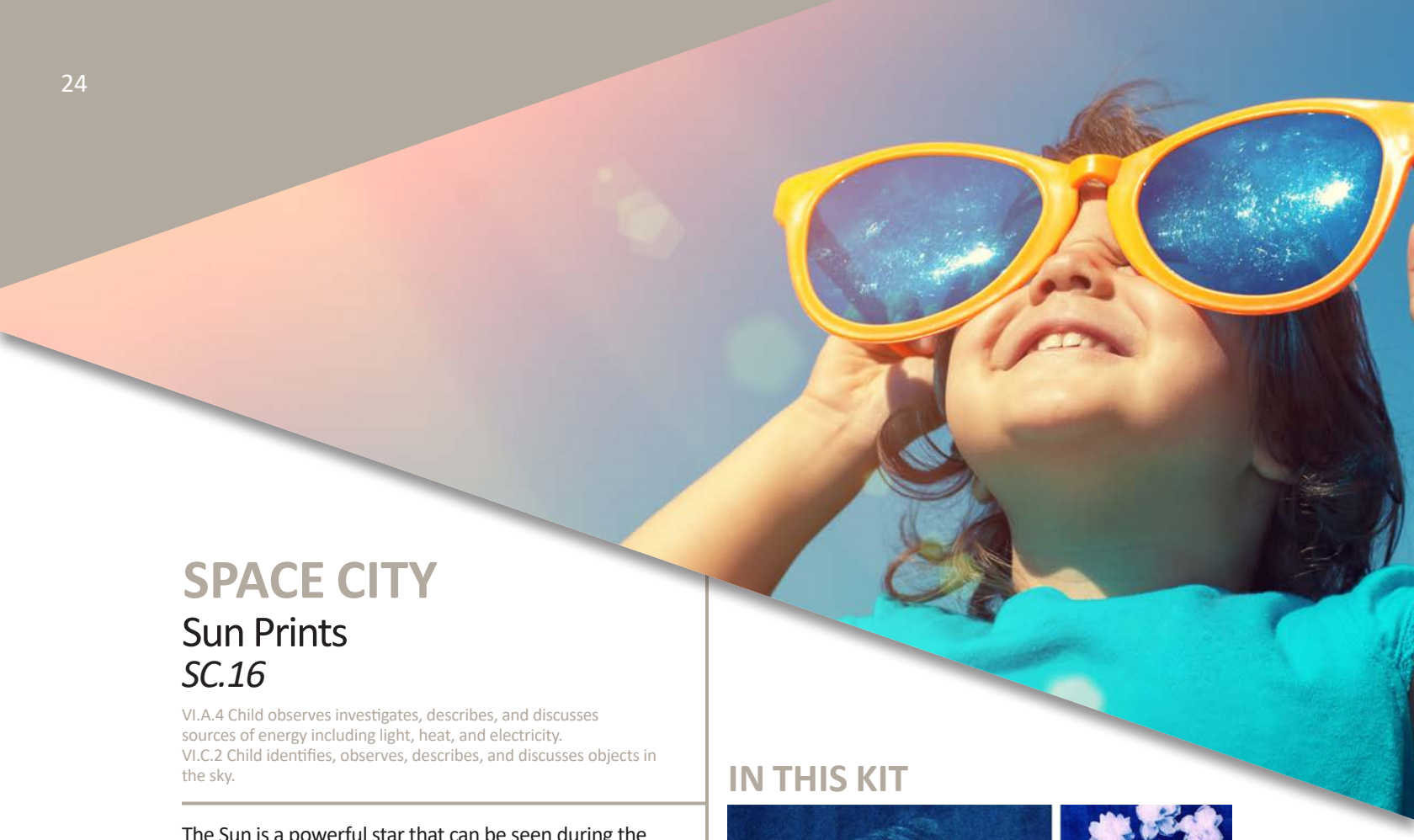
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SPACE CITY

Sun Prints

SC.16

VI.A.4 Child observes investigates, describes, and discusses sources of energy including light, heat, and electricity.
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.

The Sun is a powerful star that can be seen during the day. The Sun gives us light, warmth, and energy! Using UV reactive paper, students can use items found in the environment to create sun print art and also visually see the effects of our nearest star on their print.

DOING THE ACTIVITY

1. When sunlight interacts with our bodies, it warms us. When sunlight interacts with light-sensitive paper, it changes the color of the exposed paper and leaves a shadow of an object placed on the paper. Take students outside to participate in sun prints. Students can bring items from inside to interact with the paper or find outdoor items like leaves, grass, flowers, and sticks.
2. Ask students to place their sun print paper on a flat surface and add unique items to the top of the paper in a design or pattern. Return in 15 minutes to remove the items. Add the prints to a tub of water for one minute (add several drops of lemon juice for a richer color) and take out to dry. You can talk about the effects of the Sun's rays on paper (UV rays) and how they relate to the effects on our skin.

TEACHING STRATEGY

You can use construction paper and plastic wrap to make sun prints too. Place the construction paper in the sunlight on a flat surface. Add leaves, flowers, and sticks to the construction paper and cover with plastic wrap. Wait 2-3 hours and uncover your designs. What do students notice?

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SPACE CITY

International Space Station Dramatic Play

SC.17

I.C.4 Child increasingly interacts with peers during cooperative play scenarios that share a common plan and goal.
VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.
VIII.C.1 Child creates or recreates stories, moods, or experiences through dramatic representations.

Students prepare for a mission to the International Space Station by dressing for the flight, taking notes before take-off, and recording observations while traveling through space. Once they arrive, they can consider all of the things they will do in space: build a new home, eat, exercise, and research. Using materials like wooden blocks, students leave Earth destined to explore the possibility of life on other planets.

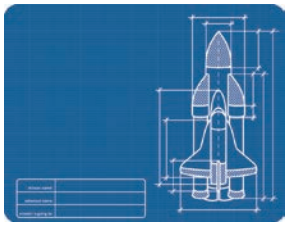
DOING THE ACTIVITY

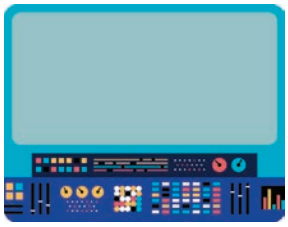
Introduce the dramatic play materials and encourage students to blast off into space! Ask students to consider preparing for the trip and think about what they will pack. Next, students can make a flight plan using the flight plan dry erase boards. Once students arrive at the International Space Station, they can draw/sketch plans to build a home and create their new home using wooden blocks. The space-themed dramatic play possibilities are endless!

TEACHING STRATEGY

Continue adding new materials to the International Space Station dramatic play center to entice creative and new thinking. Create astronaut food by adding felt or paper pieces to a Ziploc bag and adding a label. Create a research lab by adding rocks, paper and pencils, and observation tools (magnifying glass and mini microscope).

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SPACE CITY

Suncatchers

SC.18

VI.A.4 Child observes, investigates, describes, and discusses sources of energy including light, heat, and electricity.
VIII.A.2 Child uses art as a form of creative self-expression and representation.
IX.B.1 Child shows control of tasks that require small-muscle strength and control.

Students learn that light from the Sun disperses through see-through material to create rainbows. Using contact paper, colored tissue paper, and scissors, students create suncatchers to observe how the sunlight travels differently through material.

DOING THE ACTIVITY

1. Help students cut out he center of a paper plate. Children can color or paint the outer boarder of the paper plate. Measure two pieces of contact paper that are slightly larger than the paper plate hole and attach one to the paper plate.
2. Next, students can cut shapes or tear small pieces of tissue paper to place in the center of their paper plate (sticky side of contact paper) in a design or pattern. When students are finished with their design, cover the design with the other piece of contact paper.

TEACHING STRATEGIES

- Hang the suncatchers near a window and have discussions about light.
- Make suncatchers using materials found outside like leaves, flowers, and grass. What do students notice about light shining through these materials compared to tissue paper (tissue paper allows some light through).

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SPACE CITY

Space Sensory Play

SC.19

VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.
VIII.A.1 Child uses a variety of art materials for sensory experiences and exploration.
IX.B.1 Child shows control of tasks that require small-muscle strength and control.

Students manipulate kinetic sand to build interpretations of the Moon's surface. Students can browse through non-fiction books and other classroom images for inspiration. Astronauts, rovers, satellites, and other space program items are provided for dramatic expression and encouraging imagination.

DOING THE ACTIVITY

1. For easy clean-up, empty the kinetic sand, space figures, rockets, and planets into the container. This works well as a free-choice, table-top activity. You can also use the Satellite Sensory Table for space sensory play.
2. Encourage students to make craters and mountains that would simulate the landscape on the Moon.

TEACHING STRATEGIES

- You can make your own moon sand with fine play sand, cornstarch, and water. Add 4½ cups of sand to a bowl. Add 1½ cups of cornstarch and 1 cup of water; mix together. Add powdered tempera paint to change the color.
- Add clear water beads, black rocks, and white rocks to the Satellite Sensory Table to create interesting textures with a space theme.

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SPACE CITY

Build with K'NEX

SC.20

III.A.3 Child recognizes that all print carries meaning and serves as a means for communication.
V.E.1 Child sorts objects that are the same and different into groups.
IX.B.2 Child shows increasing control of tasks that require eye-hand coordination.

Using direct-printed building cards and Kid K'NEX building sets, students work on fine-motor development and reinforce science concepts by building space-related items. Children can consider building other structures and objects that are interesting to them.

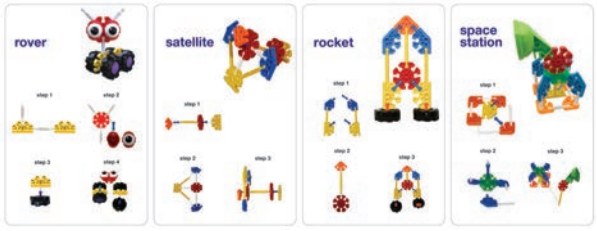
DOING THE ACTIVITY

1. Introduce the Kid K'NEX and building guide cards in a free-choice center. Ask students to sort the K'NEX by piece type first and use a building guide card to create a rover, rocket, satellite, and more.
2. Students can use the included building ideas to create other items and draw inspiration.

TEACHING STRATEGIES

- Encourage students to make their own structures, models, or characters. Students can sketch their design first before constructing. After a read aloud, ask the students to make characters from the story and retell the story in their own words.
- Use the K'NEX as counting manipulatives during math exercises.

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SPACE CITY

Reach for the Stars

SC.21

I.B.3.b Child remains focused on engaging, teacher-led group activities for up to 20 minutes.
IX.A.2 Child coordinates sequence of movements to perform tasks.

Students participate in gross motor movements by bending their body and stretching for the sky and stars. Movement cards are supplied to provide a visual and entice participation. How might movements change if you were on the Moon or International Space Station?

DOING THE ACTIVITY

1. As a large group activity, pass out individual star spots to work on the concept of personal space. As a small group activity, ask a student to lead the small group in the exercises.
2. Display the reach-for-the-stars movement cards, one at a time, starting with small intervals of 15-20 seconds. As students become accustomed to the routine and practice, slowly increase the amount of time engaged in each movement.

TEACHING STRATEGIES

- Ask students to create their own movements and share with the class.
- Use the star carpet spots during morning meeting, story time, or to encourage social distancing.

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SPACE CITY

I Can Move Like an Eclipse
SC.22

III.D.3 Child asks and responds to questions relevant to the text read aloud.
VI.C.3 Child observes and describes what happens during changes in the earth and sky.

Using large, inflatable models of the Earth, Moon, and Sun, students move their body to highlight positioning during an eclipse. Students can use the models to make size comparisons between planets and the Sun as well.

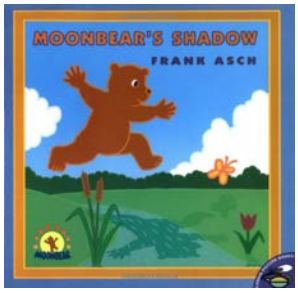
DOING THE ACTIVITY

1. Read *Moonbear's Shadow* by Frank Asch, discussing the various places Moonbear sees his shadow and how his shadow changes throughout the story.
2. Use the inflatable Earth, Moon, and Sun to experiment with shadows. Ask one child to hold each. Position the Moon between the Sun and the Earth, and hold the flashlight next to the Sun, shining toward the Moon and the Earth. What do students notice about the shadow?

TEACHING STRATEGIES

- Use the inflatable solar system to sort planets and celestial bodies by size and shape.
- Use the inflatable solar system to talk about rotation, revolution, and orbit through large group demonstrations.

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SPACE CITY

NASA in the Classroom
SC.23

VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.
X.A.1 Child opens and navigates through digital learning applications, when appropriate.
X.A.4 Child uses technology to access appropriate information, with adult assistance.

Explore NASA virtually from the classroom! Students can view the NASA laboratories, tour the Moon, and experience the James Webb Space Telescope. Students can also listen to stories from the International Space Station as astronauts facilitate read alouds during Storytime from Space at https://storytimefromspace.com.

DOING THE ACTIVITY

Unique educational opportunities in science, technology, engineering, and math at an early age can spark a lifelong interest in the sciences. Explore the NASA website at NASA.gov and see how virtual tours, virtual field trips, and other classroom supports might benefit your students.

TEACHING STRATEGIES

- View story time and science demonstrations from space at https://storytimefromspace.com. Students can listen to stories and view science engagement in a unique, gravity-absent environment. Have discussions about how these interactions are different on Earth.
- View images from the James Webb Space Telescope and the Hubble Space Telescope to support classroom activities.

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Activity requires internet and a computer/iPad



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SPACE CITY

Application Explorations
SC.24

VI.C.2 Child identifies, observes, describes, and discusses objects in the sky.
X.A.1 Child opens and navigates through digital learning applications and programs, when appropriate.
X.A.4 Child uses technology to access appropriate information, with adult assistance.

With the support of adults, young children can use technology applications actively to improve language skills and prepare for school readiness. Three applications to explore in Space City include: Star Walk Kids, SkyView Lite, and Solar Walk Lite.

DOING THE ACTIVITY

Introduce the applications Star Walk Kids, SkyView Lite, and Solar Walk Lite, modeling the appropriate use. Provide time for students to explore the applications, asking probing questions to help students think critically about the content they are interacting with. Starter questions like, "What do you think if..." and "Can you compare this with..." provide students with opportunities to dig deeper.

TEACHING STRATEGY

Technology and media can support early learning and relationship building if used intentionally. Educators learn about the challenges and opportunities with integration of technology to best support their students. Ask yourself the following questions:

- Is the media age appropriate, individually appropriate, and culturally and linguistically appropriate?
- Is the media active, hands-on, and empowering?
- Is assistive technology available to children with special needs?

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Activity requires a device suitable for downloading applications in the preschool classroom.



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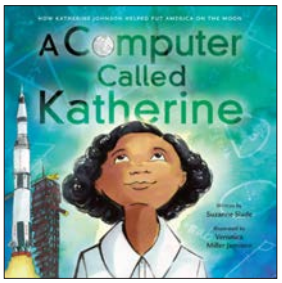
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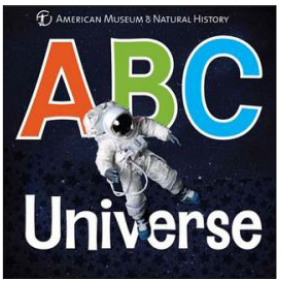
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NON-FICTION



A Computer Called Katherine



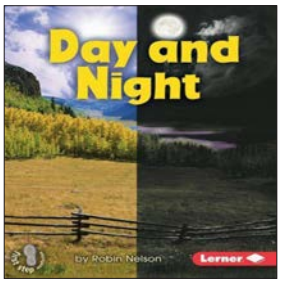
ABC Universe



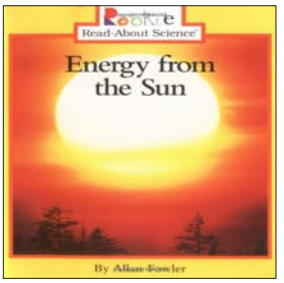
About Space
Acerca Del Espacio



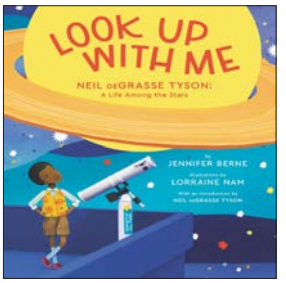
The Big Dipper



Day and Night



Energy from the Sun



Look Up With Me:
Neil DeGrasse Tyson: A Life Among the Stars



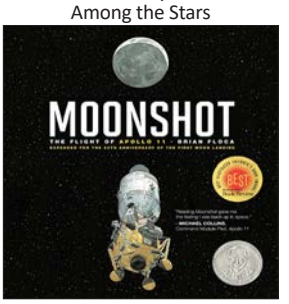
Mae Among the Stars



The Moon



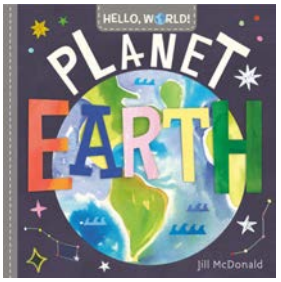
Moon Landing



Moonshot: The Flight of Apollo 11



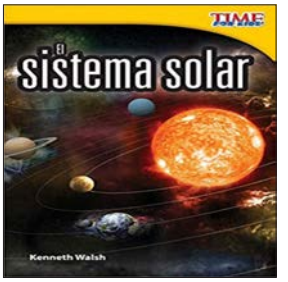
On the Space Station



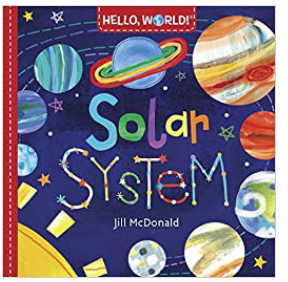
Planet Earth



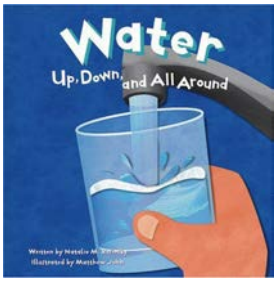
Los Planetas



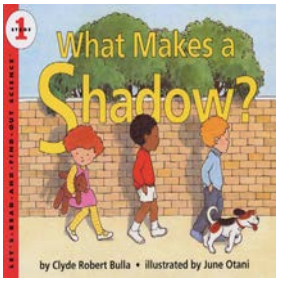
El Sistema Solar



Solar System



Water: Up, Down, and All Around

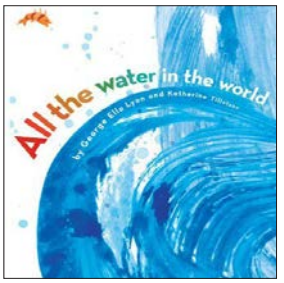


What Makes a Shadow?

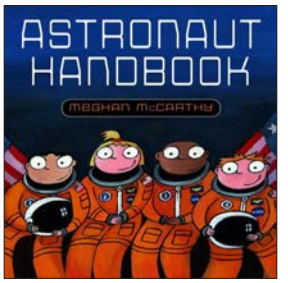
EXPLORATION™ zones

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FICTION



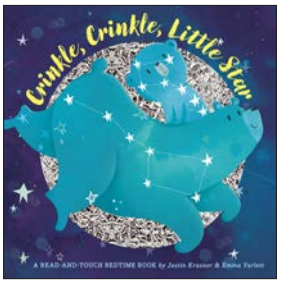
All the Water in the World



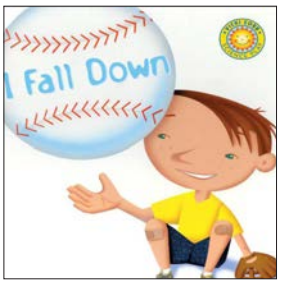
Astronaut Handbook



Besos de Sol, Abrazos de Luna



Crinkle, Crinkle, Little Star



I Fall Down



I Want to Be an Astronaut



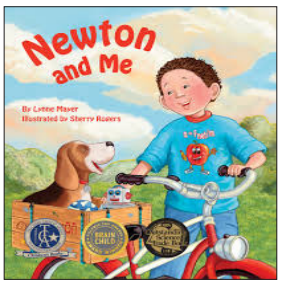
La Luna No es de Queso



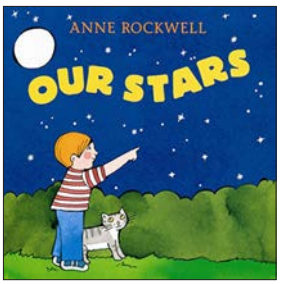
Mars Rover Rescue



Moon: A Peek-Through Picture Book



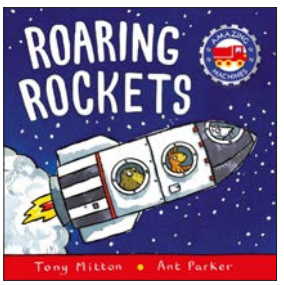
Newton and Me



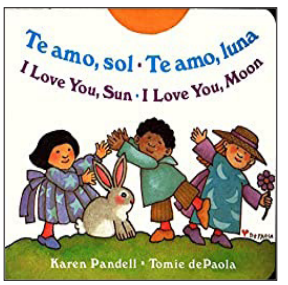
Our Stars



Peppa en el Espacio



Roaring Rockets



Te amo sol, Te amo luna
I Love You, Sun
I Love You, Moon

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GENERAL SUPPLY KIT



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GENERAL SUPPLY KIT

























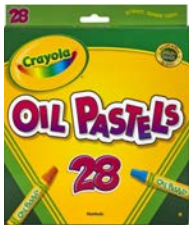












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ASSESSMENT TOOLS



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EXPLORATION™ zones

SPACE CITY

Activity Rubric Scale

Student:_____ Class:_____

Date:_____

Activity or Skill:_____

_____

4 **Achieved-** The student frequently demonstrates the ability to apply the knowledge or perform the skill accurately in several environments without support.

3 **Progressing-** The student demonstrates understanding or use of the knowledge or skill in one or more environments with some support.

2 **Emerging-** The student is beginning to show understanding or use of the knowledge or skill in one environment with extensive support. The student is unable to demonstrate the skill without assistance.

1 **Introduced-** The student has been exposed to the knowledge or skill as part of the educational curriculum but demonstrates no measurable understanding of the knowledge or skill at this time.

Notes:_____

_____

_____

_____

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SPACE CITY

Anecdotal Note Observation Form

Student:_____ Date:_____ Time:_____

Objective for this observation:

List of others in the context:

Context:

Notes:

Preliminary thoughts regarding observation:

Educator's Signature:_____

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EXPLORATION™ zones

SPACE CITY

General Observations

DATE	TIME	SKILL	OBSERVATIONS

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SPACE CITY

Picture Portfolio

Student:_____

Date:_____

Learning Center:_____

(Include photo or sample of student's work)

Notes:_____

_____

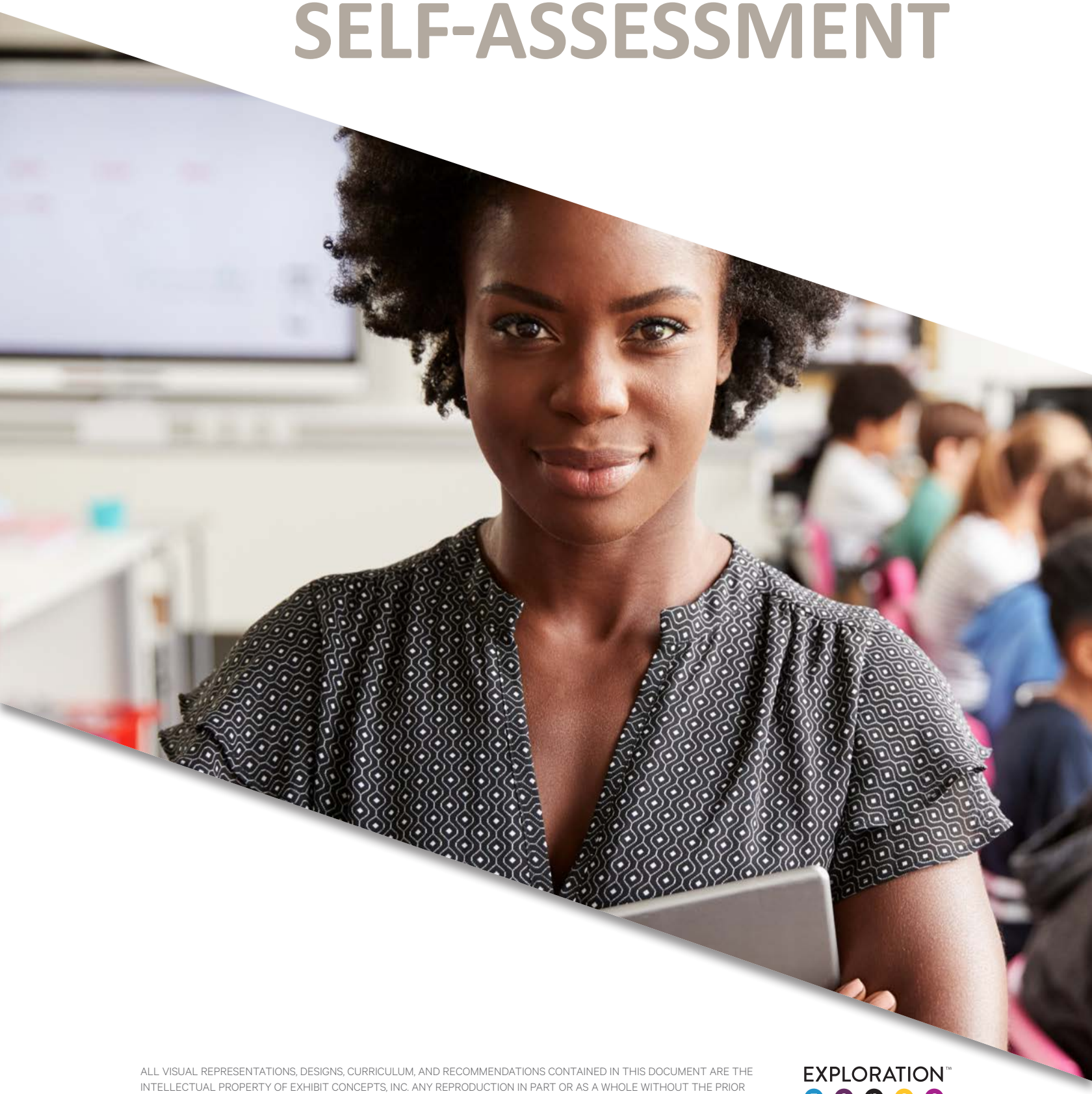
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TEACHER SELF-ASSESSMENT



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SPACE CITY

Self-Assessment of Benchmarks of Experiential Education Implementation

Name:_____ School:_____ Date:_____

WHEN I PLAN...	LACKING	EMERGING	PRACTICING
I plan activities and experiences that follow the interests of my students.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I consider multiple learning modalities.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I consider new and novel items to engage students.	☐☐☐☐	☐☐☐☐	☐☐☐☐
WHEN I TEACH...	**LACKING**	**EMERGING**	**PRACTICING**
I give students choices.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I ask open-ended questions that help students think creatively and critically.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I observe my students.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I identify and respond to the existing knowledge and skills each student brings to an activity or experience.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I help students make connections between existing and new knowledge.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I use developmentally appropriate concepts and vocabulary to introduce new content.	☐☐☐☐	☐☐☐☐	☐☐☐☐
I individually reflect on how to continuously improve my instruction.	☐☐☐☐	☐☐☐☐	☐☐☐☐
IN MY CLASSROOM...	**LACKING**	**EMERGING**	**PRACTICING**
My students are active in the learning process by:			
• choosing items to engage with and participating in activities that interest them.	☐☐☐☐	☐☐☐☐	☐☐☐☐
• working through problems and activities in real-life situations.	☐☐☐☐	☐☐☐☐	☐☐☐☐
• collaborating with peers, as developmentally appropriate.	☐☐☐☐	☐☐☐☐	☐☐☐☐
• initiating their own investigations.	☐☐☐☐	☐☐☐☐	☐☐☐☐
• asking questions.	☐☐☐☐	☐☐☐☐	☐☐☐☐
• making observations.	☐☐☐☐	☐☐☐☐	☐☐☐☐
My students recognize and use developmentally appropriate vocabulary and concepts.	☐☐☐☐	☐☐☐☐	☐☐☐☐
My students are intrinsically motivated.	☐☐☐☐	☐☐☐☐	☐☐☐☐

My definition of experiential education is:

I'd like to know more about the following in regard to experiential education:

My strengths:

Areas I'd like to improve upon:

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