Assembled Den Meeting Plan – BEAR (3rd Grade)

This ***Assembled* Den Meeting Plan** combines ideas from Bear Den Meeting Resources found at Scouting.Org or from the requirements themselves, into the parts of a quality Den Meeting, which are **Preparation** (plan + collect materials needed), **Gathering** (something for early arrivals to do), **Opening** (a ceremony to start), then **Activities** (an Activities Intro chat, followed by a series of activities, ideally alternating quiet and energetic fun), **Closing + Recognition** (ceremony), and **After the Meeting** (follow up) …



Bear – 3rd Grade

Balancing Bears

A "Math" Adventure

ELECTIVE (2 "electives" are needed to earn the Rank of Bear)



Snapshot of Adventure. You are probably familiar with a basic math problem like 3 + 2 = 5. The equal sign means that the expressions on the left side and right side of the equal sign are the same, or you could think of them as being balanced. Math doesn't always involve adding and subtracting numbers. Finding patterns in things is the first step in becoming a mathematician. After spotting a pattern, a mathematician uses math tools to find a way to recreate that pattern. In this Adventure, you'll have fun making "trail mix math." Then, you'll look to nature and discover a world of mathematics called symmetry in which things are balanced.

The QR Code above takes you to scouting.org/cub-scout-adventures/balancing-bears/ ↑

This Den Meeting Plan adapts Activity ideas from that Scouting link with other fun, simple, easy ideas. For more, see the Adventure Resources at the end of this Plan for a list of the suggested Activities at that link.

Requirements from the Bear Handbook

1. **Make trail mix using trail mix math.**
2. **Identify an animal that has a pattern to its physical appearance. Investigate how the animal uses its pattern.**
3. **Find examples of bilateral symmetry in nature.**
4. **Find examples of radial symmetry in nature.**

Meeting Plan

Does this take one Meeting to complete – or more? As written, you can do this in a single session.

PREPARATION (and materials needed): Read the Balancing Bears adventure in the Bear Handbook.

- As always, decide whether you like any of the "Activity Card" options for the Requirements or the suggested activities below or some other way to deliver this Adventure.
- Review food allergies for Scouts. Cut out any allergy items from the Activity/Requirement 1 trail mix.
- This Adventure should include a nature walk – determine where you'll do this, and let families know. A nature walk at a zoo or natural history museum would be excellent here as a field trip.

GATHERING: A "gathering" activity is to keep Scouts occupied as the rest of the den arrives. *What you do will depend on your location and leadership resources*.

- Use gathering time to connect with adults and "share the leader load": everyone can help with something! A good approach is for different parents (or teams) to share the "lead" of parts of the Adventure below.

OPENING: (Parent leader: _____) An Opening ceremony says, "we've begun" and helps set the tone.

- Maybe: a simple ceremony you like that includes the Pledge of Allegiance and the Scout Oath and/or Law.

ACTIVITIES (See also other Activities linked at Adventure Resources – use those if you like them):

◆Activity Intro: (Parent leader: _____) As you move into Activities, have some "talk time" where you (1) discuss today's Adventure activities (what you'll do, how you'll do it – share in a way to get the Scouts excited) and (2) let each of the Scouts share "what's new" with them and get to know each other better.

◆Activity 1: Trail Mix Math (Requirement 1: *"Make trail mix using trail mix math."*) (Parent leader: _____)

The plan below adapts the substance of Bear Trail Mix Math to be clearer and closer to the Handbook.

Supply List



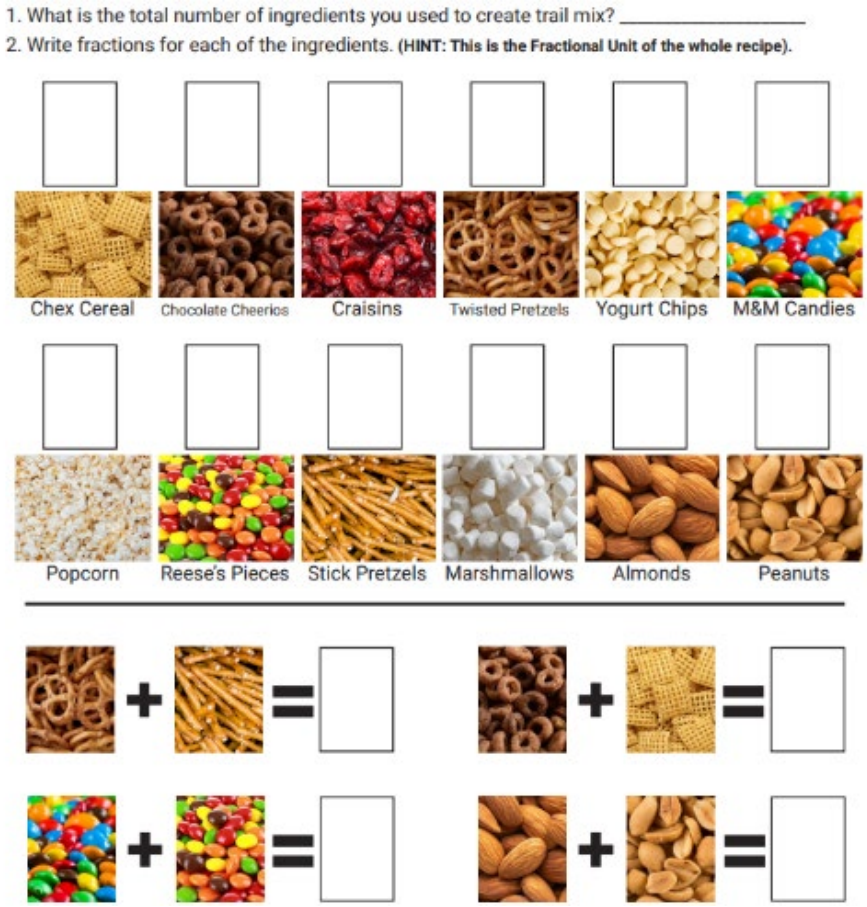
- Trail Mix Math Worksheet found in Bear Trail Mix Math
- Pencils, one for each Scout
- Trail mix ingredients – at least 8 different ones:
  - Like 1 box or bag each of Chex cereal, Chocolate Cheerios, Craisins, pretzels, yogurt chips, M&Ms, Reece's Pieces, peanuts, mini marshmallows
  - 1 bowl of popcorn
  - 1 small bowl of almonds
- 1/4 cup measuring scoop OR 1 tablespoon – one per Scout
- Large bowl OR 1 bowl for each Scout, and snack bags, enough for Scouts and adults.
- This activity may be done by the den making trail mix together or each individual making their own trail mix.

Hand out Trail Mix Math Ingredients worksheets and pencils.

- Explain they will be creating trail mix from the ingredients provided.
- As a den or as individuals they pick out what they want in their trail mix.
- (They don't need to use each of the ingredients.)

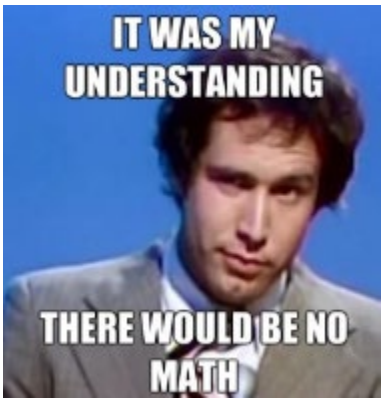
Explain that the total number of ingredients/scoops chosen is how many parts that will make up the whole trail mix.

- Once they have decided which items they want to use, they can complete task number 1 at the top of the Trail Mix Math Worksheet, or *"What is the total number of ingredients to choose from to create trail mix."*
- So, if they pick 6 different ingredients – or 6 different scoops – the answer is 6.



  - This is the total number of scoops of items on the table that were selected to make the trail mix.
  - ***This is the denominator in the fraction.*** (Also known as *the number on the bottom of a fraction.*)
  - They can enter a "0" in the Trail Mix Math Worksheet for the items that are not selected.

- Next, complete number 2, have them enter the number of scoops they will place of that item into their trail mix. This will indicate how many parts of the whole this item is of the trail mix.
  - For now, have them enter a 1 for 1 scoop.
  - ***This number is called the numerator.*** (Also known as *the number on the top of a fraction.*)
  - Ask a Scout to share what fraction they have. It will be the number of scoops of that item (1) over the number of ingredients they chose.
  - When they choose 1 scoop each of six items (say, pretzels, Chex, raisins, popcorn, M&Ms and peanuts), the fractions are 1/6 pretzels, 1/6 Chex, 1/6 raisins, 1/6 popcorn, 1/6 M&Ms and 1/6 peanuts. Easy, simple.



- Have them make their trail mix following their recipe.
  - Are you happy with the amount you have of each item?
  - If we add another scoop or two, we increase how much trail mix we will have. Ask: if we add another scoop or two, what number in our fraction will we need to change? (A: denominator / bottom number)
  - Ask: by how much will we need to increase the denominator by if we add one scoop? (One) What if we added two more scoops? (Two)
  - Give Scouts the choice of adding another scoop or two of a new ingredient OR adding a second scoop of one or more ingredients they already have in their mix.
  - Ask: let's say we're adding a scoop of cheerios to the six ingredients and scoops – how do our fractions change if we add a new ingredient and scoop?
    - Answer: 1 is added to the denominator or bottom number of each of the fractions because we decided to add another scoop – we've gone from 6 scoops to 7 scoops in the mix. And we add a new fraction for the new ingredient.
    - So, the new fractions when you add one more scoop of a new ingredient (cheerios) are 1/7 pretzels, 1/7 Chex, 1/7 raisins, 1/7 popcorn, 1/7 M&Ms, 1/7 peanuts, and 1/7 cheerios.
  - They can mix it up more … for example, if they want more raisins and M&Ms but not cheerios, they can choose two scoops of those, and one scoop each of the other four ingredients.
    - Or 8 scoops total. That changes the denominator in the fraction to 8.
    - The fractions become 1/8 pretzels, 1/8 Chex, 2/8 raisins, 1/8 popcorn, 2/8 M&Ms and 1/8 peanuts.
- Have them finish making their trail mix with the added ingredient. If making it as a den divide the trail mix into smaller bags for each Scout.

◆Activity 2: Animal Patterns (Requirement 2: "*Identify an animal that has a pattern to its physical appearance. Investigate how the animal uses its pattern.*") (Parent leader: _____)

This just cries out for a visit to a zoo or natural history museum, but it can also be done by reviewing pictures of animals in books or online.







- You might want to add focus on why animals develop patterns.
  - Is it to warn other animals (and people) away, like a rattlesnake rattle or a skunk raising a white tail?
  - Is it to be attractive to others of their species, like a peacock or the poison dart frog (the frog's colors serve two purposes – attracting a mate and warning off predators)

- Is it for safety, like deer who blend into their normal background, or chameleons changing their patterns to blend into many different backgrounds.

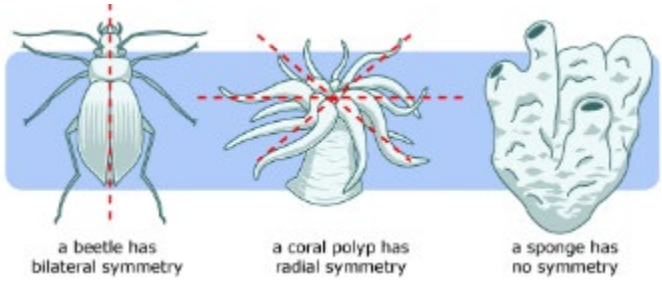




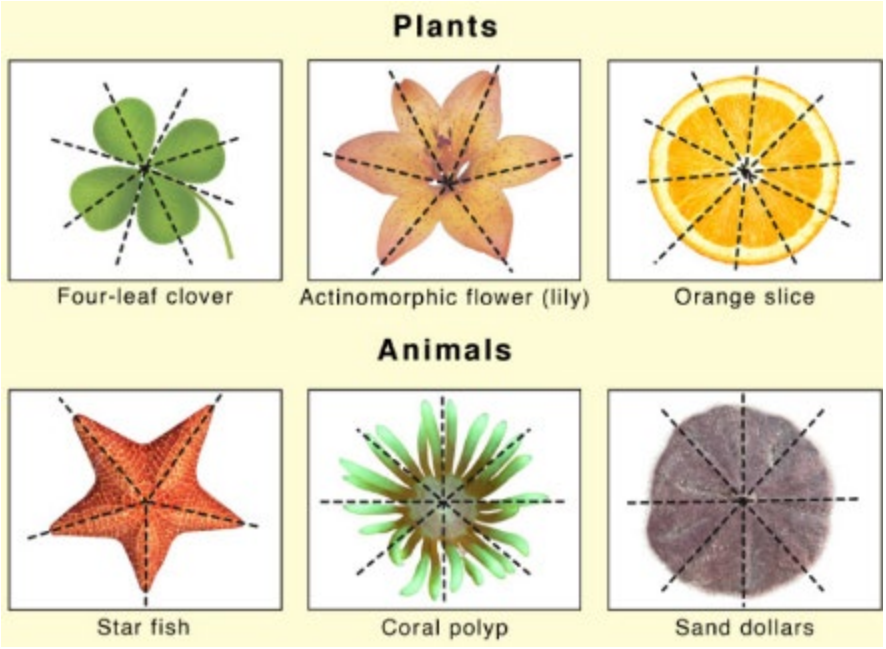
🔶Activity 3: Symmetry in Nature (Requirement 3: "*Find examples of bilateral symmetry in nature.*" and Requirement 4: "*Find examples of radial symmetry in nature.*") (Parent leader: _____)

This plan adapts the substance of the requirements – just allowing Scouts to find and share.

- **Introduce Bilateral Symmetry:**
  - "Bilateral symmetry means that the object or image can be divided by a line into right and left halves that are mirror images of each other.
  - If an image can be folded in half and sides match up, it is symmetrical.
  - It is also called mirror symmetry."
  - Do people have bilateral symmetry?



- **Introduce Radial Symmetry:**
  - "Radial symmetry is when there are many lines of symmetry around a fixed point, known as the center.
  - Examples of radial symmetry would be a starfish, spiderweb, and some flowers."
- **Finding Symmetry.**
  - Tell Scouts you will be taking a nature walk.
  - They are to have fun, but search for examples of bilateral and radial symmetry in nature.
  - Walk slowly. Remind Cub Scouts to look down, around, and up.



  - They may want to examine plants, flowers and spider webs.
  - They can take pictures or write down what they find.
  - Take breaks when you find examples of bilateral and radial symmetry in nature and let Scouts share.

◆Activity 4: [*OPTION*: Fun Game We Like (Parent leader: _____):



If this meeting is too dry or the games in the Activity Cards in Adventure Resources don't resonate with you as something your Scouts will like, you can turn up the "Fun Meter" and play a game or some other Fun Activity you like. Some ideas here. NOTE: the fun game doesn't' need to be connected to today's Adventure topic – it can just be FUN!

CLOSING: A Closing ceremony ends the meeting and highlights the achievements. A Den leader can reflect on the meeting + praise Scouts for specific good actions today. Thank every Parent who helped.

- If you have them, award Loops to all who completed the requirements. Maybe end with a "Living Circle".

AFTER THE MEETING: Clean up as needed. Share refreshments if that's what you like.

Upon completion of this Adventure, your Bears will have earned the Adventure Loop for it. Make sure they are recognized for their completion by presenting the Adventure Loops, to be worn on their belts, as soon as possible according to your pack's tradition. Text or email all Den parents to share these resources for future reference and so parents of Scouts who could not attend may complete this Adventure from home.

ADVENTURE RESOURCES: Den Meeting Resources and "Activity Card" options for this Adventure are found at https://www.scouting.org/cub-scout-adventures/balancing-bears/. Those resources include the Snapshot of Adventure (included above), a "Safety Moment" of tips and links about doing this safely, and, for each Requirement, one or more "Activity Cards" you can click on for an activity to complete the Requirement.

Those "Activity Card" pages are linked below – along with the "Key" scoring of (a) whether the Activity must be done Outdoors, may be done Indoors, or involves Travel; (b) how much Energy Scouts will generate; (c) How "Supply Intensive"; and (d) Prep Time – those last 3 categories are scored on a 1 to 5 scale, with 5 being "most". Note that while that website page says "Choose one of the following" before the "Activity Cards", what that means is "Choose one of the following – *or do some other activity that will meet the Requirement*", because the Requirements are required, not the Activity Cards. In the Assembled Den Meeting Plan above we have adapted some of what's below or other ways to complete the requirement in easier ways.

1. **Make trail mix using trail mix math.**
   - Bear Trail Mix Math (Indoor; **2** of 5 Energy; **3** of 5 Supplies; **2** of 5 Prep Time)
2. **Identify an animal that has a pattern to its physical appearance. Investigate how the animal uses its pattern.**
   - Patterns in the Animal World (Indoor; **1** of 5 Energy; **1** of 5 Supplies; **2** of 5 Prep Time)
3. **Find examples of bilateral symmetry in nature.**
   - Bilateral Symmetry Hunt (Travel; **4** of 5 Energy; **2** of 5 Supplies; **5** of 5 Prep Time)
   - Bilateral Symmetry Snapshot (Outdoor; **4** of 5 Energy; **2** of 5 Supplies; **5** of 5 Prep Time)
4. **Find examples of radial symmetry in nature.**
   - Radial Symmetry Hunt (Travel; **4** of 5 Energy; **2** of 5 Supplies; **5** of 5 Prep Time)
   - Radial Symmetry Snapshot (Outdoor; **4** of 5 Energy; **2** of 5 Supplies; **5** of 5 Prep Time)