STEMscopes NGSS 3D
K-12 SCIENCE

Social and Group Behavior

3rd Grade Sample Lesson

www.stemscopes.com/science

Scope (Unit) Social and Group Behavior

Explore (Lesson) Activity - Collect and Conquer!

The following pages introduce lesson resources that guide you through the STEMscopes NGSS 3rd grade lesson. This sample lesson does not include all the elements and features of our digital and print science curriculum.

Resource List:

The following resources, as well as additional Scope resources not listed, can be found in the digital curriculum *3rd Grade Scope, Social and Group Behavior.*

Home

- Standards Alignment
- Sample Lesson Plan
- Teacher Background
- CCC and SEP Scoring Rubric
- Answer Keys
- Materials List

Engage

- Investigative Phenomena – Introductory activity that facilitates a connection between the content and real-world phenomena and encourages students to ask why or how something happens.
- Graphic Organizer – Students fill this in as they work through the elements of this Scope.
- Accessing Prior Knowledge – A brief probing activity to gauge students' prior knowledge before engaging in the inquiry process.
- Hook – An engaging activity that includes instructor preparation, supplemental resources, and ready-made handouts for students.

Explore

- Explore 1: Activity – This sample lesson.
- Explore 2: Activity

Explain

- Picture Vocabulary – Key terms explained through pictures and by definition.
- Linking Literacy – Strategies to help students comprehend difficult informational text.
- STEMscopedia – Reference materials that include parent connections, career connections, technology, and science news.
- Communicate Science – A class activity in which students use different forms of communication to discuss scientific topics connected to the content of this Scope.
- Concept Review Game – An interactive game that helps students review important concepts.
- Content Connections Video – A short video that supports student understanding of the content.

Elaborate

- Math Connections
- Reading Science
- Career Connections
- Scientist Spotlight
- Simulation Practice

Evaluate

- Claim-Evidence-Reasoning
- Open-Ended Response Assessment
- Multiple Choice Assessment

Intervention

- Guided Practice
- Independent Practice
- Concept Attainment Quiz

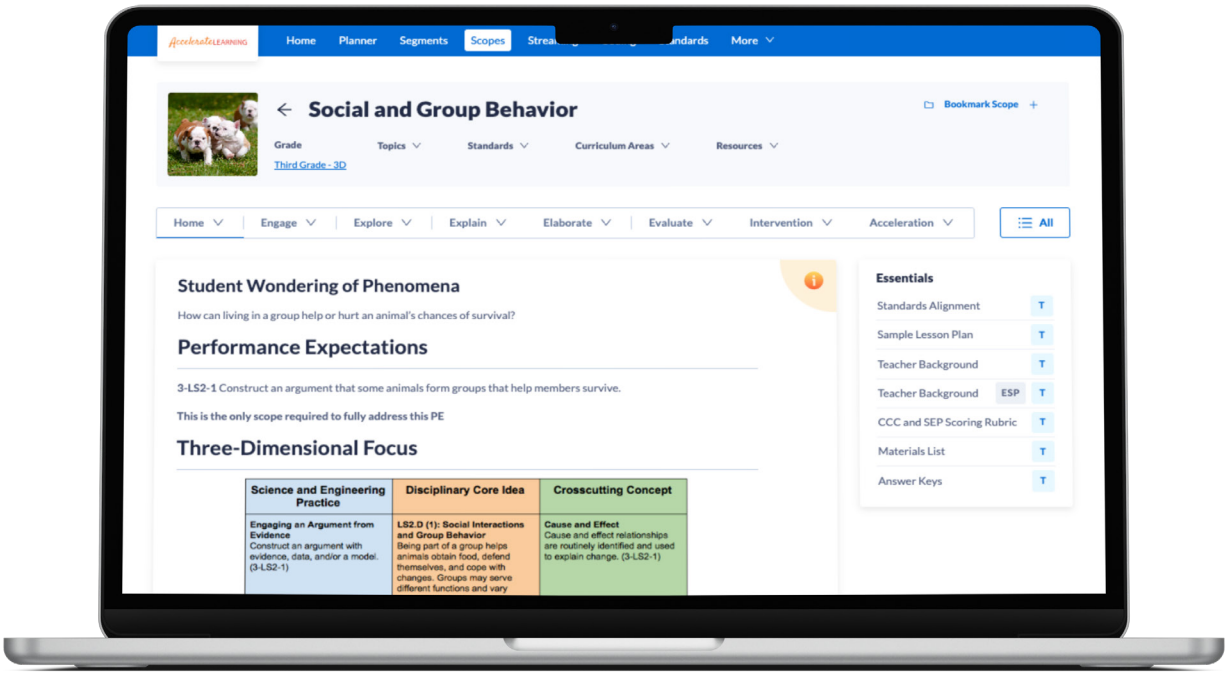
Acceleration

- Extensions
- Science Art
- Books on Topic

Table of Contents

Scope (Unit) Overview

Scope (Unit) Social and Group Behavior



Student Wondering of Phenomena

How can living in a group help or hurt an animal's chances of survival?

Performance Expectations

3-LS2-1 Construct an argument that some animals form groups that help members survive.

Three-Dimensional Focus

Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept
Engaging an Argument from Evidence Construct an argument with evidence, data, and/or a model. (3-LS2-1)	LSD.D (1): Social Interactions and Group Behavior Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramtically in size.	Cause and Effect Cause and effect relationships are routinely identified and used to explain changes. (3-LS2-1)

Social and Group Behavior

Explore 1: Activity - Collect and Conquer!

Everyday Phenomena

How does hunting in a group help the group?

Description

Students explore the differences between hunting in groups and hunting alone.

Materials

Printed Material

1 Collect and Conquer! (per student)

1 Student CER (per student)

Reusable

5 Bowls (per class)

1 Pencil (per student)

Consumable

4 Bags of pasta shells (per class)

Preparation

- Divide pasta between the bowls and place them across the room from where students will begin.
- This activity may require varying levels of participation. You may want to begin with five students gathering food individually or allow all students to go at one time.

STEMcoach in Action

Project-based learning (PBL) not only more accurately reflects the nature of how skills are applied in the real world, but also creates a learning environment more likely to engage students. When we say "implementing project-based learning," we are describing the practices that are related to the successful implementation of PBLs. For further information regarding implementing project-based learning, please click the provided link.

Site

Procedure and Facilitation Points

As students work through the activity, look for teachable moments to introduce students to the following vocabulary terms. Try to point out examples of the terms as students are working so that they can connect the meaning of the word with their experiences. Encourage students to use the following words as they record and discuss their findings.

- **Defense**: protection against harm
- **Survive**: the process of staying alive and in existence
- **Function**: what something does
- **Group**: a number of individuals assembled together or having some unifying relationship
- **Member**: a part of a group

1. Place students into groups of five.
2. Allow students to select (or you may identify, one student in each group to represent a less skilled gatherer of food.
3. The less skilled gatherer will only be allowed to pick up as much pasta as he or she can grasp with a thumb and forefinger.
4. The remaining students in the group represent highly skilled food gatherers. They will be allowed to pick up as much pasta as they can using their entire hand.
5. On your signal, allow the students to walk across the room and gather their pasta (food) in the appropriate manner (either with a whole hand or with a thumb and finger).
6. Have students complete the first part of their Student Journal, identifying the amount of food they were able to collect on their own.
7. Direct students to combine all the food gathered by the members their group into a single pile, then divide it equally back out among the members of the group.
8. Have students complete the second part of the Student Journal.
9. Discuss:
    a. Do you think skilled hunters are always successful in getting food? Yes or no; they may sometimes do not do as well.
    b. **(CCC)** What could be the reason they would not do as well? If they are sick or hurt, they may not hunt as well.
    c. **(CCC)** Did you get more food when you hunted alone or when your group shared all portions evenly? I got more food when my group shared food.
    d. **(SEP)** How does belonging to a group benefit you? I get more food. I don't have to worry if I am not successful at hunting every time.
    e. **(SEP)** How else does living in a group benefit animals? They have protection from predators.
10. Have students complete the Student CER based on their experience.
11. Now that we have completed this activity, what can we add to our Graphic Organizer? Answers will vary based upon students' understanding, but can include the following: we can include fish, because living in a school offers them protection from predators, makes it easier to find a mate, allows them to go after large amounts of prey, and helps them camouflage.

Connection to the Investigative Phenomena

Once students have completed the activity, have them refer to the Investigative Phenomena question, anchor their learning, and revise their thinking.

Math Moment

You can extend this learning task by connecting it to math standard *3.NBT Number and Operations in Base Ten.*

In the number of piece collected sections of the Student Journal, have students practice **rounding** each number to the nearest 10.

Explore

Social and Gr

Explore Lesson

Name: _____ Date: _____

Collect and Conquer!

Procedure

1. Gather into groups as directed by your teacher.
2. Select a member of your group to be the member who isn't very good at gathering food. This person is only allowed to use his or her thumb and forefinger to pick up the pasta. The other members of the group may use their entire hand.
3. When your teacher tells you to go, walk to the tray of pasta and take as much as you can, using the right method.
4. Count how many pieces of pasta you were able to get on your own.

   How many pieces of pasta were you able to get on your own?

   _____

5. Combine your pieces of pasta with the pasta gathered by the other members of your group into one big pile.
6. Divide the big pile of pasta evenly among the members of your group.
7. Count how many pieces of pasta you have after combining and dividing.

   How many pieces of pasta do you have after combining with the group?

   _____

What do you notice is different between the time you gathered your pasta alone and the time you combined it with the group?

_____
_____
_____
_____

Explore

Reflection

Did you get more food when you hunted alone or when your group shared all portions evenly?

_____
_____
_____
_____

How does belonging to a group benefit you?

_____
_____
_____
_____

How else does living in a group benefit animals?

_____
_____
_____
_____

Explore

Name: _____ Date: _____

Collect and Conquer!

Procedure

1. Gather into groups as directed by your teacher.
2. Select a member of your group to be the member who isn't very good at gathering food. This person is only allowed to use his or her thumb and forefinger to pick up the pasta. The other members of the group may use their entire hand.
3. When your teacher tells you to go, walk to the tray of pasta and take as much as you can, using the right method.
4. Count how many pieces of pasta you were able to get on your own.

How many pieces of pasta were you able to get on your own?

10

5. Combine your pieces of pasta with the pasta gathered by the other members of your group into one big pile.
6. Divide the big pile of pasta evenly among the members of your group.
7. Count how many pieces of pasta you have after combining and dividing.

How many pieces of pasta do you have after combining with the group?

15

What do you notice is different between the time you gathered your pasta alone and the time you combined it with the group?

When I gathered food by myself, I did not get as much as when we combined our food and divided it out.

Explore

Reflection

Did you get more food when you hunted alone or when your group shared all portions evenly?

I was able to get more food when hunting in a group. I was able to "eat" five more pieces than I would have been able to had I hunted on my own.

How does belonging to a group benefit you?

Belonging to a group allows me to eat more than if I were on my own.

How else does living in a group benefit animals?

Living in a group offers protection from predators due to numbers of individuals together. It is easier to find a mate with more of the same species around. Depending on the animals, living in a group can offer camouflage of individuals.

Explore

Name: _____ Date: _____

Collect and Conquer!
Claim-Evidence-Reasoning

Prompt

Use the information you gathered during the activity to complete the following task.

Write a scientific explanation for or against hunting or gathering food in groups. Make a claim and state your evidence.

Claim:

_____

_____

Evidence:

_____

_____

_____

Reasoning:

_____

_____

_____

Explore

Points Awarded	2	1	0
Claim	Claim is complete and accurate.	Claim is incomplete or inaccurate.	Student does not make a claim or does not answer the question.
Evidence	Evidence cites data and patterns within the data and uses labels accurately.	Evidence cites data from the data source, but not within the context of the prompt.	There is no evidence, or changes are cited but do not use data from the data source.
The Reasoning portion of a CER is introduced to you in third grade as you are building your scientific knowledge. This CER contains an area for you to try out the Reasoning portion.			
Reasoning	Student cites the scientifically accurate reason, using correct vocabulary; connects the reason to the claim; and shows accurate understanding of the concept.	Student cites a reason, but it is inaccurate or does not support the claim. Student's reasoning does not use scientific terminology or uses it inaccurately.	There is no reasoning, or student relies on a restatement of the claim.

Explore

Name: _____ Date: _____

Collect and Conquer!
Claim-Evidence-Reasoning

Prompt

Use the information you gathered during the activity to complete the following task.

Write a scientific explanation for or against hunting or gathering food in groups. Make a claim and state your evidence.

Claim:

Hunting or gathering food in a group helps the group members survive.

Evidence:

Everyone had an equal share in the group. Some members had less food to eat when they gathered on their own. The groups with more members collected more food.

Reasoning:

Hunting or gathering food in groups ensures that each member has food, because all members are working for the group rather than individually. The members of a group work together to make sure their species survive.

Explore

Points Awarded	2	1	0
Claim	Claim is complete and accurate.	Claim is incomplete or inaccurate.	Student does not make a claim or does not answer the question.
Evidence	Evidence cites data and patterns within the data and uses labels accurately.	Evidence cites data from the data source, but not within the context of the prompt.	There is no evidence, or changes are cited but do not use data from the data source.
The Reasoning portion of a CER is introduced to you in third grade as you are building your scientific knowledge. This CER contains an area for you to try out the Reasoning portion.			
Reasoning	Student cites the scientifically accurate reason, using correct vocabulary; connects the reason to the claim; and shows accurate understanding of the concept.	Student cites a reason, but it is inaccurate or does not support the claim. Student's reasoning does not use scientific terminology or uses it inaccurately.	There is no reasoning, or student relies on a restatement of the claim.

Picture Vocabulary

Social and Group Behavior

Picture Vocabulary

Defense

Protection against harm

Function

What something does

Group

A number of individuals gathered together or having some common relationship

Member

A part of a group

Survival

The process of staying alive and in existence

Math Connections

Math Connections

Name: _____ Date: _____

In some animal groups, having a lot of group members is important to the group's survival. In large groups, there are plenty of group members to let the other group members know if a predator is near. Also, if there are many females in the group, the group can have a lot of babies. The large number of babies born to the group helps take the place of those group members that may die.

Meerkats are small animals that live in parts of Africa. They live in groups called *gangs* or *mobs*. A gang of meerkats can have about 20 members. The meerkat babies are called *pups*. Each mother meerkat can have from 1 to 5 pups in each litter.

1. A large gang of meerkats started the year with 30 adult members. By the end of the year, 7 adult meerkats had been killed by predators. How many adult meerkats survived?
   (Hint: subtract the number killed from the total members.)
   _____

2. In this gang of meerkats, 3 pups are born at the start of the year for every 10 adult meerkats. How many pups were born at the start of the year?
   (Hint: question 1 tells you the number of adult meerkats at the start of the year.)
   _____

3. All the pups born that year survived. How many total meerkats were in the meerkat gang at the end of the year?
   (Hint: use your answers from questions 1 and 2.)
   _____

4. Were there more or fewer members of the meerkat gang at the end of the year?
   _____

Math Connections

Animals often hunt in groups. This helps the group, because the more group members that hunt, the more food there is to eat. Animals that hunt are referred to as *hunters*. **Use the chart below to help you answer questions 5–8.**

Amount of Food Hunters Bring to the Group

Number of Hunters	Pounds of Food Brought to the Group
3	18
4	24
5	30
6	36

5. How many more pounds of food are brought to the group by 4 hunters than by 3 hunters?

   24 pounds – 18 pounds = _____ *pounds*

6. How many more pounds of food are brought to the group by 5 hunters than by 4 hunters?
   (Hint: solve this problem the same way you solved question 5.)

   _____

7. A group of 21 animals has 8 hunters. If 3 hunters bring 18 pounds of food and 5 hunters bring 30 pounds of food, how many total pounds of food will the 8 hunters bring?

   _____

8. A large group of animals needs 60 pounds of food each day to feed the entire group. It takes 4 hunters to bring in 24 pounds. It takes 6 hunters to bring in 36 pounds. How many hunters does this group need?

   _____

Claim-Evidence-Reasoning

Social and

CER Assessment

Name: _____ Date: ____

Scenario

Some animals, such as bears, tigers, eagles, and spiders, live alone. Other animals, such as small fish, gazelles, penguins, and zebras, live in groups.

Prompt

Observe the pictures and decide how living in a group can help or hurt animals' survival. Write a scientific explanation for or against animals living in a group. Write a claim and state your evidence.

Claim:

_____

_____

_____

Evidence:

_____

_____

_____

Reasoning:

_____

_____

_____

_____

_____

_____

Claim-Evidence-Reasoning

Social and Group Behavior CER

Rubric for Writing a Scientific Explanation

Points Awarded	2	1	0
Claim	Claim is complete and accurate.	Claim is incomplete or inaccurate.	Student does not make a claim or does not answer the question.
Evidence	Evidence cites data and patterns within the data and uses labels accurately.	Evidence cites data from the data source but not within the context of the prompt.	There is no evidence, or changes are cited but do not use data from the data source.
The Reasoning section below is for teacher use only. At this level, reasoning should be attempted and modeled but not assessed.			
Reasoning	Student cites the scientifically accurate reason, using correct vocabulary; connects the reason to the claim; and shows accurate understanding of the concept.	Student cites a reason, but it is inaccurate or does not support the claim. Student's reasoning does not use scientific terminology or uses it inaccurately.	There is no reasoning, or student relies on a restatement of the claim.

The Reasoning portion of a CER is introduced to you in third grade as you are building your scientific knowledge. This CER contains an area for you to try out the Reasoning portion.

Social and Group Behavior

Claim-Evidence-Reasoning

Name: _____ Date: _____

Scenario

Some animals, such as bears, tigers, eagles, and spiders, live alone. Other animals, such as small fish, gazelles, penguins, and zebras, live in groups.

Prompt

Observe the pictures and decide how living in a group can help or hurt animals' survival. Write a scientific explanation for or against animals living in a group. Write a claim and state your evidence.

Claim:

Living in a group helps animals survive.

Evidence:

The pack of dogs in picture 2 was able to work together to catch its food.

The herd of wildebeests in picture 3 is traveling together.

The herd of elephants in picture 1 helps protect the baby elephant.

Reasoning:

Some animals form groups that help members survive. Being part of a group can have the effect of animals being more successful in getting food, like the dogs in picture 2; defending themselves, like the elephants in picture 1; and coping with change in the environment, like the wildebeests in picture 3. An animal losing its group status can have a negative effect on that particular animal, and it is less likely to survive.

Claim-Evidence-Reasoning

Social and Group Behavior CER

Rubric for Writing a Scientific Explanation

Points Awarded	2	1	0
Claim	Claim is complete and accurate.	Claim is incomplete or inaccurate.	Student does not make a claim or does not answer the question.
Evidence	Evidence cites data and patterns within the data and uses labels accurately.	Evidence cites data from the data source but not within the context of the prompt.	There is no evidence, or changes are cited but do not use data from the data source.
The Reasoning section below is for teacher use only. At this level, reasoning should be attempted and modeled but not assessed.			
Reasoning	Student cites the scientifically accurate reason, using correct vocabulary; connects the reason to the claim; and shows accurate understanding of the concept.	Student cites a reason, but it is inaccurate or does not support the claim. Student's reasoning does not use scientific terminology or uses it inaccurately.	There is no reasoning, or student relies on a restatement of the claim.

The Reasoning portion of a CER is introduced to you in third grade as you are building your scientific knowledge. This CER contains an area for you to try out the Reasoning portion.


NGSS 3D
STEMscopes™
K-12 SCIENCE
Learn more at
STEMscopes.com/science