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Topic: Spatial Sense Theme: Animal Assistants
Ages: 4-5

## Introduction

The animals need help! In this week's Afterschool Adventure, children will take the role of Animal Assistants and use their spatial skills to help save the day. They will use positional words (such as over, under, and in between) to help a team of skiing penguins complete their race and find homes for fish deep in the ocean. Children will use maps and practice their spatial skills to reunite a baby bee with his family, help a meerkat make his way through an underground burrow and follow clues to find a lost cat. Each section of this weeklong adventure is introduced by a video clip or online game that encourages children to explore math concepts and skills related to spatial sense.

## Math Overview

This unit focuses on spatial skills for 4-5-year-olds. Refer to More About Math to learn additional information about these math topics as they relate to the Animal Assistant learning activities.

## Before You Begin

Create a free account on PBS LearningMedia to access videos for this Afterschool Adventure at http://www.pbslearningmedia.org/
Print and cut out the following handout:

- Lost Cat handout (Print and cut out one copy)

Create the following materials:

- Four direction arrows (one arrow each on an index card)
- 5-6 clues using positional words for children to follow on a scavenger hunt.


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## Handy Resource Guide

Get Ready! Your Afterschool Adventure includes videos, online games and mobile apps, hands-on activities and books. Use this resource chart to plan ahead.

## WATCH

 PBS KIDS VideosPart 1: Coaching the Penguin Ski Team

- Peg + Cat: Penguin Ski Team (1:58)

Part 3: Bringing Baby Bee Home

- The Cat in the Hat: A Pirate's Life! (1:51)
- The Cat in the Hat: Whistling Lessons from Rocky (2:00)

Part 5: Hunting for Cat

- Peg + Cat: Where is Cat? (1:44)
- Peep and the Big Wide World: Sounds Like... (8:50)


## PLAY

## Online Games \& Mobile Downloads



Part 1: Coaching the Penguin Ski Team

- Dinosaur Train: Roarin' Relay

Part 2: Finding Homes for Fish

- The Cat in the Hat: Deep Sea Follow Me

Part 3: Bringing Baby Bee Home

- The Cat in the Hat: Beehive \& Seek

Part 4: Planning a Meerkat Party

- The Cat in the Hat: Meerkat Jubilee
- Fizzy's Lunch Lab: Dunk Tank Dilemma

Part 5: Hunting for Cat

- The Cat in the Hat: Can Map This and That!


## EXPLORE

## Hands-on Activities

Part 1: Coaching the Penguin Ski Team


- Four directional arrows. Create them by drawing one arrow on each of four index cards.
- Chart paper and marker to list the direction words used in the Penguin Ski video clip.
- Obstacle Course- notecards to write arrows for classroom/ outside obstacle course (number may vary per experience, but should include at least 8 to create an interesting path throughout the classroom or playground/outside space)

Part 2: Finding Homes for Fish

- Up, Down, All Around: Location Words
- Roll Call- chart paper with list of direction words from prior day's activity

Part 4: Planning a Meerkat Party

- The Cat in the Hat: Follow the Pasta Path
- The Cat in the Hat: Meerkat Jubilee Copy 3 pictures. Cut and separate Cat from Thing One and Thing Two
- Marker or crayon for each child or group
- Dried pasta pieces (enough for the entire group, and rigatoni works best)
- Large Poster board


## Part 5: Hunting for Cat

- Print one copy and cut out one copy of Lost Cat
- The Cat in the Hat: Hunting for Treasure Up, Down, All Around
- 5 or 6 clues for the children to discover on their scavenger hunt.


## READ

## Related Books

Part 1: Coaching the Penguin Ski Team

- Go Dog Go! by P.D. Eastman
- We're Going on a Bear Hunt by Michael Rosen


Part 2: Finding Homes for Fish

- Over Under by Marthe Jocelyn

Part 3: Bringing Baby Bee Home

- Rosie's Walk by Pat Hutchins
- Over, Under, and Through by Tana Hoban


## Part 1: Coaching the Penguin Ski Team (20 minutes)

## WATCH

## Peg + Cat: Penguin Ski Team (1:58)

The Penguin Ski Team is having trouble skiing- they keep crashing into things! Coaches Peg and Assistant Coach Cat show them how to go over, under, and in between the obstacles.


Gather children at your computer or interactive whiteboard so everyone can see.
Leader: Welcome to the Animal Assistants Afterschool Adventure! Does anyone know what the word assistant means?
Pause to allow children to answer.
Leader: That's right, assistant means helper. This week, we're going to meet all sorts of animals that need our help. We're going to be their assistants, or their helpers. We will help the animals solve all sorts of problems.

Before viewing the video clip, explain that they will be watching a video clip with Peg + Cat and the Penguin Ski Team. Explain that Peg will use words to tell the penguins which way to go. Ask the children to raise their hands when they hear Peg give the penguins directions.

Play the video, pausing at 1:13.
Leader: Did everyone notice when Peg used the words over, under and in between? Those are special words that tell the penguins how to move. When Peg used those words, she was giving them directions on how to finish the race. But what is the problem-why aren't the penguins following her directions?

Pause to allow the children to answer.

Leader: That's right, the penguins don't know what the words over, under, and in between mean. How can we help them?

Continue to play the video, pausing at 1:30. Ask for a volunteer to come to the front of the group and show with an arrow what it means to go over the first hurdle. (You may wish to ask the other children to turn to a partner and discuss whether they agree or disagree.)


Correct or confirm the children's ideas, demonstrating how the arrow should point up to show what it means to go over the first hurdle.
Now do the same for the second hurdle, asking for a volunteer to show with an arrow what it means to go under the hurdle.
Finally, repeat with the flags, asking a volunteer to use two arrows to show what it means to go in between the flags.
Once you are sure the children understand the meaning of the three terms, press play and watch the video to the end.
Afterwards, write the words over, under, and in between on a whiteboard or flip chart. Ask the children if they know of any other words that give directions like this. Have them take turns sharing words and using the arrows to show what terms like around, on top of, below, beneath, and beside mean. Add them to the chart as you go. Over the course of the week, at the end of every session children will add any new positional words discovered to this chart.

## Part 1: (continued)

When they are finished sharing, thank the children for their hard work.
Leader: Congratulations - you showed the penguin ski team what over, under and in between means, and you helped them complete their race. Tomorrow, we're going to be animal helpers for a different kind of animal - fish!

Keep Going! If you have more time, explore the following resources:

## PLAY

## Dinosaur Train: Roarin' Relay

The dinosaurs are racing through an obstacle course. Children must choose the correct sized dinosaur to run over walls, under hurdles, and through tunnels. Ask children to explain their choices, encouraging them to use size and position words in their answers.


## EXPLORE

## Obstacle Course

Create your own safe obstacle course for the children with chairs, boxes, and cones. This obstacle course may be set up outside (perhaps on playground equipment) or within the space of the afterschool room. Draw arrows on index cards and tape them to the obstacles so that children know whether to go over, under, around, or in between them. Walk the children through the course, explaining how to tackle each obstacle. Then, have children take turns completing it!

## READ

Go Dog Go! by P.D. Eastman
A group of energetic dogs out for a good time are shown doing fun things like riding rollercoasters, driving cars, and rowing boats for work, play and ultimately, a dog party. Emphasizing concepts like position and direction the book shows the relationship between dogs and objects. (The dog is over the water, the yellow dog is under the tree, etc.)


## READ

## We're Going on a Bear Hunt by Michael Rosen

This fun picture book will delight young readers. Direction words are used to describe how readers will find the bear ("we can't go over it, can't go under it..."). While reading the story, encourage children to motion the direction words with their hands.


## Part 2: Finding Homes for Fish ( 20 minutes)

## PLAY

## The Cat in the Hat: Deep Sea Follow Me

Head to the bottom of the Swirly Whirly Ocean with Sally, Nick, and the Cat in the Hat to help Gari
 Garibaldi search the coral reef for a new place to live. Children must follow directional clues such as under, over, next to, and behind to find just the right homes for Gari and his fishy friends.

Gather children at your computer or interactive whiteboard so everyone can see.
Leader: Welcome back to the Animal Assistants Afterschool Adventure! This week, we're helping animals in all sorts of ways. Yesterday, we helped the Penguin Ski Team understand a few direction words so they could finish their race.
(Point to the words listed on the chart paper from the session prior.) Today, we're going to help some fish find new homes.
Access the game and click play. Watch the introductory video with children and listen to the directions as a group. If needed, reinforce the directions. Relay to the children, Gari Garibaldi and his friends need some new homes on the coral reef. Follow the directions given by Cat to find an empty hole for the fish to live in.

Children may notice that in this game, the positional words show where the hole is in relation to another object or objects. For example in the clue, "Find the hole that is above the purple clam," children will first need to find the purple clam before finding the hole. In the clue, "Find the hole that is over the pink seashell and next to the blue fish," children will have to find the pink seashells and the blue fish before finding the hole.

Play a round as a group, calling on children to follow the positional words to find the empty hole. Ask questions like, Which hole does Cat want you to click on? How do you know that is the right hole? Once you are sure children understand the rules of the game, have them continue to play individually or in small groups. Let them know they can click the "???" button if they need an additional hint, and encourage the children to click on the video when they are done to learn more about garibaldi fish.

When the children are finished, ask them if they can add any new positional words to the chart started yesterday. (Cat in the Hat used next to, over, to the right of, below, etc). Once completed, congratulate them on their hard work.

Leader: Today, you followed Cat's directions to find new homes for the garibaldi fish. Tomorrow, we're going to be animal helpers for a different kind of animal (or insect)- a baby bee!

Keep Going! If you have more time, explore the following resources on the next page.


Topic: Spatial Sense Theme: Animal Assistants Ages: 4-5

## Part 2: (continued)

## EXPLORE

## Up, Down, All Around: Location Words

This activity contains simple suggestions for reinforcing children's understanding of position and location words.


## READ

Over Under by Marthe Jocelyn
Introduce children to positional language and modern art as they explore tall giraffes, short mice, squares and circles. Concepts such as color, form, and design are discussed/represented throughout this beautiful book.

## EXPLORE



## Roll Call

Ask all your children to stand up together in rows of three or four. Ask questions like, Who is behind Sarah? Who is next to Rishi? Who is in front of Gabriella? and have children shout out the answers. If you wish, you may have children take turns making up questions as well. Show them the chart started yesterday with position words and encourage them to ask questions using words from the list.


## The Cat in the Hat: Beehive \& Seek

A baby honeybee is lost, and Sally, Nick, and Cat need to help him get home! They have a map of a garden, but it's sprinkled with lots of hives. Children must help Cat and his friends follow a series
 of directional clues to locate the right hive and help the baby bee reunite with his family.

Gather children at your computer or interactive whiteboard so everyone can see.
Leader: Welcome back to the Animal Assistants Afterschool Adventure! This week, we have been helping animals in all sorts of ways! So far, we've helped the Penguin Ski Team finish their race and we've helped find homes for garibaldi fish. Today, we're going to help a baby bee find his family.

Access the game and play the video. Then listen to the directions with the children. Explain to the children that you'll be using a map to find different beehives to visit. Let them know that a map shows a place - like a park - as if you're looking down from high overhead.

Model for the children how to follow the positional clues to find the first hive. For example, in the clue, "We need to find the beehive that is behind the sandbox," find the sandbox, place your finger on it, and then follow the direction word behind with your finger. (In this game, behind means the object is farther away.)

Allow children to continue playing on their own or in small groups. Move throughout the room as children play, encouraging them to use position and direction words to describe the plane's path. For example, "The plane traveled around the pond to reach the beehive."

Children may notice that the plane does not always follow the shortest route to the beehive. Challenge them to describe another route the plane can take.

When children are finished the activity, conclude by asking them to add new positional words to the chart.
(Cat and his friends used direction words such as here, between, closest to). Congratulate them on a job well done.
Leader: Today, you followed Cat's directions to help a baby bee find his hive. Tomorrow, we're going to be animal helpers for a different kind of animal - a meerkat!

Keep Going! If you have more time, explore the following resources on the next page.

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Part 4: Planning a Meerkat Party ( 20 minutes)

## PLAY

## The Cat in the Hat: Meerkat Jubilee

Help the Cat in the Hat deliver invitations for the annual Meerkat Jubilee. You'll have to go deep underground and connect the mixed-up tunnel sections to get to all the meerkats to their burrow.


Gather children at your computer or interactive whiteboard so everyone can see.
Leader: Welcome back to the Animal Assistants Afterschool Adventure! This week, you're working as fantastic animal assistants! We have helped animals in all sorts of ways. Yesterday, we helped a baby bee get back to his family. Today, we're going to help some meerkats unscramble their tunnels.

Access the game, click "easy," and watch the introductory video with children. Reiterate the directions: Cat, Nick, and Sally are going to help the meerkats throw a party by delivering invitations. But they need help completing the tunnel to each meerkat burrow.

Complete the first tunnel together. Ask for a show of hands to determine which piece you should try first, and call on a few children to explain their reasoning. Then try it out!

Complete at least two tunnels together, and then have children play independently or in small groups. As they play, check on their progress and ask questions like:

- Do you need a straight or curved piece for this section of the tunnel?
- Is there any other piece you could use?

For children who have trouble visualizing the piece in the tunnel, encourage them to try each piece to see how it would work. (Once a piece is eliminated, it is shaded out.) For children who have more experience, you may ask them to select the "medium" or "hard" levels.

When children are finished, add any new positional words to the chart, and thank them for their hard work.
Leader: Today, you completed tunnels to deliver invitations to the meerkats. Tomorrow, we're going to be animal helpers for a different kind of animal - a lost cat!

Keep Going! If you have more time, explore the following resources on the next page.

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## Part 4: (continued)

## EXPLORE

## The Cat in the Hat: Follow the Pasta Path

To play Follow the Pasta Path with a large group, cut out the figures of Cat, Thing One, and Thing Two so that there are three separate pictures. Glue the figures to three corners of a large poster board. Draw lines from Cat to each of the other figures, and ask children to use uncooked pasta to follow the paths from one figure to another. (The large poster will allow multiple children to work on the pasta path at the same time.) Use vocabulary terms like straight, curved, flip, and rotate as you demonstrate how the pasta pieces can be manipulated to fit along the lines. Then have the children finish completing the lines on their own.

## play

## Fizzy's Lunch Lab: Dunk Tank Dilemma

Corporal Cup is stuck at the bottom of an empty dunk tank. She needs children to use curved and straight sections of straws to help fill the tank so that Corporal Cup can float to the top and be safely rescued. This game is similar to Meerkat Jubilee, but is a bit more difficult-try it with children who are ready for an extra challenge.


## Part 5: Hunting for Cat ( 20 minutes)

## WAICH

## Peg + Cat: Where is Cat? (1:44)

Peg can't find Cat. Where could he be? An acorn falling from above offers a clue.


Gather children at your computer or interactive whiteboard so everyone can see.
Leader: Welcome back to the Animal Assistants Afterschool Adventure! This week, we have been helping animals in all sorts of ways. Yesterday, we helped deliver some invitations for the meerkat party. Today, we're going to help find a lost cat. In fact, the cat we're looking for is Peg's lost cat, Cat!

Tell the children you're going to watch a short video from the show Peg + Cat. Ask children to look for a clue that will help them figure out where to look for Cat.

Access the video and play, pausing at 1:17. Ask:

- Did you see a clue? What was it? Put your hand where the acorn fell onto Peg. (Children should put their hands on their heads.)
- Where do you think that acorn fell from? (The tree above Peg)
- Who might have dropped it? (Cat)

Finish playing the video. Afterwards, ask, How did Peg find Cat? (Peg got a clue when an acorn fell from above.)

## EXPLORE

## The Cat in the Hat: Hunting for Treasure Up, Down, All Around

Create an adventure for your children by writing and drawing clues that will help them develop their spatial skills while they look for Cat.

Continue your discussion of Peg and Cat and introduce the next activity.
Leader: Now it's your turn to find Cat! He's lost again, and I'm going to give you some clues to find him.
 Some clues will have words like above, under, and behind. And some clues will have a map that you can follow. If you follow all the clues, you will be able to find Cat!

For this activity, you will need to cut out an image of Cat from the Lost Cat handout and hide it somewhere in your space before the children arrive. You should also create a series of five or six clues that use both position words and maps in order to help the children find their next clue. For example, you may write "Find the next clue under the rug where we have circle time," or you may sketch a simple map of your room with a few pieces of furniture and an $X$ on the rug. The first clue should lead to the first location, where children can find the clue that leads them to the second location, and so on. In the last location, hide Cat-along with any treat or reward you might wish to share with children.

Explain to the children that this is a group activity with everyone working together and agreeing to find the next clue with each other. (If you have a very large group of children, divide them into smaller groups and take turns with the same set of clues or devise slightly separate hunts for each group.)

When children reach the end of the hunt, add any new words to the chart, and congratulate them on following the clues and finding Cat.

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## Part 5: (continued)

Leader: Congratulations! You finished the Animal Assistants Afterschool Adventure. You helped the Penguin Ski Team finish their race, a group of garibaldi fish find new homes, a baby bee find his family, and the meerkats deliver their party invitations. And today, you followed a series of clues to help find Peg's lost cat, Cat. Look at all of the words we have used this week! (refer/point to the chart) Well done!

Keep Going! If you have more time, explore the following resources:

## WATCH

Peep and the Big Wide World: Sounds Like... (8:50)
In this video segment, Peep and Chirp get lost while looking for a quiet place for Chirp to sing, but they find their way home by following familiar sounds. Have children watch and describe where Peep and Chirp go, and where the sounds they hear come from, using position words from the chart
 you created on the first day.

## PLAY

## The Cat in the Hat Can Map This and That!

This activity will help children develop an understanding of direction (which way?), location (where?), and representation (what a drawing stands for). This computer activity can be used with the group or as a challenge to individual children. As the children are using the mapping tool, encourage them to use direction words such as next to, below, behind and between.


