

# Unit 5

# Earth and Space

## Earth & Space #1

### Shadows

Young children have likely seen their own shadows and other shadows cast on the ground, but they may not know how they are made. This center provides an opportunity to explore them.

#### Learning Objectives:

- The student will create a shadow.
- The student will describe how the shadow was created.
- The student will ask questions and make predictions.



## Earth & Space #2

### Sun and Moon

Children naturally make observations about the sun and the moon. Their daily routine is planned around them. This center helps students notice the patterns of each day.

#### Learning Objectives:

- The student will observe the sun and the moon.
- The student will recognize the patterns of day and night.
- The student will discuss routines in his/her daily life.



## Earth & Space #3

### Fall Season

Children notice the change of season all around them! The season and weather help them decide what to wear each day. Bring fall items into your science center and talk about the new season.

#### Learning Objectives:

- The student will observe changes in plants, animals, and weather that occur in Fall.
- The student will discuss things that change when the new season arrives.



## Earth & Space #4

### Winter Season

Depending on where you live, winter may bring many stark changes to the students' daily lives: new wardrobe, new outerwear, and maybe even no school days. Explore winter at this center!

#### Learning Objectives:

- The student will observe changes in plants, animals, and weather that occur in winter.
- The student will discuss things that change when the new season arrives.



- 1 Go outside.
- 2 Display items.
- 3 Invite students to observe them and talk about what they notice.
- 4 What happened to the tree branch? What will the baby animals grow into?

## Earth & Space #5

### Spring Season

Spring is abundant with signs of new life! Students notice the trees blooming and flowers peeking out through the ground. Encourage a deeper understanding of spring at this center!

#### Recommended Supplies:

- Spring items
- flowers
  - watering can
  - plastic eggs in a nest
  - tree branch with buds
  - stuffed animals: chick, lamb, caterpillar

#### Procedure:

- 1 Go outside for a spring nature walk.
- 2 Display the spring items at the science center.
- 3 Invite students to observe them and talk about what they notice.
- 4 What happened to the tree branch? What will the baby animals grow into?

#### Learning Objectives:

- The student will observe changes in plants, animals, and weather that occur in spring.
- The student will discuss things that change when the new season arrives.



#### Book Recommendations:

*Mouse's First Spring* by Lauren Thompson  
*Raindrop, Plop!* by Wendy Cheyette Lewison  
*Wake Up, It's Spring!* by Lisa Campbell Ernst  
*Bear Wants More* by Karma Wilson

## Earth & Space #6

### Summer Season

Summer offers another exciting change. Whether they are in year-round school or off for the summer, students' daily lives will change a bit with the new season.

#### Recommended Supplies:

- Summer items
- Sunglasses
  - Swimsuit
  - Sun visor
  - Sunscreen (empty bottle, or use duck tape to close it)

#### Procedure:

- 1 Go outside for a summer nature walk.
- 2 Display the summer items at the science center.
- 3 Invite students to observe them and talk about what they notice.
- 4 Why do we have to wear sun protection in the summer?

#### Book Recommendations:

*Ice Cream Summer* by Peter Sis  
*I See Summer* by Charles Ghigna  
*Mouse's First Summer* by Lauren Thompson  
*Summer* by Aile Busby

## Introduction

Preschool science allows young children to experience big ideas about the world. They explore these phenomena during this unit:

- shadows**
- patterns of day and night**
- seasonal patterns**
- how their daily life routines change over time**

# Earth & Space #1

## Shadows

Young children have likely seen their own shadows and other shadows cast on the ground, but they may not know how they are made. This center provides an opportunity to explore them.

### Recommended Supplies:

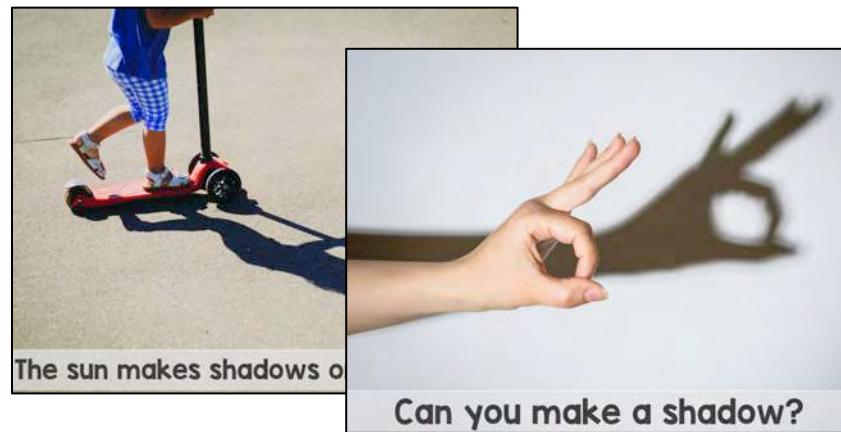
- Bright light source (a projector, spotlight, or strong flashlight)
- Screen or blank wall space
- shape cut-outs on craft sticks
- Small hand puppets
- Magnatiles (or other transparent toy)

### Procedure:

1. Go out side on a sunny day and notice the students' shadows.
2. Set up the light source to project onto the blank space.
3. Encourage students to hold up the puppets to create shadows.
4. Ask students what they think will happen if they hold a transparent object up to the light source. Test the predictions.

### Learning Objectives:

- The student will create a shadow.
- The student will describe how the shadow was created.
- The student will ask questions and make predictions.



### Book Recommendations:

- Moonbear's Shadow* by Frank Asch  
*What makes a Shadow?* by Clyde Robert Bulla  
*I Love my Shadow!* by Hans Wilhelm  
*Grumpy Groundhog* by Maureen Wright

# Earth & Space #2

## Sun and Moon

Children naturally make observations about the sun and the moon. Their daily routine is planned around them. This center helps students notice the patterns of each day.

### Recommended Supplies:

- Globe
- Flashlight
- Yellow construction paper (Cut it into a sun shape. Cut a hole in the middle and attach it to the flashlight to make a sun.)
- Gray paper circle glued to a craft stick (moon)

### Procedure:

1. Go outside to observe the sun, clouds, and maybe even the moon! Talk with students about how day and night occur.
2. Place the globe in your science center with the “sun” and the “moon”. Allow students to shine the sun onto the globe. What happens to the parts that have light? What happens to the parts that don’t have light.

### Learning Objectives:

- The student will observe the sun and the moon.
- The student will recognize the patterns of day and night.
- The student will discuss routines in his/her daily life.



The sun rises in the east.



You can see the moon at night.

### Book Recommendations:

- The Sun is my Favorite Star* by Frank Asch  
*Sun Up, Sun Down* by Gail Gibbons  
*Papa, Please Get the Moon for Me* by Eric Carle  
*Happy Birthday, Moon* by Frank Asch

# Earth & Space #3

## Fall Season

Children notice the change of season all around them! The season and weather help them decide what to wear each day. Bring fall items into your science center and talk about the new season.

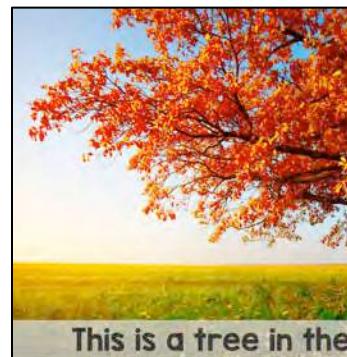
### Recommended Supplies:

Fall items:

- Leaves
- Acorns
- Pumpkin
- Apple
- Gourd
- Corn
- Tree Branch
- Small Scarecrow

### Learning Objectives:

- The student will observe changes in plants, animals, and weather that occur in Fall.
- The student will discuss things that change when the new season arrives.



### Procedure:

1. Go outside for a fall nature walk.
2. Display the fall items at the science center.
3. Invite students to observe them and talk about what they notice.
4. What happened to the leaves? Where did the acorns come from?

### Book Recommendations:

- Mouse's First Fall* by Lauren Thompson  
*Autumn is Here!* by Heidi Pross Gray  
*Autumn: A Pop-Up Book* by David A. Carter  
*It's Fall!* by Linda Glaser  
*Fall* by Roger Priddy

# Earth & Space #4

## Winter Season

Depending on where you live, winter may bring many stark changes to the students' daily lives: new wardrobe, new outerwear, and maybe even no school days. Explore winter at this center!

### Recommended Supplies:

Winter items:

- Snow (or Insta-Snow!)
- Ice
- Mittens and a Winter hat
- bare tree branch

### Procedure:

1. Go outside for a winter nature walk
2. Display the winter items at the science center.
3. Invite students to observe them and talk about what they notice.
4. What happened to the tree branch? Why do we have to wear mittens when we play with snow and ice?

### Learning Objectives:

- The student will observe changes in plants, animals, and weather that occur in winter.
- The student will discuss things that change when the new season arrives.



### Book Recommendations:

- The Mitten* by Jan Brett  
*The First Day of Winter* by Denise Fleming  
*Snowballs* by Lois Ehlert  
*The Snowman* by Raymond Briggs  
*The Snowy Day* by Ezra Jack Keats

# Earth & Space #5

## Spring Season

Spring is abundant with signs of new life! Students notice the trees blooming and flowers peeking out through the ground. Encourage a deeper understanding of spring at this center.

### Recommended Supplies:

Spring items:

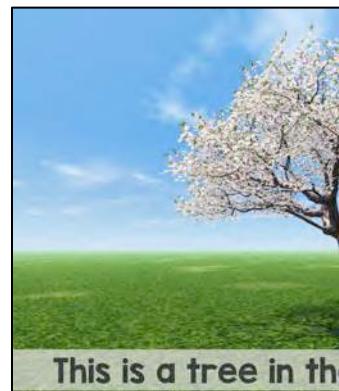
- flowers
- watering can
- plastic eggs in a nest
- tree branch with buds
- stuffed animals: chick, lamb, caterpillar

### Procedure:

1. Go outside for a spring nature walk.
2. Display the spring items at the science center.
3. Invite students to observe them and talk about what they notice.
4. What happened to the tree branch? What will the baby animals grow into?

### Learning Objectives:

- The student will observe changes in plants, animals, and weather that occur in spring.
- The student will discuss things that change when the new season arrives.



This is a tree in the spring.



What do you wear in spring?

### Book Recommendations:

- Mouse's First Spring* by Lauren Thompson  
*Raindrop, Plop!* by Wendy Cheyette Lewison  
*Wake Up, It's Spring!* by Lisa Campbell Ernst  
*Bear Wants More* by Karma Wilson

# Earth & Space #6

## Summer Season

Summer offers another exciting change. Whether they are in year-round school or off for the summer, students' daily lives will change a bit with the new season.

### Recommended Supplies:

Summer items:

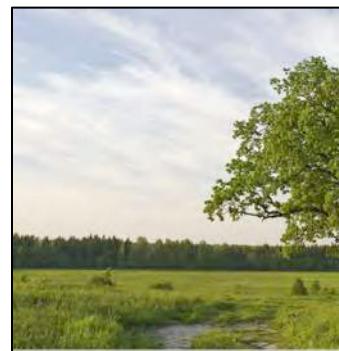
- Sunglasses
- Swimsuit
- Sun visor
- Sunscreen (empty bottle, or use duck tape to close it)

### Procedure:

1. Go outside for a summer nature walk.
2. Display the summer items at the science center.
3. Invite students to observe them and talk about what they notice.
4. Why do we have to wear sun protection in the summer?

### Learning Objectives:

- The student will observe changes in plants, animals, and weather that occur in summer.
- The student will discuss things that change when the new season arrives.



This is a tree in the



What do you wear in summer?

### Book Recommendations:

*Ice Cream Summer* by Peter Sis

*I See Summer* by Charles Ghigna

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