What is a Scientist

Big idea: What is the role of a scientist and what tools does a scientist use.


Section #1
Materials can be found under S Drive -> Kinder Resources -> Science Resources -> What is a Scientist?

**Continuing activities:
- CCD (Cognitive Content Dictionary)
- Lap Books- These come with CD's.
- Science Content Books- Read books throughout unit as you please.
- Big Books: All About Scientists and Scientific Kids (S Drive)
- Chants: 5 Senses Chant (S Drive)

PRIOR TO THIS SECTION:
- Collect materials & send science journal sheets to print shop.
- Trim Science Journal Cover to fit journal

Lesson 1: INTRODUCTION (If you decide you may continue this discussion for a few days).
- Observation charts: Print out pictures from the file (PowerPoint on S Drive) and glue to construction paper, because this is the beginning of the year it is best to do a few observation charts as a whole class. Teacher can show the students the picture and discuss and write what they see.

Lesson 2: WHAT IS A SCIENTIST?
- What is science? Brainstorm ideas.
- Make an input chart to engage students
- Some things to point out:
  - Science is the study of the natural world.
  - Everyone can do science.
  - Scientists learn about the world through planned and carefully conducted processes of inquiry.
  - We use our 5 senses to do science.

Lesson 3: I KNOW A SCIENTIST
- Review What Is Science? Anchor Chart (from lesson 2)
- Introduce CCD word
- Practice gesture and definition
- Slideshow: Different Types of Scientists (S Drive)
- Class discussion

Lesson 4: INTRODUCE TOOLS PART I
- Introduce Science Journal- Tell the kids that these are very special notebooks that will help us ask questions about science; make predictions; record observations and data about investigations; and explain their thinking about what they have learned.
- Introduce how to care for the journal.
- Introduce why scientist write in journals.
- Pass out journal cover (S drive), color and paste to front of journal.
Lesson 5: INTRODUCE TOOLS PART II
- Show students a variety of tools and discuss how scientists use them
  - science journal
  - magnifying glass,
  - ruler
  - thermometer
  - microscope
  - scales
  - camera
  - computer, etc.
- Make a chart displaying the science tools after each tool is discussed.
- Have students cut out Science tools (S Drive) and label the tools in their journal.

Lesson 6: TOOL EXPLORATIONS
- Review science tools using PowerPoint Scientist Tools (S Drive)
- Pass out magnifying glasses and have students explore around the room.
- Science Journal Activity: Draw what they saw while using the magnifying glass (Magnifying glass on S Drive).
- Set out several tools for students to explore in a Science Center

Lesson 7: SCIENTIST STAY SAFE
- Go over all the safety expectations in the Science Safety Contract.
- Ask: “Why is it important to stay safe?” “What kinds of things do scientists do to stay safe?”
- Watch Science Safety PowerPoint (S Drive) to look for things that Scientist do to stay safe.
- Hand out the Science Safety Contracts (S Drive). Go over each expectation—one by one. Sign the contract and glue in Science Journals.
- Management Hint: Teach the super scientist management method (S Drive)

Lesson 8: PRACTICING SAFETY WITH TOOLS AND FLUBBER
- Review Safety contract.
- This lesson will give students a chance to practice safety expectations and to record what they see in their science notebook.
- Make Flubber using the following recipe:
  - Warm water
  - 2 cups Elmer's glue
  - 2 tsp Borax
  - Food Coloring (Optional)
  - In the first bowl combine 1 1/3 cups of very warm water, Elmer’s Glue, Food Coloring.
  - In a separate bowl mix 1 1/3 cups very warm water, 2 level tsp borax.
  - Mix the contents of the two bowls together kneading until it is fully combined. Discard any remaining liquid.
- Science Journal Activity: Record what they did by drawing a picture. Teach that scientists record what they see and what good recording would include...ingredients, color, accuracy, etc.
Lesson 9: PRACTICING SAFETY WITH MILK RAINBOWS

• This lesson will give students a chance to practice safety expectations and to record what they see in their science notebook.
• Make milk rainbows with these materials:
  ▪ A pie plate
  ▪ Whole milk (a cup per table)
  ▪ Food coloring
  ▪ Dish-washing soap (a small cup with a little bit at the bottom per table)
  ▪ Q-tips (one per each student)
  ▪ Review safety expectations.
  ▪ Carefully pour the milk in the plate
  ▪ Squeeze 3 drops of red food coloring in the center of the milk.
  ▪ Squeeze 3 drops of yellow food coloring next to the red
  ▪ Squeeze 3 drops of blue food coloring next to the yellow
  ▪ Squeeze 3 drops of green food coloring next to the blue.
  ▪ Stop and make predictions about what will happen when we put the soap in the milk
  ▪ Dip your Q-tip in the dishwashing soap and then carefully press it into the food coloring and hold it down. Do not mix the milk (You might want to practice this step before hand).
  ▪ Repeat last step until all scientists have had the chance to press the Q-tip in the milk.
  ▪ Science journal activity: Draw what happened. Talk about what a good recording would include...the plate, the milk, the colors, accuracy. Talk about how important it is to record your observations accurately as you can.

Lesson 10: SCIENCE INQUIRY

• Teacher introduces children to scientific inquiry through a simple experiment with dissolving (examining what happens to a variety of objects such as lemonade mix, salt, beans, and a metal paper clip in water). The teacher asks for student help but the teacher models the experiment herself.
  ▪ Ask questions: "I wonder what would happen...."
  ▪ Make and write a hypothesis
  ▪ Experiment (Remind students about safety)
  ▪ Discuss observations.
  ▪ Make a conclusion. The teachers scaffold discussions about what it means to do science and writes findings on a chart.
  ▪ Science Journal activity: Record findings. Talk about how important it is to record your findings as accurately as you can.
  ▪ More Resources: Continue Inquiry lessons to teach the scientific method--See Additional Inquiry Lessons Ideas on S Drive.
Lesson 11: SCIENCE INQUIRY CONTINUED

- Plan to do several experiments over several weeks to teach this method. Be sure to use their science notebooks to record findings.

- **More Resources:** Continue Inquiry lessons to teach the scientific method—See Additional Inquiry Lessons Ideas on S Drive.

- Make sure to make use of the Scientific Method Posters (S Drive) every time you conduct a science experiment. Each piece is not used every time an experiment is done. One or two steps can be focused on for a particular lesson. Kindergarteners are not expected to have the chart memorized but they need to have been exposed to it and the terms. After guiding students through the scientific method several times begin to gradually release it to them so they will begin to use it on their own.

- Refer to the "Using the Scientific Method Chart with Kindergarten" on S Drive for more information.
The 5 Senses: For this section we have an introduction lesson & several activities you can do for each sense.

### INTRODUCTION TO THE 5 SENSES
- Review what is science and that we need 5 senses to do it.
- Make a pictorial of a child’s head. Label eyes (observe), ears (hear), nose (smell), mouth (taste), fingers (feel).
- ** Review pictorial throughout unit.

More Resources: Refer to pages 7-61 in *A head start on science*. These lessons will also be available on the S Drive for you to access.

<table>
<thead>
<tr>
<th>Senses</th>
<th>Activities</th>
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| **Sight** | - Take a color walk  
- I spy with my little eye  
- Close your eyes and draw  
- Sort small items  
- Quick Images- With pictures with details  
- I Spy books |
| **Hear** | - Blindfold children and let them guess who is speaking to them  
- Take a listening walk  
- Play instruments  
- Make a rubber band guitar  
- Play "Guess that Sound" |
| **Smell** | - Have students smell a variety of spices and see if they can recall scents  
  - Ideas for smelling: pine needles, vinegar, vanilla, cinnamon sticks, bark, baby powder, dried bacon bits orange juice  
  - Matching smells (scratch and sniff stickers)  
  - Smell a dry rock and a wet rock... what do you notice? |
| **Taste** | ** Be careful with allergies  
- Blindfold students and have them eat different fruits (apples, oranges, bananas) and guess what they ate.  
- Suggested foods: chips, pickles, pineapple, lemon, lime.  
- Graph their favorite taste.  
- Discuss sweet/sour. |
| **Touch** | - Get samples of different textures and place in a bag. Have them guess what they are touching.  
  - Suggestions: Acorns, leave, rocks, sunglasses, pencil, feather, paper clip, eraser, cotton etc. |
## What is a scientist? Cognitive Content Dictionary

<table>
<thead>
<tr>
<th>Vocab. Word</th>
<th>Definition</th>
<th>Gesture</th>
<th>Picture</th>
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</thead>
<tbody>
<tr>
<td>science</td>
<td>Investigating the unknown</td>
<td>Pretend to hold a magnifier and then spread your arms above your head</td>
<td><img src="image1.png" alt="Magnifier" /></td>
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<tr>
<td>ciencia</td>
<td>Investigando lo desconocido</td>
<td></td>
<td></td>
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<tr>
<td>scientist</td>
<td>A person who observes and analizes things</td>
<td>Point to eyes and forehead.</td>
<td><img src="image2.png" alt="Scientist" /></td>
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<tr>
<td>cientifico</td>
<td>Una persona que observa y analiza las cosas</td>
<td></td>
<td></td>
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<tr>
<td>experiment</td>
<td>To explore and test</td>
<td>Hand over forehead (like a sun shade) and pretend to look through a telescope by cupping hands and placing one over the other and looking through it.</td>
<td><img src="image3.png" alt="Telescope" /></td>
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<tr>
<td>experimento</td>
<td>Explorar y experimentar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senses</td>
<td>sight, smell, hear, taste, and touch.</td>
<td>Point to eyes, noses, ear, mouth &amp; wiggle finger.</td>
<td><img src="image4.png" alt="Senses" /></td>
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<tr>
<td>Sentidos</td>
<td>Vista, olfato, el oido, el gusto y el tacto.</td>
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## Possible Read Alouds

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<th>Title Spanish</th>
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<td>Conozco a un científico</td>
<td>Los cinco sentidos</td>
<td>ROURKE CLASSROOM</td>
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<tr>
<td>Amazing Scientist by Donna Marie Pitino</td>
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<tr>
<td>My five senses by Aliki</td>
<td>Mis cinco sentidos</td>
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<td>Everyone is a scientist by Lisa Trumbauer</td>
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<td>Scientists by Pam Chanko</td>
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<tr>
<td>Science Tools</td>
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<td>Newbridge Owa-806162</td>
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