Assembled Den Meeting Plan – WEBELOS (4th Grade)

This ***Assembled* Den Meeting Plan** combines ideas from Webelos Adventures Den Meeting Resources found at Scouting.Org (or from the requirements), 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) …

Webelos – 4th Grade

Modular Design

An "Engineering" Adventure

ELECTIVE (2 "electives" are needed to earn Webelos Rank)

Snapshot of Adventure. Some of your favorite building toys are probably modular. Learning to build using modular design is a good way to conserve resources. In this Adventure, you will gain an understanding of modular design, build using modular-based materials, and practice making directions for others to follow.

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

This Den Meeting Plan adapts Activity content 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 Webelos Handbook

1. **Learn what modular design is and identify three things that use modular design in their construction.**
2. **Using modular-based building pieces, build a model without a set of instructions.**
3. **Using the model made in requirement 2, create a set of step-by-step instructions on how to make your model.**
4. **Have someone make your model using your instructions.**
5. **Using the same modular pieces used in requirement 2, build another model of something different.**
6. **With your parent or legal guardian's permission, watch a video demonstrating how something was built using modular design.**

Meeting Plan

Does this take one Meeting to complete – or more? It's up to the Parents / Leaders! It might be possible to do this in a single session if you're really organized, but that will probably rush too much and/or drain the fun out of the Scouts as they plan and work together. Better to split up the building into more than one session, especially if your Scouts do large models – don't forget to add games for fun!

PREPARATION (and materials needed): Read the Modular Design Adventure in the Webelos 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.
  - When you decide, check the materials and supplies you need.
  - You'll want a supply of modular building system pieces such as LEGOs, Lincoln Logs, or K'NEX.
  - You'll need a device to view videos for Activity/Requirements 3 and 6.

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: Modular Design? (Requirement 1:** *"Learn what modular design is and identify three things that use modular design in their construction."*) (Parent leader: _____)

The plan below adapts the substance of Modular from the Adventure Resources (and the Requirement).

- Explain that modular design or construction means using pieces that interlock and are interchangeable with each other.
- Or, taking a bunch of smaller, standard, interchangeable parts (modules) and combining them together to make a larger product.
- Lego blocks are "modules"!
  - Combined together, Legos become a bigger product.
- The small parts can be arranged in many different ways …
- …. creating a different end product each time.

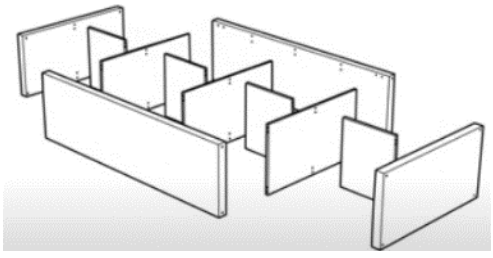


- Have the Scouts identify three benefits of using modular design. These may include:

  Efficiency in Production Process // Cost-Effective // Flexibility and Customizability // Enhanced Product Quality // Scalability // Encouraging Innovation

- Have the Scouts identify three things that use modular design in their construction. Examples include:
  - Cars // Computers // Solar panels // Wind turbines // Elevators // Furniture // Modular buildings





◆**Activity 2: Free Range (Look Ma! No Plans!) Building from Modular (Requirement 2:** *"Using modular-based building pieces, build a model without a set of instructions."*) (Parent leader: _____)

The Adventure Resources offer an Activity Card of Let's Build It. The plan below adapts the substance of that Activity Card.

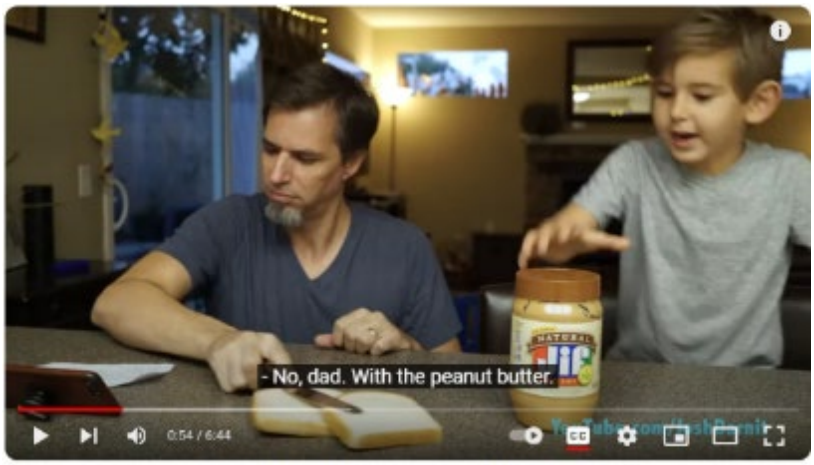
- Gather enough modular building pieces (such as LEGOs, Lincoln Logs, or K'NEX) for each Scout to be able to build a model.
  - Maybe a house, spaceship, or castle. Or pyramid, bridge, airplane or rocket. Boat or Train?
  - Robot? Transformer? Or whatever the Scout wants to build.
- Tell Scouts that they will be building their model using the modular building pieces and without any plans or instructions.
- Allow time for Scouts to build their model.



◆Activity 3: Make a Plan (Requirement 3: *"Using the model made in requirement 2, create a set of step-by-step instructions on how to make your model."*) (Parent leader: _____)

The Adventure Resources offer Activity Cards of Draw It Out (Describe Plans in Drawings), Live Action (Describe Plans in Video), and Write It Down (Describe Plans in Written Words). The plan below adapts the substance of each – one is drawing pictures, one is or recording video, one is write words).

- Tell Scouts that they are to draw picture plans (or video plans or written word plans) for step-by-step instructions for the structure they built in requirement 2.
- Watch a video on how to write instructions, like This dad follows his kid's PB&J sandwich instructions very literally.
- Explain that they need to keep in mind the video they just watched and be very specific in their directions.
- They may want to take apart and rebuild their structure.



Exact Instructions Challenge PB&J Classroom Friendly | Josh Darnit

◆Activity 4: Supervise the Building! (Requirement 4: *"Have someone make your model using your instructions."*) (Parent leader: _____) The Adventure Resources offer an Activity Card of Following Instructions. The plan below adapts the substance of that Activity and the Requirements.

- Using the materials from Activity/Requirement 2 and the plans from Activity/Requirement 3, it's time to build some more! But this time, everyone supervises someone else!
- Ask Scouts to trade the instructions they have put together with another Scout. (They could also do this with a family member at home.)
  - Have the Scouts build the model from the instructions.
  - This may take twice as long as from Activity/Requirement 2, because each Scout will want to watch the other building their plan.



- After the building of the model, ask a few questions:
  - Discuss with Scouts whether the build instructions were easy or difficult to follow.
  - Was there enough information contained in the written instructions to complete the build?

◆Activity 5: Build Something Else! (Requirement 5: *"Using the same modular pieces used in requirement 2, build another model of something different."*) (Parent leader: _____) The Adventure Resources offer an Activity Card of My Build. This is a repeat of Activity/Requirement 2, just building something different.

- Gather enough modular building pieces used for Activity/Requirement 2 for each Scout to be able to build a new model different from Activity/Requirement 2.
  - Maybe a house, spaceship, or castle.
  - Or pyramid, bridge, airplane or rocket.
  - Boat or Train?
  - Robot? Transformer?
  - Real or imaginary.
  - Or whatever the Scout wants to build.
- Tell Scouts that they will be building their model using the modular building pieces and without any plans or instructions.



- Allow time for Scouts to build their model.
- When complete, have Scouts describe their model. Ask what challenges they had in building their model.
  - Look for answers about connecting different types of pieces to each other.
  - If you had to take a piece of someone else's model and put it on their model, how would you take it off without damaging it?
  - How would you attach it to their model?
  - Could they take any piece of anyone's model and easily attach it to theirs?

◆Activity 6: Watch A Building Video (Requirement 6: *"With your parent or legal guardian's permission, watch a video demonstrating how something was built using modular design."*) (Parent leader: _____)

The Adventure Resources offer an Activity Card of It's Real – with several videos you might watch.

- Gather Scouts and watch a video on concepts of modular design and construction – either one or more of the suggested videos below or choose your own:
  - What is Modular Construction by National Fire Protection Agency (3 minutes)
  - Modular Construction at University of Michigan (3 minutes 23 seconds)
  - How To Build A Cruise Ship | How To Build Everything by The Discovery Channel (6 minutes)
  - Toulouse – Modular furniture design by BoConcept (47 seconds)
- Ask Scouts to share what the video presented about modular design and identify three things that use modular design.
- Have the Scouts identify three benefits of using modular design based on the video selected.





◆Activity 7: [*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 Pins 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 Webelos will have earned the Adventure Pin for it. Make sure they are recognized for their completion by presenting the Adventure Pins 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/modular-design/. 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. **Learn what modular design is and identify three things that use modular design in their construction.**
   - Modular (Indoor; **1** of 5 Energy; **2** of 5 Supplies; **2** of 5 Prep Time)
2. **Using modular-based building pieces, build a model without a set of instructions.**
   - Let's Build It (Indoor; **3** of 5 Energy; **5** of 5 Supplies; **5** of 5 Prep Time)
3. **Using the model made in requirement 2, create a set of step-by-step instructions on how to make your model.**
   - Draw It Out (Indoor; **3** of 5 Energy; **2** of 5 Supplies; **2** of 5 Prep Time)
   - Live Action (Indoor; **3** of 5 Energy; **2** of 5 Supplies; **2** of 5 Prep Time)
   - Write It Down (Indoor; **3** of 5 Energy; **2** of 5 Supplies; **2** of 5 Prep Time)
4. **Have someone make your model using your instructions.**
   - Following Instructions (Indoor; **3** of 5 Energy; **3** of 5 Supplies; **3** of 5 Prep Time)
5. **Using the same modular pieces used in requirement 2, build another model of something different.**
   - My Build (Indoor; **3** of 5 Energy; **5** of 5 Supplies; **5** of 5 Prep Time)
6. **With your parent or legal guardian's permission, watch a video demonstrating how something was built using modular design.**
   - It's Real (Indoor; **1** of 5 Energy; **3** of 5 Supplies; **2** of 5 Prep Time)