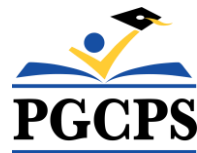


# Elementary Science Summer Enrichment Packet for Rising 4<sup>th</sup> Graders



Prince George's County Public Schools  
Division of Academics  
Department of Curriculum and Instruction



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## **Note to the Students and Parents/Guardians Expectations for Rising 4<sup>th</sup> Grade Students**

Students will:

- Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.
- Observe and describe changes over time in the properties, location, and motion of celestial objects.
- Explain that there must be a cause for changes in the motion of an object.
- Identify and describe ways in which heat can be produced.
- Provide evidence from investigations to identify processes that can be used to change physical properties of materials.
- Compare the observable properties of a variety of objects and the materials they are made of using evidence from investigations.

Students will need a science journal to record their responses. The science journal will be used to record exploration ideas, data, labeled graphs, newspaper clippings, and persuasive/writings and stories.

Suggested Science Journal: Wide-Ruled Composition Book

Enjoy your summer break and be safe.



# Activities

Week: 1

Physical Science: This month you will focus on the different states of matter.



## Week 1 Activities

- Click the titles below and watch the videos about matter:
  - [What is matter?](#)
  - [Bill Nye The Science Guy: Matter](#)
- Matter is all around us. Use the link below to learn about matter: [http://www.chem4kids.com/files/matter\\_intro.html](http://www.chem4kids.com/files/matter_intro.html).
  - Don't forget to click on the links and take the quiz. [Quiz About Matter](#)
- For a sweet summer treat, click on the title below and complete the activity titled Solid to Liquid to Solid.
  - [Sweet Summer Treat](#)
- Find out what properties cause liquids to form layers.
  - **Materials:** corn syrup, dishwashing liquid, water, red food coloring, corn oil, cup, small paper clip, tiny piece of Styrofoam, and a piece of rubber band.
    - **What to do:** Pour each liquid into the cup in the order that they are listed in the materials. Observe that the liquids form layers. Gently drop in a small paper clip. Watch until it stops sinking. Next, drop in a piece of Styrofoam. Wait until it stops. Then drop in the rubber band.
    - **In your journal, write down your observations.**
  - Work with a parent/guardian to complete this activity. You will need a large container. Rub your hands together and feel the heat of your palms. Get an ice cube to hold in your hands and hold your hands over the container. Hold until all the ice cubes have melted from the heat of your hands.
    - In your journal, write or draw what you saw happen to the ice.
    - Answer the following question: Why did the ice cubes melt?
    - Make a prediction about what would have happened to the ice if you did not rub your hands together.
- Complete the activity by visiting the link below: [States of Matter](#)

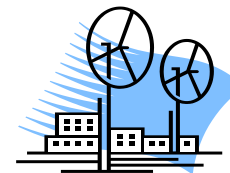
## **Suggested Virtual Field Trips/Tours:**

- [Boston Children's Museum](#) (Location: Boston, Massachusetts)
- [U.S. Census Bureau](#) (Location: Suitland, Maryland)



## Activities

Weeks: 2-5



**Physical Science and Life Science: This month you will focus on forces, motion, energy, and plants.**

### Week 2 Activities

- The physics of motion are all about forces. Learn about forces and motion using the following link [Physics: Motion and Forces](#)
- In your journal, write a poem about forces and motion.
- Use what you know about the physics of motion to design a roller coaster. Draw your design in your science journal Play this fun game to test your knowledge about gravity, motion and forces. Make sure your track is designed to build up enough force to get the riders across the track with getting stuck or crashing. For directions how to design your rollercoaster and play the game, click here: [Build A Rollercoaster Game](#)
- Virtual roller coaster simulator: <https://interactives.ck12.org/simulations/physics/roller-coaster/app/index.html>

### Week 3 Activities

- Simple machines make work easier for us by allowing us to push or pull over increased distances. Review the six types of simple machines by clicking on the name and then completing each activity. Use the following link: [Simple Machines](#).
- Answer the following questions in your science journal. If two pulling forces applied to an object are in the same direction, would the forces be added together or subtracted? Explain.

### Weeks 4 and 5 Activities

- Plants are important to our lives. In your journal, draw a plant. Label and explain each part of the plant.
  - Watch the video learn about photosynthesis: [Photosynthesis](#)
  - Watch the video learn about photosynthesis and pollination: [Flight of the Pollinators](#) and [Photosynthesis](#). Write an explanation in your journal about the importance of photosynthesis and pollination.
- **Planting Seeds**
  - You will need an adult (parent/guardian)
  - With the help of an adult (parent/guardian), you can get seeds from an apple, orange, sunflower, lemon, tangerines, dry kidney or lima beans (the kidney or lime beans must first be soaked overnight) or store-bought seed packets (only if you are able, buying store-bought seeds is not mandatory)
  - 12-ounce clear plastic cups (with a hole poked in the bottom for water drainage)
  - plastic plate to rest the cups on
  - potting soil or dirt from outside your home
  - water with a spray bottle or cup

## Weeks 4 and 5 Activities

- **Directions**

- Fill a plastic cup most of the way with potting soil and plant 4-7 beans.
- Cover the seeds gently with soil.
- Lightly water the soil, using the water spray bottle.
- In your journal, draw your observations.
- Observe the seeds you planted in the plastic cup. Explain in your journal what you see.
- Water your seeds/plants based on how your soil looks. If your soil is dry, add water.

- Take the pollination quiz:

<http://easyscienceforkids.com/fun-pollination-quiz-free-online-science-quizzes-for-children/>

- Select 5 activities to complete online about plants: <http://interactivesites.weebly.com/plants.html>

After you have completed your 5 activities, write a summary in your journal explaining what you learned about plants.

### **Suggested Virtual Field Trips/Tours:**

- [United States Botanic Garden](#) (Located: Washington, DC)
- [National Museum of Natural History](#) (Located: Washington, DC)
- [Koshland Science Museum](#) (Located: Washington, DC)



## Activities

Weeks: 6-7

**Earth and Space Science: This month you will focus on stars, planets and solar system.**

### Week 6 Activities

- Astronomy is the study of space. As a junior astronomer, learn about this exciting field using this link [Space Science](#).
- Everything in the solar system rotates around the sun. Review the solar system using the following link. Remember to take the quiz at the end.
  - [Solar System](#)
  - [The Sun](#)
- How could you show that the moon can sometimes be seen in the day sky? Investigate to find out. Record your research and explanation in your journal. Click the link: [The Moon](#)

### Week 7 Activities

- Review what makes up a galaxy by going to the link below to guide you: [Galaxy](#). In your journal, write down five interesting facts about the link you observed.
- Watch the video about the daytime and nighttime sky: [Day and Night](#)
  - **Part I:**
    - Draw a picture of the daytime sky.
  - **Part II:**
    - Draw a picture of the night sky. Use chalk or a silver marker and black construction paper.
    - In your journal, write a summary to explain your drawings.

### **Suggested Virtual Field Trip/Tour:**

- [Smithsonian National Air and Space Museum](#) (Location: Washington, DC)