



10 Little Backpacks

Science: The Study of Nature

Naturalist

By Rhonda Richardson



1 Animals We Know



1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. Other ideas: worms, snails, guinea pigs...

3. Here are some pictures of the chickens we have in our backyard. Look carefully at the picture:

- What came first the chicken or the egg?

4. Other ideas: worms, snails, guinea pigs, butterflies, ant farm...

5. Feathers- All of these feathers came from the chickens in the pictures.

- How are they different?
- How are they the same?
- Where do they come from?
- What might they be for?
- Let's generate some ideas:

6. Eggs – Our chickens lay brown eggs, many are used to white. Bring eggs real, wooden or ceramic – compare.

- How are they different?
- How are they the same?
- Describe what you see.
- Draw what you see.
- Think about which chicken laid each of the 3 different sized and colored eggs.

Note:

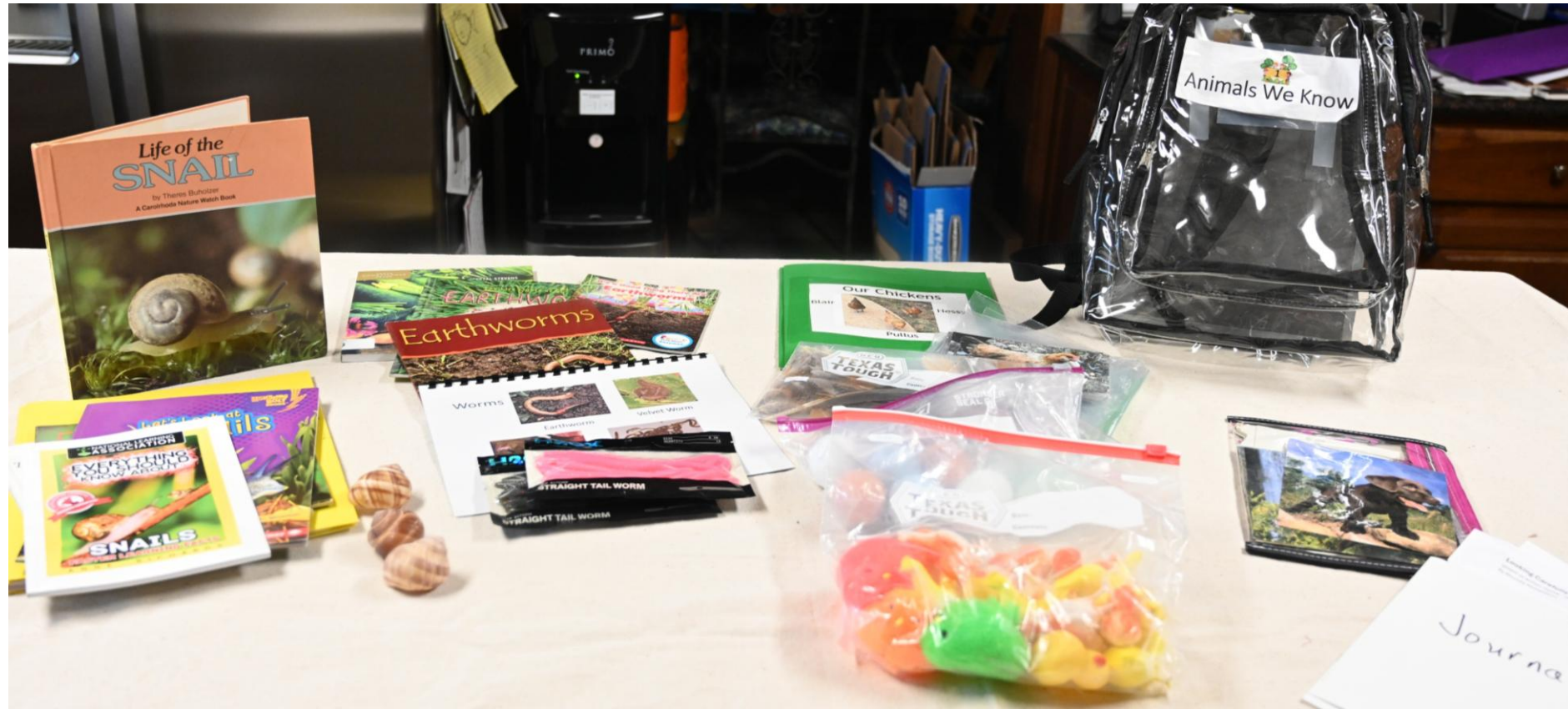
This backpack could be for any type of animal or pet you see on a regular basis. Maybe it is something in your classroom like worms, snails, guinea pigs – or just something that children show an interest in like dogs or cats.

Remember it is not about learning all the facts about these animals. It is the overall curiosity about nature and life of “other than human beings”

Learn as you go from the “I notice” and “I wonder” strategy.



Animals We Know



2 The Art of Nature



1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. Many people love to create artwork of nature or the outside environment.
3. Would you like to create art based on nature?
4. What would you create?
5. Look at the different types of pictures that are here
 - Which do you like?
 - Why?
6. Use some of the art material to draw a picture of the sunflower or any item in this backpack.
7. First look very closely at the item – use a magnifying glass.
 - Real sunflower
 - Plastic sunflower
 - Sunflower seeds
 - Sunflower kernels

Note:

This backpack can hold any art you like. You can add all kinds of art materials and supplies such as colored pencils, paint, markers, charcoal.
You can have items in the backpack OR you can take a walk and collect items.

TEACHERS – IMPORTANT do not worry or talk about your artwork or drawings being “bad” or that you “can’t draw” – this will make the children feel that they might not be good enough to draw! Embrace your doodles and your are expression. Remember to bring back the child in YOU – accept your art as YOURS. There is strength in all artwork.



The Art of Nature



3 Tools of the Scientist



1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. This backpack contains all kinds of items that can be used to explore and learn about nature try them out.
3. Some people buy fancy things tools to explore nature – but it isn't necessary. It is fun to explore with tools we create, find, or repurpose.

- Journal – one of the most important tools for a scientist or naturalist
- Tongs
- Book lights
- Paper towel tube binoculars or telescope
- Wildlife brochures, maps, and reference books
- Documentation to share learning with families and/or portfolios for each child
- Word walls

Note:

Children also need to be taught how to take care of their tools and the things you collect to use outside. So, take the time to do this and it will help children take responsibility. There will be times things get broken and of course, that is okay – but we should do our best to take of the things we use in exploring nature.

I added documentation in this backpack. It is important that we share with families the things the children are doing as the work and learn about nature. Include the vocabulary words that the children are learning – nature expands children learning.

- Binder with findings to share with others
- Child or teacher created books
- Mortar and pestle
- Gloves
- Goggles
- Wipes
- Test tubes
- Flashlights
- Collection boxes or containers



Tools of the Scientist



4 Color My World



Note:

Nature has the richest colors that can be found in our world – it is full of different shades and colors that take our breath away! In this backpack, color is the theme.



1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. This backpack holds colorful items.

3. What do you see?

4. Activities to try:

- Take some of the paint sample cards – 1, 2, or 3 – can you find that exact color in nature? If it won't hurt the environment, bring the item back, take a picture of it, or draw what you found in your journal.
- Colored sunglasses – what changes around you when you wear the colored sunglasses – how does it make you feel?
- Colored chalk: Take some colored chalk and break up. Grind it up. Add water. Can you paint with this? What happens when you mix other colored chalk? What does it look like? What does it feel like when it is dry?

A collection of colorful art supplies and materials laid out on a white table. In the background, a grey sign with a small house icon and the text "Color My World" is visible. The supplies include two tubes of rainbow-colored paint, a box of "KALEIDOSCOPE" markers, a box of Crayola Chalk, a box of watercolor paints, a small white mortar and pestle, a stack of papers with the word "Journal" written on them, a bag of water, a package of "FELT" markers, and several paintbrushes. There are also colorful paper flowers, a stack of colored paper, and a small box of "FELT" markers.

5 Nature Walks & Finds



1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. Children will collect many things on a nature walk.

3. For example, ROCKS: Many people love to collect rocks. There are so many types, shapes, and colors. Rocks are not for throwing – Why do we have this safety rule?

4. In this backpack there are different kinds of rocks.

- Artists: many love to paint rocks, would you? Look at the different artist words of rocks.
- Can you pile 3 rocks on top of each other without them falling. You must be calm and select rocks you think would be a good shape to stack.
- Would you like to sort the rocks? How would you sort them?
- How about sanding or grinding some rocks with sandpaper?

5. NOTE – *(If I was able to include a rock with a few holes in it – depends how I am traveling!)* It is called a honeycomb rock, and it is from my hometown of New Braunfels, TX. This is where I grew up and played outside as a little girl and I feel they are BEAUTIFUL. They are very common in New Braunfels and the surrounding areas – the area is called the Texas Hill Country.

Note:

This backpack uses “rocks” for an example of what children want to collect as they go on nature walks. Of course, there are many things they love to collect such as sticks, leaves, feathers, seeds and more.

Many children love to collect rocks and as adults it can become burdensome. Try hard not to get frustrated as the collection can get large. Set some boundaries including the fact that it is important not to take too many rocks from nature – discuss with the children WHY? How are rocks beneficial to our outside environments?

You can create an indoor rock garden that can change as you find different types of rocks. Or a Rock museum outside or inside where the best of the best rocks are kept for awhile and maybe returned or sent home after a certain amount of time.



Nature Walks & Finds



6 All Kinds of Dirt



1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. In this backpack there are many types of dirt.

3. It is fun to play in dirt but always get permission from you teacher or caregiver – it takes time to clean up.

4. Use a magnifying glass to observe closely-What is in the dirt?

5. Types of dirt in the backpack:

- Topsoil
- Mulch
- Potting soil
- Coconut dirt or potting soil
- Eco Earth Dirt brick

6. What type of dirt do you think is best to grow plants and vegetables?

7. Activities

- Painting with mud – add water, what happens?
- Use a small stick to draw in the dirt
- Add a pitcher of water to the Eco Earth dirt – what happens?
- Making a mud pie – what makes the best mud pie?
- Clean dirt recipe – why might some people like this type of dirt?

Note:

Research is showing that dirt plays an important role in our lives as young children. If you don't like dirt or getting dirty, try to partner with someone who does, and you take a different backpack activity for that person.

You do not have to do dirt at all. If you really are not happy with dirt – don't. It is important that you enjoy what you are doing in nature.

It is also important to talk with families and that they understand that dirt is good for children, but they will need extra clothes.

Never force a child to get dirty-allow each child (and of course yourself) to come into the natural world one step at a time when ready.



All Kinds of Dirt



7 Safety First

1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*
- In this backpack there are many safety ideas for exploring nature.
- General Rules
- Sticks: song and some people use the rule never pick up a stick that is longer than your arm.
- Setting boundaries
- Risk Management – a teacher tool**
- Reference books
- Whistle, goggles, and more.
- Bandana
- Outdoor Vision Planning Sheet and Outdoor Lesson Planning Form



Note:

Never participate in anything that you feel is not safe for your children. There are so many activities and fun things to explore in nature that you must pick those you feel good about.

You know your children best!

Risk analysis forms** are important for teachers to use as they plan learning goals and activities into the outdoors. Here is a sample one. You and possibly other teachers would meet as a team and discuss your outside learning environment using this rubric. Or the outside activity you are planning.

I have a copy to send you if you want one – rhonda@richardsonecs.com or text/call me at 979-777-1022



Safety First



8 It's a Small World



NOTE: It's a Small World is a fun backpack that you can put any items inside for children to create their own "small world" fantasy land.

Of course, you can buy many things, but I feel it is important to simply put in an assortment of items and change as the children tire or you think of new ideas. This allows for creativity with the children.

Also putting art materials such as fabric squares, leftover ribbon, glue, string, small wooden pieces, children can also create their own figures or structures for their Small World.

1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. In this backpack there are items to create A Small World scene.
3. What are the items in this backpack?
4. What scene could you make out of these items?
5. Can you create your own "small world" using some of the things?
6. What else could you put in this backpack?
7. Rule: Nobody knocks down or tears apart somebody else's small world scene – your teacher will create guidelines for you to follow. You might want to capture your Small World Scene with a drawing or picture.



It's a Small World



9 Growing



Note:

Gardening with young children is a wonderful activity. If you are a master gardener, great go for it. If not, do not despair as there are many easy activities you can do to increase your knowledge and expertise in this area.

One step at a time – no rush. Getting back to nature is a journey – one that you choose and follow because you are interested in the world around you.

Herb gardens, vegetable garden, container gardening, rock garden, fairy garden or desert gardens.

1. Naturalist Strategy:

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. In this backpack there are items and activities that grow such as flowers, plants and herbs.

3. People grow things inside and outside.

4. What do you think plants need in order to grow?

5. Activities:

- Types of seeds. How do you start growing something from a seed? Making starter pots out of newspaper.
- Herbs – what are they? What do they do? Smelling is good here.
- 7 foods found in your kitchen that are easy to grow.
- What are seedlings?
- Do some people eat flowers? Which flowers are safe to eat?



Growing



10 Grab Bag Backpack



Note:

Sometimes we need to generate some interest or excitement outside. This backpack is for that. Take it along and keep it for a time when you and kids feel like you just have nothing to do!

1. **Naturalist Strategy:**

- *I notice...*
- *I wonder...*
- *It reminds me of...*

2. White sheet – Lay this white sheet under a tree – stand back and shake the branches. What do you see?
3. Sit, spot – or for outside time just a quiet time – see what we can
4. Yoga, mindfulness, breathing
5. Books to read out loud or for children
6. Scavenger hunt
7. Singing Outside Bucket
8. ABC outside
9. Charades
10. Bingo
11. Hide and Seek
12. Find the egg? Put something inside the egg and have people guess what it is! Give clues.



Grab Bag Backpack



4 Color My World



4 Color My World

