# DIBELS® Next Student Materials

## Fourth Grade/Benchmark Assessment

Roland H. Good III

Ruth A. Kaminski

with:

Kelli Cummings, Chantal Dufour-Martel, Kathleen Petersen,
Kelly Powell-Smith, Stephanie Stollar, and Joshua Wallin

Dynamic Measurement Group, Inc.

DIBELS is a registered trademark of Dynamic Measurement Group, Inc. Visit our website at www.dibels.org.
Revised 12/30/10

Copyright 2011 Dynamic Measurement Group
All rights reserved

# How to Make Dill Pickles

▶ Would you like to make a tasty treat that's fun to eat anytime? Try making your own dill pickles!

Start by gathering the ingredients and kitchen equipment. For storing the pickles, you will need a quart jar with a tightly fitting lid. For making the pickle juice, you will need a deep saucepan and a measuring cup that shows cups and ounces.

The main ingredients for this recipe are cucumbers and dill weed. Both of these are easy to grow if you are lucky enough to have a vegetable garden. If you don't have a garden, you can find them in the produce department at the grocery store. Two other produce items you will need are fresh garlic and a small onion about the size of a golf ball. You will also need salt and sugar to add flavor to the pickles. The liquids you will use to fill the jar are water and white vinegar. The purpose of the vinegar is to keep the cucumbers from spoiling. It will also add that delicious sour taste that makes pickles fun to eat.

To make your pickles, slice five cucumbers lengthwise and stand the slices in the quart jar. Next, create the juice that will flavor the pickles. Pour nine ounces of water and five ounces of vinegar into the saucepan. Peel the onion and one clove of garlic, and add them to the liquid. Then put in two heads of dill weed. Add one fourth teaspoon of sugar and one tablespoon of salt.

For the next step, ask an adult to help you. Heat the pickle juice over medium high heat until it reaches a boil. Then pour it over the cucumbers and put the lid on the jar. Let the pickles cool overnight before storing them in the refrigerator. Your pickles will be ready to eat in about ten days. Use them on burgers or sandwiches, or enjoy a pickle all by itself for a cold, crunchy treat!

# Water Skiing

This morning I attended my first day of water skiing lessons. We began by putting on our skis on dry land. Kimberly, our instructor, demonstrated how to adjust the ski bindings, the attachments that hold the skis to your feet. She said that the bindings should be tight enough to hold the feet securely but loose enough to come off instantly in a fall. While still on dry land, I stood and gripped a rope while Kimberly gently tugged on it. This was to give me an idea of what it would feel like to be pulled by the boat. Kimberly also taught us to use hand signals. She explained that a thumbs up meant "faster" and thumbs down meant "slower." We also learned to shout "Hit it" when we were ready to ski.

After reviewing the basics, Kimberly thought that we were ready for our first attempt. We moved into the water and Kimberly instructed us to get into position by putting our knees to our chests. She described how the tips of the skis should be parallel to each other and should stick out of the water. When it was my turn, Kimberly reminded me to lean back and relax. I did my best, but I tumbled over and swallowed some water. I laughed as I got myself back into position. Kimberly said I had done fine for a first try. She suggested that I simply allow the boat to pull me out of the water. This advice helped a lot. On my next attempt I stood up on my skis. On my third attempt, I skied about twenty yards before I fell.

By the end of the afternoon, I could ski about a hundred yards without falling. Even though I stayed directly behind the boat where the water is the smoothest, I was thrilled by the excitement of learning to water ski. I'm eager for tomorrow's lesson, because I want to learn to jump over waves. With Kimberly's help, I'm sure I'll be able to do it.

# The Power of Magnets

Long ago, a shepherd stepped onto a large black rock and found he couldn't move his feet or his walking staff. An invisible power held the nails in his shoes and the metal tip of his staff to the rock! He pulled his feet free and stepped away. Then he dug up the strange rock and showed it to his neighbors. The rock he had found was lodestone, a natural magnet.

The Greeks started telling this story four thousand years ago. That was when people first learned that lodestone attracted anything that had iron in it. Soon stories about the power of the rock spread. Some said that a thin piece of the stone floating on water would always point north. That story was true, but others were not. Some people claimed that the rock could heal the sick. Many said that ships lost at sea were wrecked by islands made of lodestone. They said that by pulling on nails and other metal parts, the islands led ships off course and made them crash on the rocks.

Many years later, people began to learn the facts about magnets. They found they could use electricity to create a magnetic effect. One early scientist even figured out that a compass points north because the Earth itself is a giant magnet.

Today we know much more about magnets, and we use them in many ways. In medical machines, magnets let doctors look at bones and organs inside the human body. They help make doorbells ring, and they help computers store information. They even help us learn about space. The Rover, a small vehicle that rolled over the surface of Mars, used magnets to collect dust for scientists to study. Now some inventors are working on ways to use magnets to make robots move. Others think magnetic fields can protect a spacecraft from the sun's rays. Thousands of years after the first magnet was found, we are still learning about the power of magnets.

# Your Nervous System

Every day you use your brain to think and to solve problems, but did you know that your brain is constantly doing jobs you never even think about? Your brain makes sense of everything your body experiences. It also directs everything your body does. The brain is part of your nervous system, which also contains your spinal cord and your nerves. This system allows messages to be sent back and forth between the brain and other parts of your body.

Your brain is at the top of your nervous system. It is very soft, and is protected by the hard bones of your head. Connected to your brain is your spinal cord, a long bundle of nerve tissue. It threads through your spine and then branches out to connect to other nerves in your body.

The nerve cells are shaped like long, thin threads. They line up end to end and extend from the spinal cord in your back to every part of your body. The nerve endings in your skin and organs are activated by touch and other sensations. The nerve endings pass the message to the next nerve in line. In a flash, the message is relayed from nerve to nerve until it reaches your brain. The message gives your brain information about what you are touching or sensing. The brain sends back a command telling your body what action to take. If the feeling is harmful, the brain may direct your hand to pull back. If dust blows into your eye, your brain gets the message and instantly directs your eye to blink.

Different parts of the brain handle messages of different kinds. Some parts of your brain control automatic activities in your body, such as your heartbeat and breathing. Other parts direct movement and balance. The front part of your brain thinks and holds memories. It also receives information from your five senses.

Your brain and nerves make you aware and help you live and enjoy life. In short, your nervous system helps make you who you are.

# The Story Tree

When you have a lot of relatives you've never met, it's hard to keep them all straight. At least, that's how it seemed to Joseph as he listened to his grandfather's stories. The stories were about Joseph's ancestors from long ago. Many had come to America from Eastern Europe. Some had sailed on the Mayflower! Others faced dangers as they went west in covered wagons. Even though their names were unfamiliar, Joseph loved hearing about their adventures.

One day, Joseph decided to record the names of the people in the stories. Each time Grandpa mentioned a relative, he wrote the name on an index card. If Grandpa knew when the person was born or died, he recorded that, too. On the back, he added interesting details from the person's life.

"You know, we could lay out those cards so you could see how all these people are connected," suggested Grandpa. He helped Joseph match cards that named husbands and wives or brothers and sisters. Soon, there were clusters of cards scattered everywhere. It seemed very complicated, and it was clear that Joseph felt more confused than ever!

Grandpa laughed. "Maybe you should make a card for yourself and arrange the rest to show how everyone is related to you," he said.

"That's a great idea!" said Joseph. "I'll lay out the cards to show our family tree."

First Joseph made a card with his own personal information. Then he rolled out a long piece of brown wrapping paper and drew a tree trunk and branches. He placed his card on the trunk and tried to connect his card to the rest. Right away, he saw that he needed to make cards for his mom and dad to put on the lowest limbs of the tree. Each row of cards above those would represent an earlier generation. With Grandpa's help, Joseph soon found the right location for each of his cards.

"It's like looking at a giant story," said Joseph as he stood back admiring his tree.

"That's exactly what it is," said Grandpa. "This tree is the story of you!"

# A Grand Old Clock

One summer morning, a team of rope climbers put on their gear and tackled an unusual assignment. They weren't climbing a rocky cliff in the wilderness. They were in downtown London about to climb down the face of the giant clock known as Big Ben.

Big Ben is one of the most famous landmarks in England. It is a clock tower on the building where English lawmakers meet. The clock has four faces, so the time can be seen from any direction, and each glass face is more than twenty feet across. The numbers on the clock are two feet tall, and the minute hand is as long as a car. The clock's great bell is suspended high in the tower above the clock face. It weighs thirteen tons. The bell bongs every hour, and smaller bells chime every quarter hour.

So who were the climbers on Big Ben's face? They were members of a team that cleaned and repaired the clock inside and out. Engineers inspected all of the machinery that makes the hands of the clock move, as well as the parts that control the bell and chimes. Workers cleaned the works and replaced worn parts. They wanted the clock to be at its best for its birthday. Big Ben was about to turn one hundred and fifty years old.

During the seven weeks it took to complete the project, the famous clock was stopped and did not chime. This was a rare event. Big Ben has chimed almost every hour since it was first built. It has only been stopped a few times, and seldom for more than a few days.

When all the work was completed, engineers made sure the clock was keeping perfect time and that the bells were set to ring just when they should. At last, the clock was restarted. Local people and tourists alike were glad to hear the familiar chimes ringing through London once again. With the special care it receives, Big Ben is ready to chime the hours for another one hundred and fifty years.

# A Wild Ride for Bella

Bella fastened her life jacket and stepped into her aunt and uncle's big yellow raft. Her older brother, Martin, had claimed that river rafting would be the most exciting thing Bella would ever do, but she was skeptical.

"How could floating on the water be that exciting?" Bella thought to herself. She thought maybe her brother was just trying to show off because he'd been rafting so many times. This trip would be her first time down the river.

Bella's aunt and uncle sat in the back of the raft where they could steer the boat best. Bella and Martin sat in the front and used their paddles to help the raft move downstream. As they drifted down the calm river, Bella said, "This is fun, but it seems pretty simple to me. It doesn't seem like the most exciting thing I've ever done."

Just then, they heard a roaring sound up ahead and Bella felt her heart pounding loudly. As they came around the bend, Bella saw white water rushing and whirling between huge rocks.

"Draw left!" called her aunt. Bella and Martin immediately paddled to the left as hard as they could. They managed to avoid colliding with a big rock hidden under the churning water. They spun around in a whirlpool and then slipped into a fast current. They raced along, dipping and bouncing over the water. Sprays of water soaked their clothes. Suddenly they reached the end of the rapids and floated into calm water again.

Bella's eyes were bright and she was breathing heavily after the wild ride. "Martin, I think you were right. That was definitely the most exciting ride I have ever had." She grinned and said, "Now I want to go back and ride those rapids again!"

Everyone laughed. They had all been thinking the exact same thing.

# Rainbows

Since long ago, people around the world have been amazed by the rainbow. This natural light show has inspired everything from movies to songs. A close look at the science behind the rainbow shows that there is more to the rainbow than what meets the eye.

The first thing most people notice about a rainbow is the bright colors. These colors are created by the sun's light passing through raindrops. Different colors reflect back at slightly different angles, splitting the light into the rainbow. What may surprise you is that the colors you see are not the only colors in a rainbow. Rainbows are actually made up of every color in the light spectrum, from red to violet. However, the human eye can only see a small number of these colors.

Another interesting part of a rainbow is its arch. A rainbow is really a circle. Since the ground gets in the way, it looks like an arch. Actually, the arch that you see is formed by raindrops that are in just the right place to reflect the colors back to your eyes. A person standing next to you will see a rainbow formed by slightly different drops. We can only see a rainbow when the sun is low enough in the sky. This is why we do not see a rainbow every time it is sunny and raining.

Rainbows can also be seen in other combinations of light and water. This includes waterfalls, dew-covered spider webs, and even light from the moon. There are also double rainbows, when a second arch is formed by light that bounces twice inside the raindrops. Much more rare is the fire rainbow. A fire rainbow is caused by a rainbow's interaction with cirrus clouds that creates a rainbow in the shape of fire. As you now know, rainbows are much more complex than what we see!

# A New Kind of Family

Baby elephants need help to survive. Like all babies, they need protection. They also need a sense of love and belonging. A woman in Kenya is trying to provide that kind of love and care for baby elephants who have lost their families. She is giving orphaned elephants a new kind of family.

The woman, Daphne Sheldrick, has created an elephant nursery. It is a place to give a baby what it needs so it can return to the wild. The keepers who work there become the elephant's new family. They stay with the baby at all times just as its elephant family would have. The keepers make milk available to the orphan twenty-four hours a day. They show it love and affection and never let it feel alone. Baby elephants are so sensitive that missing someone can make them very ill. To prevent that, the keepers make sure the baby doesn't become attached to just one person. Each night, a different worker sleeps with it. That way, the baby feels secure no matter which workers are on duty.

Elephant orphans must learn to communicate by being with other elephants. When the babies are a year old, they move to a nearby park. It is a protected place where herds of older orphans live. They are slowly getting ready to live in the wild. There, the baby orphans learn elephant language and how to get along with a herd. It is easy for them to fit in because older elephants naturally love all baby elephants.

At the park, baby orphans are free to wander with the herd. But they still have plenty of contact with their human family. As the young elephants become more confident, they go into the wild more and more often. Most eventually find a place with a wild herd.

Orphans who live in the wild often come back to visit. Many years later, they still recognize and love the humans who raised them. The keepers know that the old saying is true—an elephant truly never forgets!