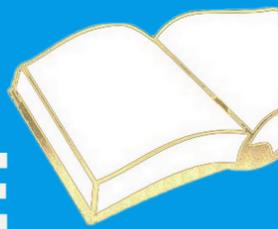


2020 - 2021

# 6TH GRADE SCIENCE STUDY GUIDE



## CGA WEEKLY SCIENCE LESSONS

Participate in the weekly Canyon Grove Family Science lessons. These video based lessons are fun and are a great way to learn science!

You can also rewatch the lessons for review. For 6th grade standard review you should watch lessons 1, 3-4, 7-9, 15-16 & 21-22.

## PRACTICE NOTICING AND DESCRIBING DETAILS

Noticing (observation) and describing details is an essential part of Science. Choose any object and pretend you've never seen it before. Describe the details and things about it that you like or don't like, that make you curious, or that make it beautiful or not beautiful. It's easy to do this with art when you try to draw a still life or photograph.

## ASK QUESTIONS IN FRONT OF YOUR CHILDREN AND RESEARCH WITH THEM ANSWERS TO QUESTIONS THAT THEY HAVE:

Be curious about the world around you and take time to research things with your children that they have questions about...

## LEARN ABOUT SCIENTISTS AND WHAT MOTIVATED THEIR DISCOVERIES

Take time to learn about specific scientists. What question or problem were they trying to solve? What led to their discoveries? What were their lives like? How did they think about the world?

# SCIENCE IS A WAY OF THINKING



## PRACTICE LOOKING AT AND INTERPRETING DATA

This is a critical skill in science, technology and engineering as well as just living in our modern world.

This can occur very naturally and easily by using a topic that is important to your child and start researching it. Are they thinking about starting a business or getting a pet or making a recipe? Find data about your topic with them that will be helpful. Some examples would be: life expectancy of certain breeds of animals, most used recipes, average prices for certain products or services. The list is endless. If you need more ideas, [HERE](#) are a couple of activities where you can practice using data.

## OBSERVE NATURAL PHENOMENA

Take as many opportunities as possible to observe natural phenomena.

You don't have to focus on explaining the why to your student. Just focus on noticing details and asking questions. Let them gather conclusions about why they think it behaves the way it does and enjoy the experience. You can do it through media or out in nature or at a museum. Natural phenomena can be exotic like watching a geyser at Yellowstone or an everyday occurrence like what happens to the garbage that we collect every day. Here is a [fun website](#) with everyday mysteries

## TAKE A LOOK AT THE TOPICS THAT WERE COVERED THIS YEAR IN 6TH GRADE

Read through the topics on the next page to see all the interesting ideas we talk about in 6th grade.

## APPLY THE PRICIPLES ABOVE TO EXPLORE THE TOPICS BELOW

As you look through each topic, which activities above could you apply to each of these topics?

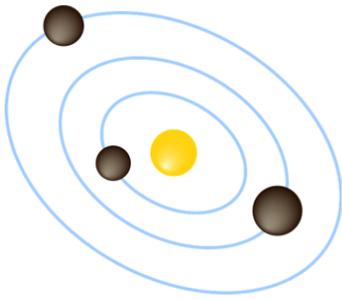


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# GRADE LEVEL TOPICS

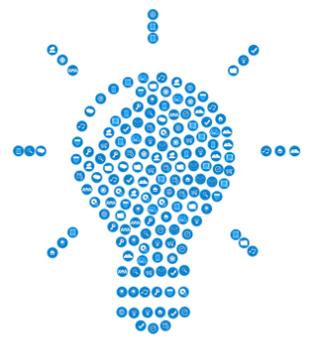


## STRUCTURE AND MOTION WITHIN THE SOLAR SYSTEM

- Sun-earth-moon systems create patterns of lunar phases, sun and moon eclipses and seasons
- The motion of objects in our solar system is influenced by gravity and inertia
- The scale and properties of objects in our solar system

## ENERGY AFFECTS MATTER

- Properties of atoms and molecules. Different types, quantities and combinations of atoms make up molecules (H<sub>2</sub>O, O<sub>2</sub> and CO<sub>2</sub>)
- The phases and states of matter and how heat energy affects them
- Relationship between temperature, heat transfer and motion of particles
- Conductors and insulators



## EARTH'S WEATHER PATTERNS AND CLIMATE

- The water cycle is driven by energy from the sun, gravitational forces and density
- Interactions between air masses that cause changes in weather conditions

## EARTH'S WEATHER PATTERNS AND CLIMATE

- Unequal heating of earth's systems determines regional climate and causes atmospheric and oceanic circulation
- The role of the natural greenhouse effect on earth and how it enables life



## STABILITY AND CHANGE IN ECOSYSTEMS



- Resource availability affects organisms in an ecosystem
- Patterns of interactions among organisms across multiple ecosystems (competition, predation and mutualism)
- Food webs and the role of producers, consumers and decomposers

## STABILITY AND CHANGE IN ECOSYSTEMS

- Changes to living and nonliving components of an ecosystem affect populations in that ecosystem
- How well do design systems for preserving resources and biodiversity in an ecosystem work? (ie. responding to invasive species or prevention of soil erosion)



WATCH FOR MORE INFORMATION ABOUT THE CANYON GROVE SCIENCE BEE

SOMEWHERE, SOMETHING INCREDIBLE IS WAITING TO BE KNOWN.

Carl Sagan