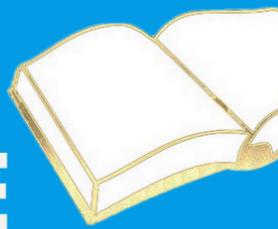


2020 - 2021

# 7TH 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 7th grade standard review you should watch lessons 1, 11-13, 19-20 & 24.

## 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 7TH GRADE

Read through the topics on the next page to see all the interesting ideas we talk about in 7th 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?

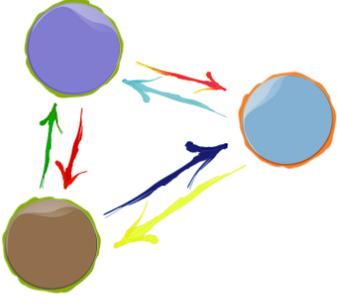
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# GRADE LEVEL TOPICS

## FORCES ARE INTERACTIONS BETWEEN MATTER



- A change in an object's motion depends on its mass and the forces acting on it
- Newton's third law
- Fields that exist between objects that exert forces on each other even though they are not touching
- Factors that affect the strength of electric and magnetic forces
- Gravitational interactions within a system

## CHANGES TO EARTH OVER TIME

- The rock cycle for igneous, sedimentary and metamorphic rocks
- Processes that have changed earth's surface
- Geologic hazards and how we work around them Earth's crust, mantle and core



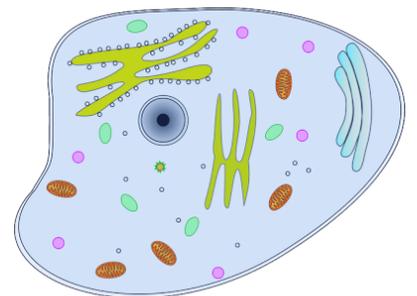
## CHANGES TO EARTH OVER TIME

- Plate tectonics and how they influence volcanoes and earthquakes, continental and ocean floors and the distribution of fossils and rocks
- Geologic age and history of the earth

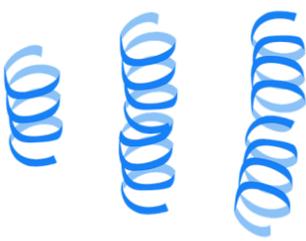


## STRUCTURE AND FUNCTION OF LIFE

- The basic structure of living things are cells
- How cells work (parts of a cell) and how they function in a living system
- Body systems and levels of organization. Cells → Tissues → Organs → Body systems (circulatory, excretory, digestive, respiratory, muscular, skeletal, and nervous systems)



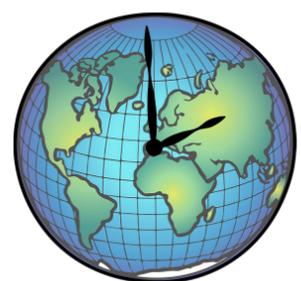
## REPRODUCTION AND INHERITANCE



- Types of reproduction and how they affect genetic variation
- Animal and plant adaptations
- Genetic mutations
- Technologies that have changed the way humans affect the inheritance of desired traits in organisms

## CHANGES IN SPECIES OVER TIME

- How genetic traits affect populations over time
- The change of life forms throughout history in the fossil record
- Similarities and differences between modern organisms and ancient organisms
- Similarities and differences in embryological development across species



WATCH FOR MORE INFORMATION ABOUT THE CANYON GROVE SCIENCE BEE

SOMEWHERE, SOMETHING INCREDIBLE IS WAITING TO BE KNOWN.

Carl Sagan