Unit 5 Week 5	***Small Groups: Sets of Creatures*** **Medium Support**	**Math** **SG 1**	**Standards:** MELDS.M.CCC.PS.8 MELDS.M.OAT.PS.3 MELDS.M.OAT.PS.4

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Guiding Math Ideas:

- Quantity- Reinforcement of all related concepts
- Beginning Composing and Decomposing Numbers
- Acting out story Problems: Forming and reforming groups

Math Concepts from Unit Learning Progressions:

- Sets are special kinds of groups
- Counting groups and comparing sets
- Using story problems to visualize operations
- Problem Solving: Finding meaning

Materials:

- *Five Creatures* by Emily Jenkins
- Ten Frames- 1 or more per child- Math Materials. Also use Grid Games/10 Frames in Teacher Resources for extra 10 frames
- Counters
- Creature stories/questions
- Paper
- Pencils or markers

Math Vocabulary:

- Creature: Creature: an animal or human
- All together: the total number of a set or group.
- Sets: things groups together with a purpose or meaning

Preparation:

This activity follows the Large Group *Five Creatures*

This activity assumes that a child's creatures (humans and animals) won't exceed 10 (the number of slots in the ten frames). If some children's creature families are larger than 10, provide them with an extra 10 frame, or make other accommodations for larger numbers.

Make extra 10 frames if needed-

Place paper and drawing materials on table. Reserve 10 frames and counters for later.

Write down some creature questions to get children started creating their groups.

Procedure:

Show book.

*We had fun making Creature groups with people math. Today we are using our ten-frames and making some **creature** groups about our families.*

First let's think about our families and how many creatures live with us. Let's draw a picture and write names, number words or numbers about our families.
By this time in the year, you know a lot about the children's families and can easily chat with them, point out differences and similarities and suggest things they might add:
I see you are drawing 2 babies. Are those your twin sisters?
I know your grandmother lives with you. How could you draw her?
I remember the story you told me about finding your lost hamster. Better put him in the picture!
Make observations and encourage children to write letters and numerals on their pictures.
Be sure to total the number of creatures, note this for children through words and writing numerals:
You have 7 creatures in your family **all together**. [Children may be able to do this independently]
*Now let's make some Creature **sets**- Remember that **sets** are special groups that are put together with a purpose. How could we use these 10 frames and counters to show our different creature sets? Here are some ideas—Let's try one together.*
How many grown-ups are in your creature family?
How many children?
Children use 10 frames and make one group of adults on one row and one group of children on bottom row.
*Do you have more adults or more children in your creature **sets**? Let's count.*
10 frames are excellent tools for comparing sets and describing relationships. As children work, point out the relationships between the two (or more) groups they are forming.
I think you have fewer people than animals in your home!
I see that you have the same or equal, numbers of children and grown-ups in your family.
1 creature (your cat) has brown hair in your family and 6 creatures (your 2 dogs and 3 people) do not.
Encourage children to think of ways to sort and group and compare. Provide materials for them to count and write numerals if they wish, or taking dictation on a separate piece of paper. Work individually with each child if possible.
Wrap up:
We are going to leave our book Five Creatures, our 10 frames and our counters in Small Group Area for you to play with this week. There are lots of ways you can sort and count the different creatures in your families. You can also make more pictures if you wish.

Strategies to Provoke Math Thinking:

- Building skills in intentional ways: Unit 1 started with an activity *Who Lives with Me?* Children described their families and placed manipulatives representing family members inside a simple house template. Many months later, we are re-visiting family groups, adding complexity by using the concept of creatures, and then sorting and comparing based on attributes and creating sets. Over the year children have gained knowledge and skills about counting, cardinality and sets. Next steps are adding and subtracting using 10 frames.
- Creative Categories: Often, we focus on obvious attributes- color, size, or shape. *Five Creatures* opens up our thinking about the many different ways we can sort and group. During Center Time, encourage children to make unique sorting groups by providing them with a wide

assortment of nature items and asking them to put them into groups and then describe their reasoning. Nature items have lots of unique characteristics, such as unusual textures or shapes, and children will more opportunities to develop their powers of observation and creativity along with their math skills.

Adaptations for Additional Challenge:

- Addition and Subtraction using Creature Sets: Children may be experimenting with operations. Addition is typically the first operation that children use, but some children may also be subtracting. Based on your observations, support children who are engaging in operations, and provide materials for activities for them.
- Part/Part Whole: Use the book *Each Orange has 8 Slices* by Paul Giganti Jr, from your Unit 5 Book List as a teaching tool for making connections between creating sets and understanding part/part whole relationships. This book has illustrations of the 3 types of part-part-whole relationships: A whole can be broken down into equal parts (Orange/segments); Whole things are made up of unique parts (Tricycles); A group of similar items can make a whole (nests of eggs). Use these examples to deepen study of part-part-whole relationships by providing toys and manipulatives that represent the different types.
- Funniest Group: Have fun with creative ways to group items in the classroom, including the 5 senses. Are there things that feel like cotton? Things that are pointy (leaves, pointing fingers, edges of the table? People who can raise their eyebrows? Use the entire environment to group and count. Create a Funniest Group Poster that children can add to over several weeks.

Documentation:

Take photos of the family pictures children create and make notes about how they formed groups, and their grasp of counting and comparisons. If you took pictures, as suggested, in Unit 1 of children's houses/families in Who Lives with Me? Compare and share the photos with children, and tool to document learning for planning and for families.

Provocation:

Science and Math both use classification, so skills in math sorting and grouping will also be useful to young scientists. During your next science lesson, note the embedded math skills. This entire Unit on Shadows and Reflections is a clear combination of science and math. An excellent source of simple and scientifically accurate explanations of concepts of shadows and reflections used in this Unit is *Light: Shadows, Mirrors and Rainbows* by Natalie Rosinsky. It is not listed in your math resources, but is inexpensive to order, or could be found in your school library.

* This activity is adapted from an activity in *The Young Child and Mathematics* (2nd Edition) by J. Copley.