

# Able Scouts

Articles on Scouting with special needs and disabilities

## BB-5: Handicrafts and STEM Hand Work

CAMP PROGRAM FOR SCOUTS WITH SPECIAL NEEDS AND DISABILITIES

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Module in PDF FOrmat

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## OVERVIEW

This module is for Handicrafts Directors at BSA Scout Camps and for instructors for STEM activities that have hand work requirements. This might seem to be an odd combination, but for example building a model rocket for Space Exploration merit badge requires the same set of skills and types of adaptations as traditional handicrafts. This module applies to all ages of Scouting and “Scout” as used here means any youth participant from Lion to Venturer.

This is a quick guide to the interaction between handicrafts/hand work and various types of disabilities. It supplements the handicrafts skills training you already have. It does not teach you how to do or teach handicrafts, but how to adapt materials, tools, and methods to better serve Scouts with special needs and disabilities. While we discuss some temporary improvements for accessibility, permanent improvements are beyond the scope of this module.

Handicrafts is about more than making a piece of art or a useful object. Like an African watering hole, the handicrafts area at a camp is a draw for Scouts that are different or have struggles with other kinds of activities. In some cases, their leaders or families steer them toward a handicrafts merit badge so that they can have a “win” at camp when other badges are hard for them to complete. For other Scouts, the handicrafts area is a substitute for “alone time”, a place to unwind from other activities that force them to interact with others. For some, handicraft activities are a chance to have control over a small part of their world and compensate for the chaos and frequent demands from leaders that they experience at camp. You may also attract some Scouts that are recovering from injuries and don’t have their usual options.

Every willing Scout should have opportunity to express his or her creative abilities, even if they have obstacles that make the process harder than for others. You will encounter some Scouts whose disabilities are obvious, like physical disabilities<sup>[1]</sup>, blind, deaf, or Down syndrome. For every obvious disability you encounter, there will be several Scouts with less obvious special needs like learning disabilities, ADHD, autism, history of seizures, or anxiety disorders. Camp is exciting and challenging and over the course of a multi-day camp session, Scouts with disabilities may tire out or act out more as time goes on. Some Scouts with milder special needs may start camp without needing accommodations but begin to need them later on.

A last thing to remember is that young Scouts may need extra support and consideration even though they are not disabled and do not have an identified special need.

## THE BIG PICTURE

There is a difference in how we use handicrafts in Scouts BSA and in the younger age programs. With younger age groups we aren’t really trying to build skills so much as provide something that is fun and different. We usually take a whole den at a time and guide them through the project in parallel. This means we have only a fixed amount of time to complete the work. The kids in a den are going to have a wide range of ability and interest levels, even without any special needs to account for.

STEM hand work projects at the Scouts BSA and older levels, have the same one-session/parallel work model. The Scouts choosing these badges may have a similar strong interest in the STEM subject matter but have a wide variety of dexterity and past experience handling the tools and materials. Like in Cubs, we aren’t trying

to build crafting skill but to give a relevant one-time experience.

The handicrafts experience is different with handicraft merit badges in Scouts BSA. The interest level of the learners is more uniform and we expect work to get completed over multiple sessions, which gives everyone some flexibility. While we don't expect Scouts to master an art form, we do expect them to demonstrate specific skills and express themselves through their work product.

## CAMP ORIENTATION STRATEGIES

While all Scouts arriving at camp get seen by the camp medical department and for swim check, traditionally the handicrafts staff doesn't get to know a Scout until the Scout turns up for a class or for a free crafts time. This is manageable if you have enough staff to run the activity while freeing up the handicraft director to work out the details with the Scout with special needs and his or her assistant.

A better solution is to build a time into the schedule, either on camp arrival day or the first morning of camp, to meet with any leaders, parents, guardians, or caregivers that brought a Scout with special needs to camp or that have an unusual concern. (This is actually a good idea for every camp program area.) This will allow you to focus attention on the actual accommodations you need to come up with, and give you and your staff time to think some things through. It also allows you to build a rapport with the assistants that will be coming with Scouts and help them understand what your operating concerns are, so they can accommodate you as well.

Another subject to discuss if time permits, is what the Scout's individual goals are. A Scout doesn't have to achieve a high level of artistry/craftsmanship to have a good time and learn about a craft. On the other hand, if the Scout wants to do high quality work, you can talk about ways to get in more practice time and instruction to meet that goal.

## GENERAL APPROACHES

**Accessibility** – In running a craft area you will always have limitations on how much space you have to work with. While you may not be able to build paved access or ramps, you will want to manage the layout of furniture to allow access for wheelchair and crutch users. A 32 inch aisle is enough to pass through, but more space is needed to turn around. It is a good idea to have a designated space for Scouts to set down daypacks rather than have them clutter the floors and aisles in your space.

**Work Areas** – If you had all the space in the world, you would probably have a separate space for each type of craft and leave the tools and materials for that craft out all the time. That is rarely realistic. However, if your space will allow it, it is a good idea to have at least two different work spaces, with one dedicated as an instructional space and the other as an independent craft (free play) area where Scouts and adults can come and go as they please. With some special needs, it is good for a caregiver to have an option for an outlet activity when the Scout is not faring well in a structured class or activity. There will also be some adults at camp that are at loose ends at times and would enjoy an independent craft activity. The independent area will still need to be supervised by one of your staff, if for no other reason than keeping it from turning into a lounge.

If your camp schedule requires two different classes to run at the same time, try to separate them into different

areas or locations. This will reduce the distractions for everyone and make it easier to stay on task. It also helps the hard of hearing because they are only hearing instructions from one voice.

**Pacing for One-Session Projects** – When a project needs to get done in one session, it puts time pressure on slower workers. The practical solution to help a Scout work faster is some one-on-one assistance. In your mind’s eye, imagine how a surgical nurse helps a surgeon by placing tools and supplies in the right easy-to-reach place, at the right time, in the right order; and holds objects still while the surgeon works on them. The helper could be a crafts staffer, an adult that is chaperoning the den, or a more experienced Scout. Make sure the helper understands that the role is to assist and not to do the work for the Scout.

An alternative approach to consider is to pair off the Scouts from the beginning and have each pair make two items. One is the “Doer” on the first pass while the other is the “Helper”, and then they swap roles on the second pass.

Part of the challenge of one-session projects is handling the kids that are quick studies or gifted in that craft and finish earlier than others. Your first instinct may be to repurpose them to help the slower Scouts. This strategy has more problems than you may realize, especially with young Scouts. When a skill comes to you naturally, it is hard for you to explain how to do it to anyone else, and you don’t empathize with why they are having a hard time with it. Just be aware of this social dynamic and understand that “the natural” has a special need in learning how to get along with others.

An alternative to handle fast workers is to have something for them to do with left-over time. That could mean having some drawing supplies handy or a simple clean-up task they can do.

**Multistep Models** – We have some Scouts that struggle to break down a broad general instruction into a series of steps[2] and others that struggle to visualize an object from a verbal description. Having physical examples to go by will help these and many other Scouts as well. As an advance activity, build models of what the project will look like at each step in the process and organize them in sequence. For smaller/flatter objects, the models can be mounted on a “step board” which will make them easier to handle and use over and over again.

The models would also be supplemented by verbal and written instructions, and with demonstrations of how to use the tools. The goal is to teach with as many approaches as possible so each Scout can latch on to an approach that works for him or her.

**Be Observant** – It is normal for some Scouts to struggle more than others, whether they have an identified special need or not. Scouts with special needs are unlikely to identify their disability to the handicrafts staff because they don’t want to draw attention to their limitations. To offset this, the staff will have to be proactive to engage with Scouts that are progressing slowly or look “stuck”. The important thing is to take time to talk to these Scouts and ask what kind of help they want or need to be successful. Asking in this way allows you to help a Scout without forcing him or her to disclose a disability. Remember that when you live with a disability you figure out your own tricks for getting things done and you want others to work with you instead of imposing their own solutions on you.

## UPPER BODY PHYSICAL CHALLENGES

We are focusing more attention on upper body physical disabilities than other disabilities in this module because they require more advance planning for your handicrafts staff and possibly additional tools or materials.

**Pinching** – Many crafts require an ability to pinch something between the thumb and one or two fingers. If you cannot pinch something for a long time, you can't write with a pen or pencil, use a paintbrush, or work with small tools. With clever adaptations, many pinching tasks can be converted from a pinching task to a gripping task. For example, pliers can be used to hold nails and tacks. The handles of tools can be lengthened and thickened so they can be gripped with the whole hand. Foam tape, rubber pipe insulation, and epoxy putty work well for enlarging a handle. A short handle can be extended by splinting a longer wood handle to it with duct tape or gaffer's tape.

A different type of accommodation is to provide something to push against to pinch a small object. Sorting trays can be used to organize small supplies but also provide a side wall to make pinching easier.

**Gripping** – Grip is more important than you might think because you cannot lift or pull anything if you cannot grip it. Anyone who has moved furniture understands that even if your arms are strong enough to lift a heavy object, you can't lift anything heavier than your grip can handle. There are devices to enhance grip strength for specific tasks. There are special gloves with a strap that wraps over the outside of the fingers and back to the glove to keep the hand in a curled position to hold a handle. Other modified gloves have a hook-shaped metal shank that can be used to catch a handle while leaving the fingers free. If you had to improvise something like this, consider having the person hold the tool loosely and then mummify the hand in stretch wrap. If the difficulty is mostly dropping tools, you can use duct tape to create a strap on the tool that goes over the back of the hand.

**Arm Strength** – No matter how strong we are, all of us have limits to how much force we can exert. Simply allowing the elbows or forearms to rest on the table helps with this. With crafts we have a couple of other options to consider. One is to use substitute materials, for example carving a bar of soap, chunk of florist's foam, blob of spray foam insulation, or block of clay instead of wood, or using softer balsa wood in place of a harder wood. The second approach is to use hand-over-hand assistance where a helper provides the force while the Scout steers and points the helper's hand.

**Shaking** – Some types of physical disabilities affect how nerve signals go to muscles, and result in shaking, tremors, or muscle spasms that make it hard to manipulate objects in a useful way. Sometimes a hand or wrist brace can resist the shaking physically and can allow a person to use a pen despite tremors. Strapping some weight (1 to 3 pounds) to the hand or wrist or adding weight to a tool can reduce the shaking at the end of the tool. Another option is to just work at a larger scale when doing the craft so that the smaller imperfections don't matter as much.

**Reaching** – Range of motion can be a factor for some Scouts. A simple aid is to bring the work closer. Another is a work surface that is tilted toward the Scout, which can be accomplished with a slant board. In a pinch, a 3-inch binder can be used as a slant board.

**One-Handed Work** – Even something as simple as having a broken arm may make it necessary to work one-handed. You need a way to hold the workpiece still while working on it with the other hand. For painting, drawing, and similar tasks, painter's tape can be used to hold the paper down to the table and it can be removed afterward. For larger objects, you can clamp the piece to the edge of the table. Home improvement stores carry a variety of inexpensive clamps for woodworking that you can choose from. A rubber friction mat can be laid on the work surface to reduce slipping and sliding. For carving, there is a tool called a bench hook that give resistance from sliding and protects the main work surface. If you are working on a wood work surface like a picnic table and don't have to keep the surface perfect, you can drive a few nails part-way into the wood to rest the workpiece against so it does not slide. If none of that will work, you can have a helper do the holding and turning of the workpiece for the Scout.

## SPECIFIC SITUATIONS

**Deaf/Hard of Hearing Scouts and Scouts that are Non-verbal** – The most important adaptation for these Scouts is to seat them close to and across from the instructor, so they can watch, and learn as much as possible without relying on verbal instructions. It is OK to use gestures to communicate even if you don't know sign language. Make sure to look at them when talking to them, so they can lip read to supplement their hearing. Take advantage of texting on a mobile phone to communicate with the Scout. If there is no cell coverage, a couple of small whiteboards can be used to communicate with each other.

**Blind and Low Vision Scouts** – These Scouts can do a wide variety of handicraft tasks. The most important adaptation is to let them have their own set of tools and supplies that they do not have to share with another Scout. People with low vision adapt by remembering exactly where they lay down a tool and they do not need anyone else moving objects around while they are working. This is another situation where sorting trays can be put to good use. Before you assume they need a sighted helper or guide, ask them if that is what they want and if so, what they want the helper to do.

Do not dismiss the idea of offering graphic arts to Scouts that are blind. They can use heavy stock paper and a metal embossing stylus to create drawings that can be traced out by feel. You will need a cushion layer under the paper, which could be something as simple as a flat piece of cardboard or foam core board. A rubber friction mat can be used for this as well. These Scouts might do better with finger paints than brush paints, but they can paint. They can create touchable art with gel paints or white glue and sand.

**Sound/Noise Sensitivity** – Some crafts, like leatherwork and wood carving can be inherently noisy because you have to pound or tap on tools, like chisels and leather embossers. The noise can be too much for Scouts with sensory sensitivity. There are two approaches to solve this. If you have the space and can keep watch, let the Scout to move to a table at a distance from others, or better yet, work outdoors to let the sound carry. The other approach is to give the Scout a pair of noise control earmuffs or earplugs to wear. He or she will be hard of hearing while wearing them, so adapt accordingly.

**Autism** – Some Scouts on the autism spectrum have a strong need to finish the task at hand before they will shift to another task without getting upset. This is especially true for younger Scouts. The best solution is called “foreshadowing”. You begin telling everyone from the beginning of the session which steps you want to complete in that session. If you plan to shift from one craft project to another during the same session, tell the Scouts that the transition time is approaching with a five minute warning and a one minute warning. If you know that the project can't be completed in one session, like when glue or paint needs to dry, tell them in advance and explain to them how they are going to get the opportunity to finish up or pick up their work later.

Sometimes Scouts on the autism spectrum will work slowly because they are trying to do a better quality job than is necessary. It is unlikely that you will persuade them to loosen up and lower their standards. If you see this happening, take a moment to tell these Scouts that while there won't be enough time to finish during that same session, they can have more time to work on their project during free crafts time, in the evening at their campsite, or after they get home from camp.

## SUGGESTED EXTRA EQUIPMENT AND SUPPLIES LIST

- Painter's tape
- Slant Board
- Rubber friction mat
- Heavyweight paper
- Embossing stylus
- Small variety of woodworking clamps
- Pliers
- Clothespins for manipulating small objects
- Rubber pipe insulation for enlarging handles
- Gaffer's or duct tape
- Extra clay for adding heft or weight to tools
- Florist's foam
- Small whiteboards and markers
- Noise control earmuffs and/or earplugs

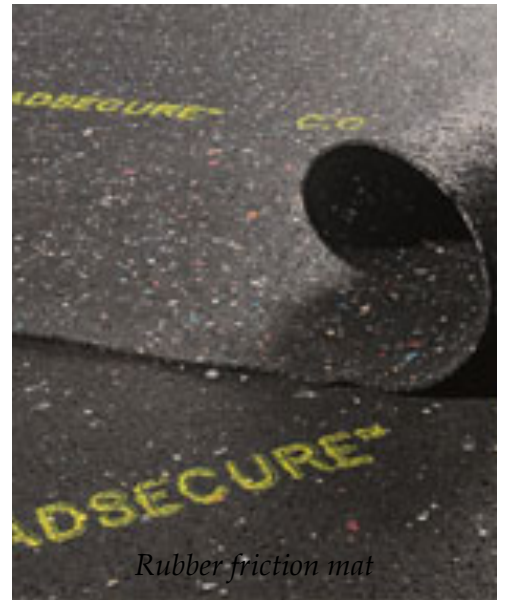
## Example Equipment



*Slant board*



*Rubber pipe insulation*



*Rubber friction mat*



*Sorting tray*



*Bench hook*

<https://ablescouts.files.wordpress.com/2022/09/sortingtray-7compartment.jpg>

<https://ablescouts.files.wordpress.com/2022/09/bench-hook.jpg>

[1] Physical disabilities include people who need mobility equipment like wheelchairs and crutches, but also include people that have limited strength, endurance, or coordination.

[2] This is one aspect of “executive functioning” and it occurs with several different invisible disabilities.

