

Using Backpacks in Learning Centers

Biologist's Backpack

What goes in the Backpack?

The Biologist Backpack might include:

- magnifying glass
- clipboard with “rite in the rain” paper
- science notebook
- pencil
- camera
- tide book
- field identification guide (laminated)
- field guide book(s) for marine or freshwater plants and animals
- measuring tape or ruler
- warm clothes
- thermometer
- maps
- aerial photo
- sampling jars
- first-aid kit
- flashlight
- water bottle
- snack
- cell-phone or VHF radio



Invite the children to unpack the backpack. It's important to create an engaging look at the first few items, so that there will be an invitation for students to think about what a scientist might need. Encourage children to predict the science tools and writing materials for documentation that might be included in the backpack.

The backpack will become a part of the “Marine Biology Lab” center set up in the classroom. Leave the backpack in the “lab” for children to use during dramatic play. Designate a place in the classroom for the center to remain set up during the Seas and Rivers Unit.

Additional items to include in the center might be:

- lab coats
- magnifiers
- scales
- rulers
- plastic test tubes
- eye droppers
- small vials or containers
- beakers
- reference books
- paper
- notepads

- pencils
- posters of sea or river creatures
- signs that children create about the lab
- photos
- directions
- labels

Vote on a name for your research lab – for example, “Room 24’s Research Lab”.

Include a small table with books for research in the lab. This will encourage children to go gather data, and come back to do their research about what they have found. The main goal is for them to role play the actions of a scientist in the field. A water table or other area to explore plastic sea creatures enables them to “act out” the role and engage in more depth of dramatic play. The teacher can “play act” along with them to show the child the value of play, encourage questions, listen to ideas, and write down children’s thinking. This can extend the play and encourage children to think about books that are being read aloud to them, interactions with each other, and other things they are discovering.

Include one or more biographies of a marine biologist, preferably a local person. The site <http://www.womenoceanographers.org/> has some examples. Reading small excerpts appropriate for young children and/or showing the work of a scientist will give children ideas and real stories to act out. If the scientist is local – an invitation to come talk to the class and bring their tools, writing materials and examples of documentation provides a powerful demonstration!

Subsistence Backpack

The Subsistence Backpack is similar to the Biologist’s Backpack but encourages children to consider the relationship of food gathering to science knowledge. It relates to one of the Enduring Understandings for the unit - “People use the plants and animals of the seas and rivers in different ways. “

The subsistence backpack might include:

- tide book
- flashlight
- pail
- gloves
- hat
- raincoat
- piece of net
- net repair tools
- line
- knife (pretend)
- fishing pole
- map
- identification chart
- water bottle



- snack
- cell-phone or VHF radio

To provide a powerful example for young children, have a Native elder or culture bearer tell a story and/or use the subsistence backpack as they describe their ways of gathering food. Otherwise, photos, pictures and perhaps a book of local plants and animals for eating could support the use of the backpack.

Again, invite the children to unpack the backpack. Have them predict the tools and supplies that might be included in the backpack. Include a discussion of ways that information may be transferred from one person to the next. For example, in families, a grandma might teach her grandson.

The environment of the subsistence play area won't be the same as the research lab, although it could be an extension of the same area. Children can act out the stories of gathering, cooking, and possibly preserving food. Creating an area with a pretend beach and/or river area with play plants and/or sea creatures will help children understand the use of the subsistence tools; nets, baskets, line, bags, etc. You might cover the area with butcher paper and paint a simple backdrop of your local outdoor area.

Include rocks with tissue paper "seaweed" attached, baskets, crab pots, buoys, or other tools in the center. Clams, seaweed, and other plants and animals can be created out of paper and/or cloth for children to use in dramatic play. Use lightweight crinkly fabric strips for seaweed and make soft sculptures of sea stars and shells. Additional props might include stuffed river/marine animals, paper stuffed fish, or plants (dried grass or beach grass, etc). Include books, posters, charts and other resources, and a "kitchen" where students can pretend to cook and preserve food.

Depending on your locale, you might want to set up your center as a fish camp, instead of a beach.

For classrooms in Southeast Alaska, the Sealaska Heritage Institute has a K-1 **Beach** curriculum unit available at http://www.sealaskaheritage.org/programs/language_and_culture_curriculum.htm with stories and ideas for activities that will help children learn about traditional subsistence use of beach creatures.

If possible, include a biography of a subsistence user. You may also include photos of families involved in subsistence activities: summer fish camp, fall hunting camp, seasonal gathering of seaweed, herring roe, or hooligan.