



Planetarium Magic

By John T. Meader ©1995

Teacher Introduction

"Planetarium Magic" is a short story designed for the teacher to read to his/her class before visiting any planetarium for the first time. It is designed to take away a bit of the mystery that often frightens youngsters when they first enter the star theater. After all, it's definitely a unique room with it's round ceiling and strange looking equipment that is often perceived as being either robotic or alive, and then it gets dark.

We hope that by sharing this story with your children it will enhance their planetarium visit by removing some common misunderstanding and fears.

Also please note that the story is not written about a visit to Northern Stars Planetarium specifically. It is actually simplified to represent any planetarium, such as one in a museum.



Student Artwork

Page 2.....Drawn by a Fairfield Home Schooler on a computer.

Page 4Drawn by a Benton Elementary School 4th grader.

Pages 3, 5-21.....Drawn by Bradford Elementary School 2nd graders.



"Today's the day," thought Ben, as he entered the classroom and took his seat. He could hardly wait for the day to begin.

"Good morning class," said Ms. Adams, "today we are going to visit the planetarium. The bus is outside waiting. Let's get your things together quickly and line up at the door. Ben, you may be line leader today."

"Thank you, Ms. Adams," replied Ben politely. He was on his best behaviour, he didn't want anything to go wrong. This was a special day for Ben because it was his mother's planetarium the class was visiting. Ben loved the planetarium because it seemed to be the most magical place in the world. The planetarium could make it nighttime in the daytime, that was magical. It could fly you to the planets to visit them up close, surely that was magical too. He could hardly wait to share his mother's magical world with his friends.

Today Ms. Adams's class was going to see the new planetarium show called "Let's Look Up!" This was their first visit to the planetarium. Ben was the only one who had been there before.



On the bus Ben's friends were very curious about the planetarium, but he refused to tell them anything.

"You'll just have to wait and see," was all that he would say. Magic is best when it comes as a surprise he had once read in a kid's book about magic tricks. He thought that was also true for planetariums.

"Come on Ben, tell us, what's it like?" nagged Maggie.

"Will we really see stars?" asked Daniel.

"How does it work?" inquired Brandy.

"Is it scary?" whispered Emily.

Ben just shrugged his shoulders as the bus bounced and rattled its way down the road. "I'm not going to say. I want it to be a surprise."

Emily peeked over the seat at Ben with big worried eyes. "Is it scary?" she whimpered. Emily was the smallest and youngest kid in Ben's class.

"I said . . ." Ben began, but then he lifted his eyes and saw Emily's worried face. "All I'll tell you is that it's not scary. It's really fun. Now stop bugging me."

"You promise?" Emily said meekly.

"Yes," Ben said. "I promise. Don't worry."

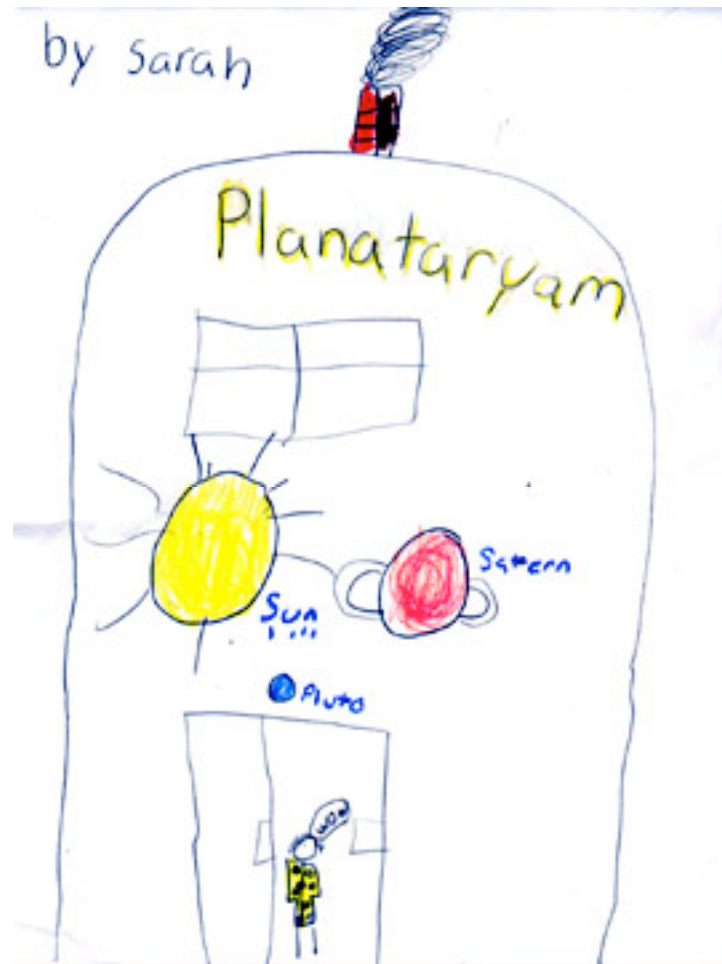


As the bus pulled into the parking lot, the kids stared out the windows. The parking lot had huge planets painted on the tar. The bus stopped right on top of Jupiter. It was as big as the bus!

Walking toward the building, they passed asteroids, Mars, Earth, Venus, Mercury, and finally the sun. The sun was a huge yellow curve that covered the whole side of the parking lot.



Inside the building there was a big model of the space shuttle hanging overhead with a tiny spaceman hanging beside it to show how large the shuttle really is. There were posters of the planets on the walls. Against one wall there was a set of scales. The label said: How much do you weigh on Jupiter? The kids all took turns weighing themselves. Kevin was the biggest boy in Ben's class. He weighed 80 pounds on Earth, but on Jupiter he would weigh 280 pounds! Wow! Ben weighed in at only 210 pounds. Little Emily tipped the Jupiter scale at 158 pounds. Everyone would be pretty heavy on Jupiter!



"May I have your attention please!" The voice rang through the lobby. It was Ben's mother. "Welcome to the planetarium. Today we have a new program for you called Let's Look Up! The planetarium doors are now open. You may all go in and take a seat. The show will begin in just a few minutes."

"Okay class," Ms. Adams said, raising her arm to get their attention. "Line up behind Ben. He's our line leader today. Ben would you please lead the class into the planetarium?"

The kids all followed Ben down a short hallway into a strange round room. Everyone started looking up. The ceiling was round. It looked like the inside of a ball. The room was dimly lit in yellowish-orange light.

"Hey! Stop stepping on my heels!" cried Brandy.

"Sorry," Maggie answered. "I was just too busy . . ." Then Maggie's voice stopped as she saw the strangest looking thing she had ever seen. "What's that?"

"I don't know," replied Brandy. "It looks like a robot or something."



In the center of the room was a large machine. It had a big, round, metal ball on top that looked like a robot's head. Underneath the head was a long tube-shaped cage. None of the children knew what this strange machine was.

Except Ben. He knew that the ball on top made stars appear on the ceiling. He knew that the cage underneath contained special flashlights, one for each planet. He also knew that the whole machine was called a Star Projector.



Eyes were as big as quarters and smiles were on every face. Except one. Emily was scared.

Ms. Adams said, "Ben, please sit next to Emily so she won't be scared. You know what's going to happen and maybe you can help her."

"Yes Ms. Adams," answered Ben. Then he whispered, "Come sit in the back row with me, Emily. These are the best seats." While everyone else was sitting up front, Ben and Emily moved to the back. Ben knew that it was easier to see from the back.

The room echoed with excited whispers as they took their seats. The kids were full of questions. How high was the ceiling? What were all those round glass things sticking out of the walls? And, perhaps most importantly, what was that big machine in the center of the room going to do?

"Did you see that control panel?" asked Daniel. "It looks like the controls to a spaceship."

"Yeah," answered Kevin. "Do you think Ben's mom really knows what all those knobs and buttons do?"

"Of course she does!" chimed in Kate. "Girls can do anything boys can do." Kate then looked at her best friend, Brandy. The two girls smiled at each other and settled back into their seats.



Slowly, the lights began to dim and the color of the round ceiling began to change from yellowish-orange to blue. Ben leaned over to Emily and whispered, "Look." He pointed toward the control console. There, standing in the red glow of the lighted control panel, was Ben's mom. For a moment Ben's mother glanced over and gave them a broad smile. That made Emily feel better. She sat back and watched the blue sky darken to the sound of crickets and soothing music.



Ben's mother finally spoke and said, "Welcome to the magical world of the planetarium. Today we are going to look at some of the wonders of the night sky. To do that I need a little help from an old friend of mine named "Houdini." Would you like to meet him?"

"Yes!" the children roared with approval. But Emily didn't say anything. She just grabbed Ben's hand and squeezed hard.

"Don't be scared Emily," Ben whispered. "Houdini is just the name mom gave the star projector-- that's the big machine in the middle of the room."

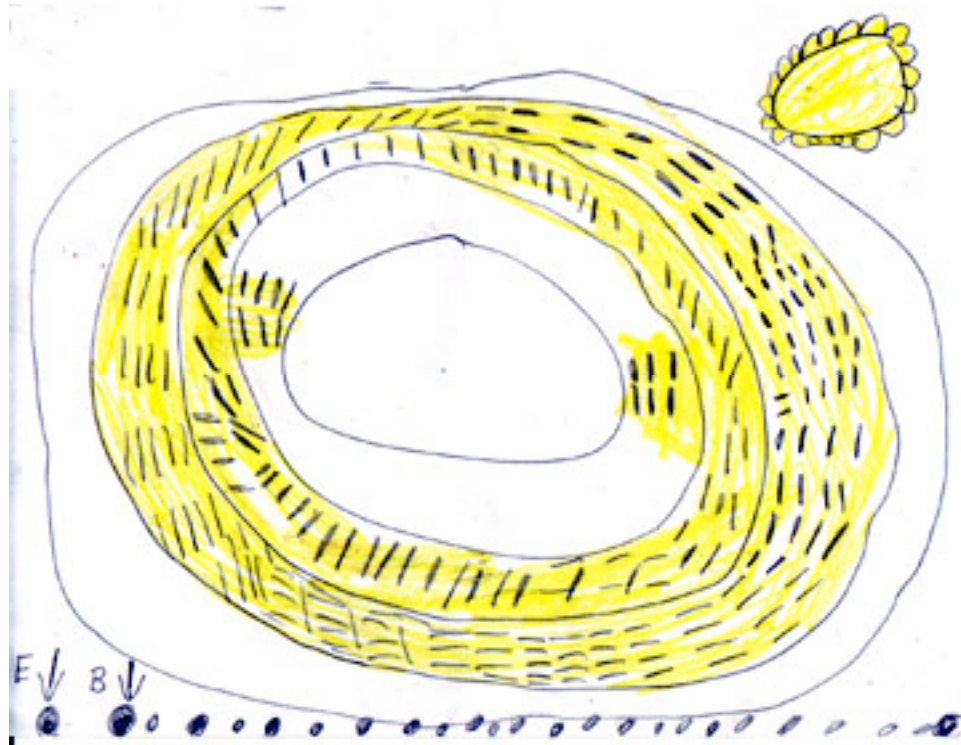
"He looks like a scary robot," whispered Emily.

"Well, he is kind of like a robot," Ben agreed, "but he's not scary."

Slowly some dim blue lights shined up on Houdini from underneath. "This is Houdini," Ben's mother announced. "He is our star projector. It is his job to make the stars." Houdini then slowly started to turn and spin. The motion made him look more like a robot than ever.

Emily giggled nervously, "He's kind of funny looking."

"Yeah. I think so too!" answered Ben.



"How does he make the stars?" Emily quietly asked.

"You see the round part?" Ben pointed.

"You mean his head?" Emily said.

"Yes," Ben continued, "Inside there is a tiny light bulb. The light from the bulb shines through a lot of little holes and small lenses all over his head."

"What are lenses?" whispered Emily.

"They're specially shaped pieces of glass. When the light from the light bulb hits one, the lens pulls all the light together into a small bright spot. That's how Houdini makes some stars brighter than others."



The lights continued to fade and Houdini's head sparkled all over. Emily had not taken her eyes off of him since Ben's mom first introduced him. Then she heard the other children . . .

"Ooooooh!"

"Look at that!"

"Stars!"

"Wow!"

"It looks like night time!"

Emily had been so fascinated with Houdini that she hadn't noticed that the sparkles on his head were creating stars on the domed ceiling. As her gaze widened her smile slowly spread. The stars were beautiful! It really looked like they were outside at night.



Then Ben's mom began to speak again. "The stars you see over your heads are the same stars you would see outside tonight. There are many wonderful things you can see by just looking up! Can anyone name something you might find in the night sky?"

Kevin piped up, "Sometimes you can see Jupiter. That's my favorite planet, because it's the biggest."

"That's right. Sometimes you can see planets like Jupiter. And Jupiter is visible in the sky tonight."

Suddenly a bright red dot appeared moving rapidly across the sky. "Is that Jupiter?" Emily whispered to Ben.

"No. That's mom's pointer. It's just a special flashlight. She'll use that to show you where Jupiter is in the sky," answered Ben. As Ben spoke the red pointer began circling a bright white star.

"If you follow my red pointer," Ben's mom said, "you'll find Jupiter is low in the western sky."

"Why is it so small?" Kevin asked sadly. "I thought it was big."

"Oh, it is big," replied Ben's mom, "but it's also very very far away. That makes it look small."



"Up close you would find that it is over a thousand times bigger than Earth!" Suddenly a big picture of Jupiter appeared in the sky.

"Where did that come from?" Emily said in a very surprised tone of voice.

Ben smiled, "That's just part of planetarium magic. When you want to see something up close, you can do it here!"

As the children watched they noticed that Jupiter was slowly spinning. They felt like they were floating in space!

Suddenly a picture of a tiny Earth appeared next to the big turning Jupiter. "If we move Earth next Jupiter, you can get a better idea of what I mean," said Ben's mom.

"Where did those big pictures come from?" Emily whispered into Ben's ear.

Ben leaned over and cupped his hands near his mouth, "Do you remember all those lenses sticking out of the walls?"

Emily was puzzled and didn't answer.

"You know. The little round glass things that were sticking out of the walls?"

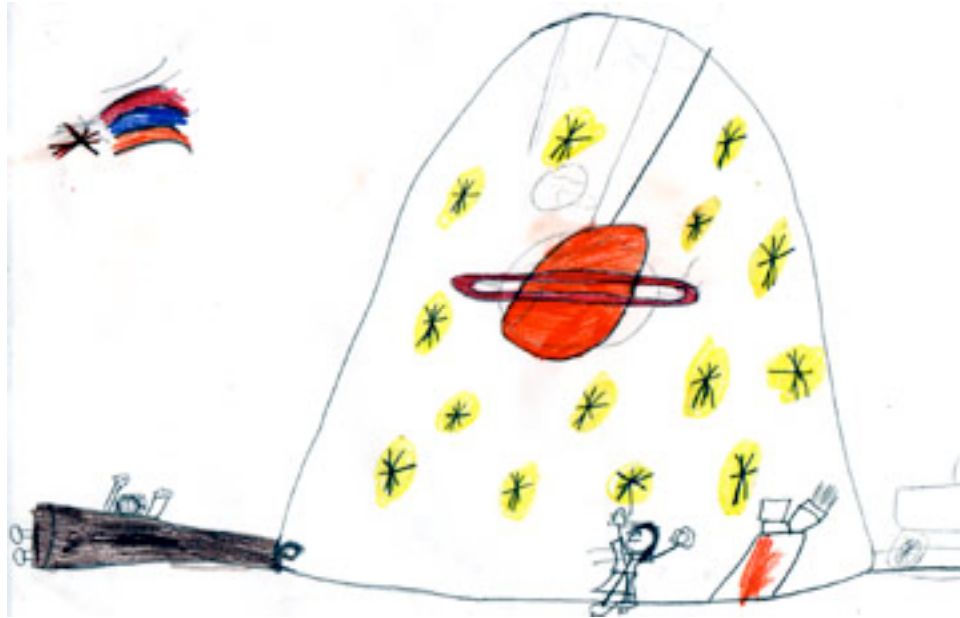
"Oh, you mean the eyes? I was scared of those," Emily whispered.

"Well, they're not eyes. They are lenses to projectors. Projectors can put pictures on the ceiling. That's how that big Jupiter got up there," Ben explained.

"And the little Earth, too?"

"Yes," Ben nodded, "the little Earth too. Mom has a lot of projectors that can put lots of different pictures in the sky."

Then the pictures began to fade leaving just stars again.



"Wow! There are more stars now than before!" cried Kate.

"Shhhh!" whispered Ms. Adams.

"Yes," Ben's mom replied. "You can see more stars now than you did before because while we were talking about Jupiter your eyes were busy getting used to the dark. All these stars were here before, but your eyes weren't ready to see them. When you go outside at night the same thing happens. So remember, if you want to look up, give your eyes a couple of minutes to get used to the dark and you'll see a lot more."

"Wow! That's really cool!" cried Daniel aloud.

"Shhhh!" Brandy and Maggie whispered in unison.



"What other things can you see in the sky?" Ben's mom continued.

"Can you show us the terrible dragon that lives in the sky?" asked Daniel. "I want to see something scary."

"I don't want to be scared," Emily cried out loud enough so that everyone could hear.

"Don't worry," Ben's mom said, "we're not going to do anything scary. I promise. The dragon is just a picture in the stars called a constellation. It's like a connect-the-dots picture, using the stars as dots. His name is Draco and he's a friendly dragon that guards the northern sky."



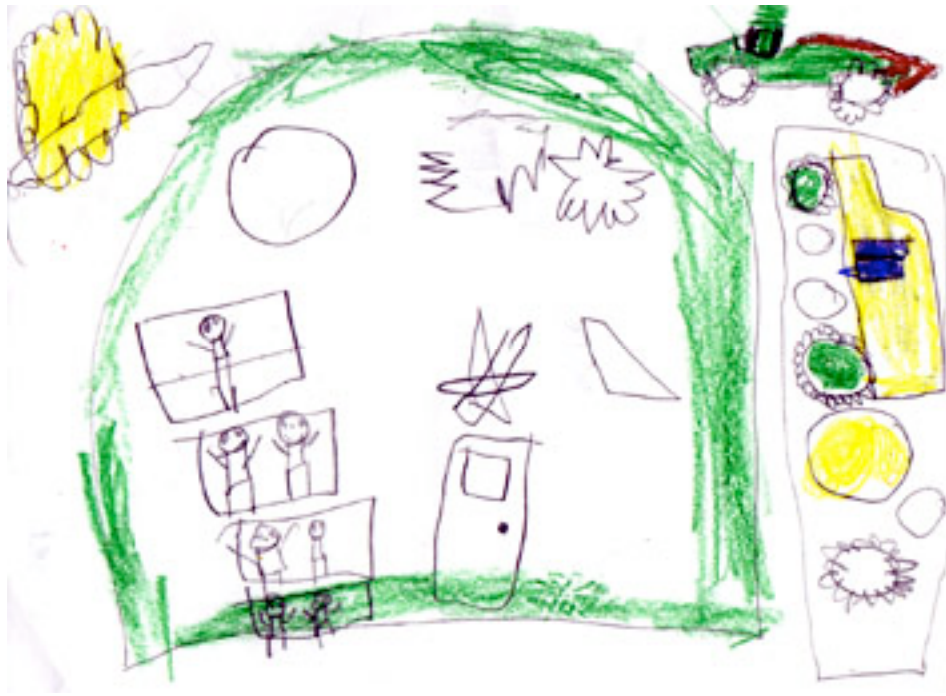
Ben and Emily had to bend their necks around to see him. While sitting in the back row was the best seat for seeing most things in the planetarium, it was the toughest place to sit when they had to look at the northern sky because it was behind them.

"Draco is one of 88 constellations in the sky. To find him let's begin by finding something easier first, like the Big Dipper." Ben's mom pointed out all the stars in the Big Dipper. Then she moved above it and pointed out the Little Dipper. "Now if you look between the dippers you'll find Draco's tail," she said. Then it was easy to find the rest of the dragon.

Emily began to giggle.

"What's so funny?" asked Ben.

"You call these the best seats?" she replied. "I have to bend my neck like an owl to see the dippers from here!"



"I guess you're not scared anymore, huh?" asked Ben.

"No. I'm fine now. Thanks Ben. You made me see that everything I thought was scary was really just neat magical machines," Emily said confidently.

"Well," Ben replied, "I think the magic's better if you don't know how it's done."

"Not for me," Emily said with a faint smile that Ben could just see in the dark.

"I guess it doesn't spoil it for me either," Ben said. "I like knowing how it all works, too. And when I don't already know how it works, it's fun to try to figure it out."



Ben and Emily sat back in their seats just as his mother was finishing her discussion about Draco and the dippers. "Sometimes," Ben's mom continued, "while we are looking at the sky things can suddenly appear and then quickly disappear." At that moment a bright meteor flew across the sky. It was very fast and left a glowing trail of yellowish-orange light behind in its path. The glow slowly faded and then disappeared.

"Wow! Did you see that?" cried Kevin out loud.

"That was a shooting star!" exclaimed Kate.

"Awesome!" murmured Daniel under his breath.

"You're right," answered Ben's mom. "People often call such things shooting stars or falling stars, but really they are things scientists call meteors. A meteor is really just a small pebble sized rock burning up as it falls through the atmosphere."

Emily's fear was now gone completely. "That was really cool Ben. How did your mother do that one?"

Ben didn't answer.

"Ben," Emily whispered. "How did she do that?"

"I don't know," Ben responded. "I really don't know. Every new show she adds something different. Now I have to see if I can figure it out. I think it might take me a while."

"I think it's all done with mirrors," Emily said smugly.

Ben thought for a moment then said, "You're probably right."



After the show, when they got back to the classroom, Ms. Adams asked the children, "What did you like best about your visit to the planetarium?"

Daniel raised his hand first, "I liked Draco the dragon best. I think he's scary even though Ben's mom says he's friendly,"

"I liked the round ceiling and Houdini best," said Maggie. "I wish it were my bedroom."

"I think that the Big Dipper and the Little Dipper were my favorites because I can find them outside at night all by myself," said Brandy.

"I liked Jupiter best," said Kevin, "because Jupiter's big just like me."

"I liked the control console where Ben's mom worked," Kate said thoughtfully, "because it looked like the controls to a space ship and I want to be an astronaut someday."



"Emily," Ms. Adams asked, "what did you like best?"

Emily thought for a minute, then a smile rose on her face. "My favorite part was learning how it all works. Once I knew how it worked I didn't have to be scared. I don't like to be scared. I learned that the planetarium isn't scary, it's really fun!"

"I'm glad everyone liked the planetarium," said Ms. Adams. "My favorite part was seeing how excited it made you children get about learning. In that way the planetarium is truly a magical place."

Then Ben added, "That's what my mom says too."

The End.