

BEARCAT DAY 22

TUESDAY, APRIL 21, 2020

GRADE 7
ANDERSON COUNTY SCHOOLS



ANDERSON COUNTY MIDDLE SCHOOL

7TH GRADE BEARCAT DAY 22

| | |
|-------------------|---|
| LANGUAGE ARTS | Point of View Types Complete the following worksheet. Place an "X" in the box for the type of point of view it already is, and then rewrite it in the other types. |
| MATH | SIMPLE PROBABILITY Watch the video (if you are able to) and answer the questions . |
| SCIENCE | CORONA VIRUS DAY 2 Read the transcript or watch the video and answer the video questions. https://www.youtube.com/watch?v=xTk_XoNQx5s&t=345s Or search BrainPOP - Coronavirus (Guided Discovery) on YouTube. Return to school or email responses to your teacher. |
| SOCIAL STUDIES | Influential People Read about influential people of the Renaissance and answer the questions . |
| PE/HEALTH | FOCUSING ON FITNESS Exercise for 30-45 minutes. Write your activity on your log from Monday. Remember to snap a picture of your log on Fridays and email it to brian.glass@anderson.kyschools.us . |
| LITERACY | CONSERVATION ESSAY DAY 2 Reminder: You will not submit something for each day. The 5 paragraph rough draft will count for your weekly grade. Mrs. Knight will be on Google Meets each day at 11 to walk through the day's task and help with your rough draft. If you have a smartphone you can download the Google Meets app. Today's task, write your thesis and opening paragraph. Summarize the issue with conservation practices and how lack of conservation has an impact on wildlife. What are the reasons we need to improve conservation practices? |

Point of View: Read the sentences. Identify the point of view by putting an X in the correct box. In the remaining boxes, rewrite the sentence, so that it is in the remaining 2 points of view. Add or delete characters as needed.

Adventure at Maniac Mountain: Part 1

| Original Sentence | 1 st Person P.O.V. | 3 rd Person P.O.V. Limited | 3 rd Person P.O.V. Omniscient |
|--|-------------------------------|---------------------------------------|--|
| 1. Mrs. Spunky's class thought they were lucky to be going on a field trip to Maniac Mountain, the 2 nd largest theme park in Colorado. | | | |
| 2. "I can't wait to ride the Eliminator!" I shouted as we boarded the bus. | | | |
| 3. "Now, students, you must be on your best behavior," explained Mrs. Spunky wondering what she had gotten herself into. | | | |
| 4. "This is going to be awesome! The Eliminator is 50 stories high!" I exclaimed excitedly. | | | |
| 5. Oh no! Laura thought to herself. Max, the cutest boy in school was looking at her. | | | |

Grade 7 Bearcat Day 22 ELA

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Grade 7 Bearcat Day 22 Math

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Bearcat Day 22

Simple Probability

* Required

1. Email address *

2. Name *


EXAMPLE

The spinner at the right is spun once.
Determine the probability of each event.

$P(F) = \frac{1}{10} = 10\% = 0.1$

$P(D \text{ or } G) = \frac{2}{10} = \frac{1}{5} = 20\% = 0.2$

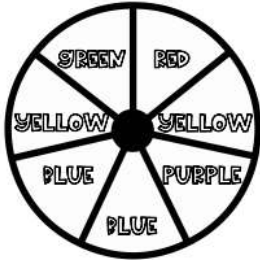
$P(\text{vowel}) =$



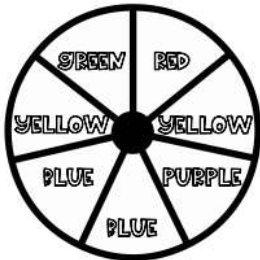
<http://youtube.com/watch?v=zpSE-xQ2gHE>

Grade 7 Bearcat Day 22 Math

3. What is the probability of spinning red on the spinner below?



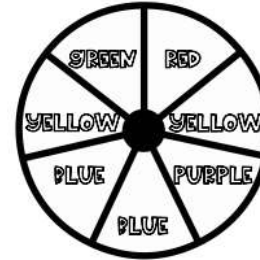
4. What is the probability of spinning blue OR yellow?



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1 point

Grade 7 Bearcat Day 22 Math

5. What is the probability of spinning a color that is NOT purple?



6. A laundry basket has 24 total socks in it. Six are navy, 10 are black, and the rest are white. What is the probability (simplified) of drawing a white sock?

7. Which is NOT true?

13. A refrigerator has a variety of drinks. The contents are shown below. If one drink is picked randomly, then which of the following is **not** true?

| Drink | Quantity |
|----------|----------|
| Water | 14 |
| Cola | 28 |
| Lemonade | 7 |

- A. You are twice as likely to select a cola than a water.
 B. You are half as likely to select a lemonade than a water.
 C. You are more likely to select a cola than a water or a lemonade.
 D. You are twice as likely to select a water than a cola.

Mark only one oval.

- ☐ A
☐ B
☐ C
☐ D

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1 point

Coronavirus (/health/diseasesinjuriesandconditions/coronavirus/)

Grade 7 Bearcat Day 22 Science

CORONAVIRUS MOVIE TRANSCRIPT

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Title text reads: The Mysteries of Life with Tim and Moby.

A robot, Moby, works on a puzzle in a kitchen. A boy, Tim, enters the room after exercising. He breathes heavily.

TIM: Ah, nothing like an early morning jog to—

Tim has a coughing fit. He drinks from Moby's glass of water to help clear his throat.

TIM: Whew.

Moby looks between Tim and the glass of water with disgust. He can't believe Tim drank from his water glass.

TIM: What?

Moby uses his pencil to push the glass of water toward Tim.

TIM: Oh, stop it.

Moby slides a letter across the table. Tim reaches for the letter. Moby withdraws his hand to avoid touching Tim. Tim frowns, but picks up the letter and reads from it.

TIM: Dear Tim and Moby, I've been hearing lots of scary stuff in the news about the coronavirus. Can you tell me more about it, please? Thanks, Kahlil.

TIM: Sure thing, Kahlil! Viruses are tiny particles that can invade living cells. There are millions of varieties, with different behaviors, shapes, and structures. Coronaviruses are one group, named for their crown-shaped outline.

An animation shows several types of viruses. The coronavirus is round and has many spokes, like a crown.

TIM: Four of these commonly infect humans.

An animation shows the four coronaviruses that can infect humans. They all have crown-like spokes.

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TIM: A lot of times when you get a cold, it's caused by a coronavirus.

MOBY: Beep?

TIM: Any virus has one goal: to replicate, or make more copies of itself.

An animation shows a young girl. An inset bubble shows a close-up of cells in her body. A coronavirus attaches itself to one of the cells.

TIM: But it can't do that on its own, so it invades an organism and turns its cells into virus factories.

The coronavirus uses the cell to make copies of itself. The cell disappears, and the coronaviruses invade the other cells. The girl starts to sweat, cough, and develop a runny nose.

TIM: This can be unpleasant for the host, the organism that the virus has infected.

The other infected cells in the bubble disappear. The coronaviruses move around in a swarm.

TIM: The new coronavirus typically causes coughing and fever.

The girl sniffles.

TIM: A healthy body can usually fight off this illness, known as COVID-19, on its own.

The animation shows time passing. The girl becomes healthy again.

TIM: Symptoms are mild for most people, especially kids. But in a body with weakened defenses, COVID-19 can become more severe and require medical treatment.

An animation shows a woman receiving chemotherapy and an older man.

TIM: Some people get seriously ill, and that's gotten everyone's attention.

MOBY: Beep!

TIM: This new coronavirus was first identified in Wuhan, China.

An animation shows a map of China. The city of Wuhan is marked with a dot. It's located on the eastern side of the country.

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TIM: In late 2019, there was an outbreak—that's when a disease starts spreading.

An animation shows several human silhouettes. One red silhouette has the coronavirus. Arrows point from that person to other silhouettes. The arrows represent the spread of the disease. The other silhouettes turn red as they become infected. Arrows point away from them as well.

TIM: More and more people got sick, first in China and then around the world.

The animation reveals more contaminated silhouettes. They continue to spread the disease.

TIM: Entire cities have been quarantined, or closed off, to slow the disease's spread.

An animation shows a fence that blocks off a city. The sign on the fence reads, "Quarantine Zone, Infectious Virus, Do Not Enter."

TIM: Fortunately, viruses can't get around without our help. And there's a lot we can do to not help them!

An animation shows a virus hitchhiking on the side of a road. He extends his thumb to a car and holds up a sign that says, "Not a virus, promise!" The car zooms past the virus.

TIM: Like washing your hands, especially after you use the bathroom and before you eat. That's always a good idea, and you probably already do it.

An animation shows a girl washing her hands with soap and water.

TIM: Scrub with soap for at least 20 seconds to make sure you don't miss any spots.

An animation shows a timer that rings after 20 seconds.

TIM: Whenever you cough or sneeze, cover your nose and mouth to help keep any germs contained.

Tim demonstrates what he means by raising his arm and coughing into the bend of his elbow.

TIM: And if you're sick, try to avoid other people—you wouldn't want to infect them, even if it's a plain old cold.

An animation shows a sick person riding public transportation. A red circle with a line through it appears around them.

MOBY: Beep?

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TIM: Well, when there's an outbreak where you live, experts recommend some added precautions. Like social distancing: limiting close contact with other people, even if you're not sick.

An animation shows a large group of human silhouettes gathered in one place. The people spread out until there's an even amount of distance between groups of two or three people. One group in a family turns red, indicating they have the virus.

TIM: Hang out at home with your family, and keep up with your friends online.

The outline of a house appears around each family of silhouettes.

TIM: That gives the virus fewer opportunities to spread around.

Arrows emanate from the people who have the virus. The boundary of the houses blocks the arrows. The infected people turn from red back to blue.

TIM: Lots of outbreaks have been stopped when enough folks just follow these simple rules.

MOBY: Beep?

Moby holds up a newspaper. The headline reads, "Coronavirus Death Toll Rises."

TIM: Yeah, it's true—some people have died after being infected by the 2019 coronavirus. That's because the virus can infect a person's lungs and make it hard to breathe. Those are the stories we hear about most online and in the news. But the vast majority of cases have been mild.

An animation shows a news anchor reporting on the coronavirus. The line at the bottom of the screen reads, "Coronavirus: Time to Panic!"

TIM: If you feel overwhelmed by the news, consider limiting how much you let in.

The animation reveals that the news is playing on Moby's TV. He uses a remote to turn the TV off.

TIM: Instead of cable news and social media, stick to sources like the World Health Organization.

An animation shows the logo for the World Health Organization. It's a blue and white design with a snake around a staff.

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TIM: They'll give you the big picture—not just the scary snapshots that make the headlines. And they're organizing experts all over the world to get this coronavirus under control.

An animation shows a representative from the World Health Organization. She is standing at a podium and speaking about the coronavirus. Health experts in the audience listen and take notes.

TIM: Still, it's totally normal if the situation's made you a little anxious.

An animation shows a worried child. He's surrounded by images of the coronavirus, a scary newspaper headline, a quarantine sign, and the TV news report. He furrows his brow and rapidly looks around at the images.

TIM: Talk to a trusted adult—they can help you put your feelings in perspective.

An animation shows the child talking to a school nurse.

TIM: One last thing: Coronavirus doesn't care where you're from or what your background is. So don't let anyone turn this into an excuse to target someone based on how they look. Working together is how we'll beat this thing, so let's stand up for our neighbors.

An animation shows Tim and Moby back in the kitchen. Tim remembers that he hasn't showered after his run.

TIM: Okay, I'm a sweaty mess, I gotta rinse off.

Tim removes his headband and tosses it onto the kitchen table. Moby frowns and picks the headband up using the end of his pencil.

TIM: Oh, don't be so dramatic.

Moby extends the pencil with the sweaty headband as far away from himself as possible. He marches out of the kitchen.

TIM: Where are you going?

The door shuts. Moby walks to the edge of a large pit in the Earth. Steam rises from the bubbling lava below. Moby holds out his arm to drop the headband into the pit. Tim calls out to Moby.

TIM: I really think you're overreacting!

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Brain Pop Questions

BearCat Day 21: COVID-19

What have you heard about the coronavirus?

1 point

- ☐ We are all going to die!
- ☐ It's not that big of a deal it is just the flu.
- ☐ I should be a little worried about it.
- ☐ It only makes old people sick

Are all coronaviruses like COVID-19?

1 point

- ☐ Yes there is only one coronavirus
- ☐ No there are many different types of coronaviruses

What is the host for COVID-19?

1 point

- ☐ China
- ☐ America
- ☐ Humans
- ☐ Solid Surfaces



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What are some examples of people with weakened immune systems?

4 points

Check all that apply

- ☐ kids
- ☐ elderly
- ☐ cancer patients
- ☐ dogs
- ☐ diabetics
- ☐ people with asthma

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When and where did this outbreak start?

1 point

- ☐ Wuhan, China in 2019
- ☐ Rome, Italy in 2020
- ☐ New York City in 2018
- ☐ In a secret North Korean Lab in 1957

Which of the following is NOT an important steps in washing your hands?

1 point

- ☐ use soap and warm water
- ☐ wash your hands after using the bathroom
- ☐ scrub your hands with soap for 20
- ☐ cold water is better than warm water



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Which is NOT a way we can stop the spread of COVID-19?

1 point

- ☐ social distancing
- ☐ covering our mouths when we cough or sneeze
- ☐ washing our hands often
- ☐ hanging out with our friends

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Should I believe everything I read online?

1 point

- ☐ Yes if it is on Instagram it must be true
- ☐ No I should only believe it if it is the first thing that pops up on Google
- ☐ No I should only believe News Media
- ☐ No I should always question sources and look for science supported data

Are people from China more likely to have the virus?

1 point

- ☐ Yes, because it started in China
- ☐ No, because COVID-19 doesn't care where you came from

How do you feel about the COVID-19 after watching the video?

1 point

- ☐ Scared
- ☐ Less Scared
- ☐ More Scared
- ☐ Not scared at all



◀ Renaissance artist Albrecht Dürer painted this self-portrait at the age of 26.

Leading Figures of the Renaissance

30.1 Introduction

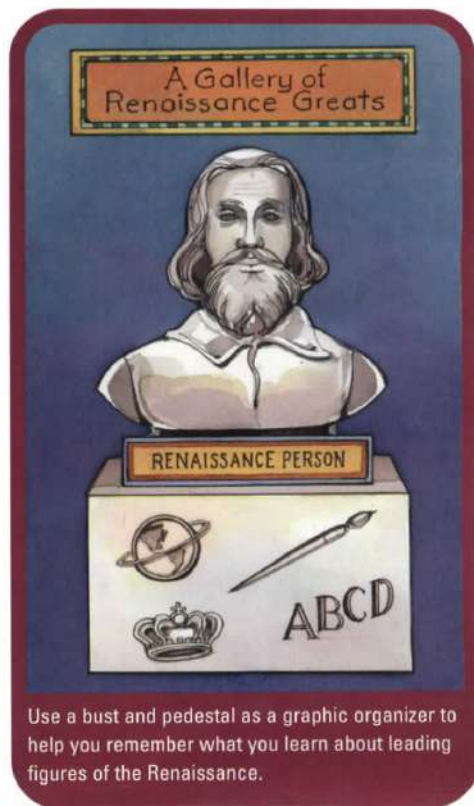
In the last chapter, you visited Florence to explore some of the major advances of the Renaissance. Now you will learn how Renaissance ideas spread from Italy across Europe. Then you will study the lives and work of 10 leading figures of the Renaissance.

From the 14th through the 16th centuries, Europe crackled with energy. Trade and commerce boomed. Cities grew. Artists and writers experimented with their crafts and created wonderful works of art and literature. New ways of thinking led to inventions and scientific discoveries. Rulers and wealthy patrons supported the work of artists, scientists, and explorers.

Why was there so much creative energy during the Renaissance? One reason was the Renaissance ideal that people should be educated in many areas. People who studied art or music, for example, were also interested in science. To this day we still use the phrase “Renaissance person” to describe someone who is skilled and knowledgeable in many fields.

You have already met the best example of this Renaissance ideal: Leonardo da Vinci. Leonardo trained as a painter, but he was also a scientist, engineer, musician, and architect. He designed fortifications, waterways, and machines. He studied and drew plants, animals, and people. In his notebooks he sketched ideas for inventions that were far ahead of his time.

Leonardo is one of the 10 Renaissance **artists**, **scientists**, **monarchs**, and **writers** you will study in this chapter. First, though, let’s look at how the Renaissance spread throughout Europe from its birthplace in Italy.



Renaissance Spreads Through Europe

As you have learned, the Renaissance began in Italy. From there it spread to France, Germany, Flanders (modern-day Belgium), Holland, England, and Spain.

Renaissance ideas were spread through trade, travel, and education. Italy was the gateway to Europe for much of the trade from Asia, Africa, and the Greek-speaking cities of the east. Traders moved through Italy to the rest of Europe, bringing a rich flow of new ideas along with their goods.

Visitors to Italy also helped spread Renaissance ideas. People from all over Europe traveled to Italy to learn as well as to trade. Scholars went to study humanism. Artists studied Italian painting and sculpture to learn new styles and techniques.

When these travelers returned home, many of them founded art schools and universities. Artists taught others what they had learned in Italy. Scholars began to teach the new ideas of experimentation and logical thinking.

The spread of ideas was made even easier by the invention of the printing press. This machine presses inked type or plates onto paper to create many copies of a work. Recall from your study of China that the Chinese had learned to make paper and to print using wooden blocks. Gradually, knowledge of papermaking and examples of Chinese printing blocks reached Europe.

In about 1450, a German named Johannes Gutenberg dramatically improved on existing printing methods. He invented a printing press that used movable type—characters that could be rearranged and used over again on other printing jobs. Unlike the Chinese, who used wooden blocks for printing, Gutenberg cast his type in metal.

Before Gutenberg’s invention, most books were written and copied by hand. It could take four or five months to copy a 200-page book. The new press could produce 300 pages in a single day. As a result, books and short works called *pamphlets* could be made much more quickly and cheaply.

The number of printers in Europe soon increased rapidly. People used printed matter to spread new ideas, discoveries, and inventions. And since printed material was more widely available, more people learned to read.

As new ideas spread, people in more countries were swept up in the spirit of the Renaissance. Let’s look now at 10 leading Renaissance figures and their accomplishments.



The Renaissance spread from Italy throughout Europe. In Flanders, an early painter of the northern Renaissance was Jan van Eyck, shown here in his studio.

After Gutenberg’s invention of the printing press, print shops such as this one created books and pamphlets quickly and easily.



30.3 Michelangelo, Italian Sculptor and Painter

You met Michelangelo (1475–1564) in Chapter 29. Michelangelo was born in a small village near Florence. He grew up to become one of the greatest painters and sculptors in history.

Personality and Training

Historians say that Michelangelo had a difficult childhood. His mother died when he was six years old. His father was stern and demanding. Perhaps this troubled early life contributed to Michelangelo's famously bad temper. Although he was very religious, he was known to use fierce words when he was angry. He was also intensely ambitious.

When Michelangelo was 13, he became an apprentice to a painter in Florence. At 15, he began studying under a sculptor who worked for the powerful Medici family. Michelangelo lived for a time in the Medici household. There he met many leading thinkers, artists, and writers.

Talents and Achievements Michelangelo was amazingly gifted in both sculpture and painting. His art combines ideal beauty with emotional expressiveness. To other artists, Michelangelo's talent seemed almost godlike.

Michelangelo's sculptures show his amazing talent for bringing life to figures carved from giant blocks of marble. When he was just 24, he carved his famous *Pieta*. A *pieta* is a depiction of Mary, the mother of Jesus, mourning over her crucified son. Michelangelo's *Pieta* shows Mary tenderly holding the body of Jesus on her lap.

Two other magnificent sculptures by Michelangelo are his *David* and *Moses*. As you learned in Chapter 29, *David* is 17 feet tall. The statue combines great beauty with the intense look of a youth who is about to go into battle. Michelangelo's *Moses* is also a strong, powerful figure. In the Bible, Moses receives the Ten Commandments from God. Meanwhile his people, the Hebrews, are worshiping false gods. The expression of Michelangelo's *Moses* is a mixture of compassion and anger.

Michelangelo is perhaps best known for painting the ceiling of the Sistine Chapel, the pope's **chapel** in Rome. Michelangelo labored for almost four years on a high platform to complete this work. He covered the curved ceiling with brilliantly colored scenes from the Bible. The scenes contain over 300 figures and continue to awe visitors to Rome today.



In this famous scene from the ceiling of the Sistine Chapel, God is reaching out to touch the finger of Adam, the first man in the Bible story of creation. Adam seems to be coming to life under God's touch.

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chapel a room, sometimes inside a larger church, set aside for prayer and worship



Michelangelo

30.4 Titian, Italian Painter

Titian (about 1488–1576) was born in a village in the Italian Alps. The exact date of his birth is uncertain. Early in life, Titian's talent took him to the wealthy society of Venice. He became the city's greatest Renaissance painter.

Personality and Training

As a boy, Titian was sent to Venice to train with famous painters. As a young man he worked with an artist named Giorgione, a master of fresco painting. (A fresco is painted on the wet plaster of a wall or ceiling.) Titian also studied examples of art from Rome and Florence. In time, he outgrew the influence of his teachers and created his own style.

Titian was a persuasive man. According to legend, long after he was rich and famous, he persuaded patrons to support his art by claiming to be poor. But he was also said to be quite generous with his friends.

Talents and Achievements

Titian's early work was precise and detailed. Later he developed a freer style. He used blobs of paint to create vivid forms, colors, and textures. He was known for his inspired use of color and for loose,



This is one of many portraits of Emperor Charles V that Titian painted during his years as court painter of Italy.

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Titian

lively brushwork that made his pictures appear to be alive. His work also shows a flair for expressing human personality.

Titian painted many classical myths and Bible stories. As a court painter, he created portraits of the rich and powerful. In 1516, he was named the official painter of Venice. Later, Holy Roman emperor Charles V made him court painter of Italy. Titian made many portraits of Charles V and other royalty.

Charles greatly admired Titian's work. There is a story that the emperor once picked up a paintbrush that had fallen to the floor. Titian protested, "I am not worthy of such a servant." The emperor replied, "Titian is worthy to be served by Caesar," referring to the emperor of ancient Rome. Charles even made Titian a knight—a first-time honor for a painter.

Titian is often described as a "painter's painter" because of his influence on other artists' use of color and brush strokes. Centuries later, many painters still try to copy his techniques.

Grade 7 Bearcat Day 22 Social Studies

30.5 Albrecht Dürer, German Artist

Albrecht Dürer (1471–1528) was born in the German city of Nuremberg. He earned fame for his paintings, drawings, prints, and writings on art.

Personality and Training As a boy, Dürer received a varied education. The son of a goldsmith, he learned his father's trade. At 15, he began training with a well-known painter and printmaker. (A printmaker uses printing to make copies of works of art.) He also studied math, Latin, and classical literature.

As a young man, Dürer traveled through Germany, Italy, and the Netherlands. He became friends with many humanist artists, writers, and thinkers. He studied classical sculpture for years to learn ideal human **proportions**. He wanted to be able to show the parts of the human body correctly sized in relation to each other.

Dürer's self-portraits show him to be a fashionable, confident man. He had an intellectual approach to life and art. He asked himself, "What is beauty?" His art was an attempt to answer that question.

Talents and Achievements In his painting, Dürer blended the detailed style of Germany with the perspective and idealized beauty that he learned from Italian painting. He encouraged artists to study measurement and geometry as the keys to understanding Renaissance and classical art.

Dürer was especially skilled at making **engravings** and **woodcuts**. These are prints made from an original that is specially prepared for printing. The original may be etched, or engraved, in metal, or it may be cut into a block of wood. Then it is inked to make copies. In Renaissance times, printers used engravings and woodcuts to illustrate books.

Much of Dürer's art shows religious figures. He also painted subjects from myths and did a series of self-portraits. Like other artists of his time, he did many portraits of royalty and wealthy patrons. He worked for years as a court artist for Holy Roman emperor Maximilian I.

Dürer's work is widely admired, particularly his beautiful engravings and woodcuts. These works set a new standard in printing because of their clarity, expressiveness, and fine detail. Dürer also wrote influential books about human proportions in art. Many modern artists still read these writings.

proportion the relative sizes of things, such as the length of an arm compared to the overall size of the human body

engraving a print of an image that has been engraved, or etched, in a hard surface, such as metal

woodcut a print of an image that has been carved in wood



Dürer's woodcut *The Four Horsemen of the Apocalypse* illustrates a vision of the end of the world that is described in the Christian Bible.



Albrecht Dürer

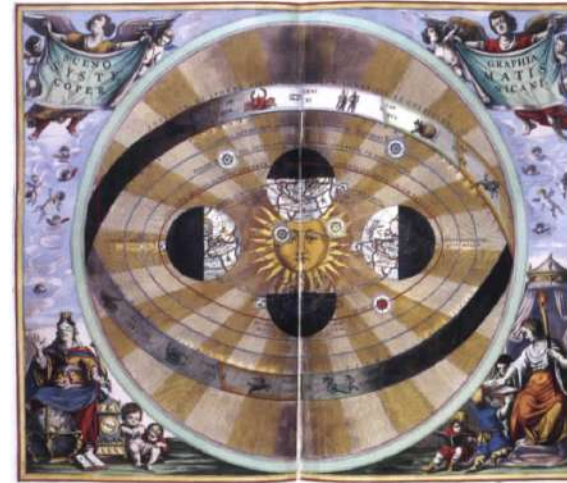
Grade 7 Bearcat Day 22 Social Studies

30.6 Nicolaus Copernicus, Polish Scientist

Nicolaus Copernicus (1473–1543) was born in Torun, Poland. He is often called the father of modern astronomy.

Personality and Training When Copernicus was 10 years old, his father died. His uncle, a Catholic bishop, became his guardian. He made sure that Copernicus received a good education.

As a young man, Copernicus attended Poland's University of Krakow. Then he went to Italy to study medicine and church law. In Italy he rented rooms at an astronomy teacher's house.



Since ancient times, most people believed that Earth was at the center of the universe. This engraving illustrates Copernicus's theory that Earth and the other planets travel around the sun.

Soon he became fascinated by astronomy.

Copernicus's scientific work would show that he was highly creative. He was also a free thinker, unafraid to question accepted beliefs.

Talents and Achievements Copernicus was skilled in mathematics and observation. He based his thinking on what he truly saw, rather than on what he thought he *should* see.

Like others of his day, Copernicus had been taught that Earth was at the center of the universe. According to this idea, the sun, stars, and planets traveled around Earth.

As Copernicus studied the motion of the planets, he became dissatisfied with this explanation. He proposed a revolutionary idea. People, he said, had it backward. In reality, Earth and the other planets revolve (travel) around the sun. Earth rotates, or turns, on its **axis**. This turning is what makes the sun and other objects in the heavens seem to move across the sky.

In 1514, Copernicus printed a booklet that outlined his theory. Then he began years of work on a full-length book. He called it *On the Revolutions of the Celestial Spheres*. (Celestial means "heavenly.") According to legend, he saw his book in print just a few hours before his death in 1543.

Copernicus dedicated his book to the pope. However, the idea of Earth traveling around the sun went against the church's belief that God had placed humans at the center of the universe. In 1616, the church forbade people to read Copernicus's book.

Despite the church's disapproval, Copernicus's theory had a major influence on a few key scientists. Eventually it was proved to be correct. Today the Copernican theory is part of the basis of modern astronomy.

axis an imaginary line drawn through a sphere, or ball, such as Earth



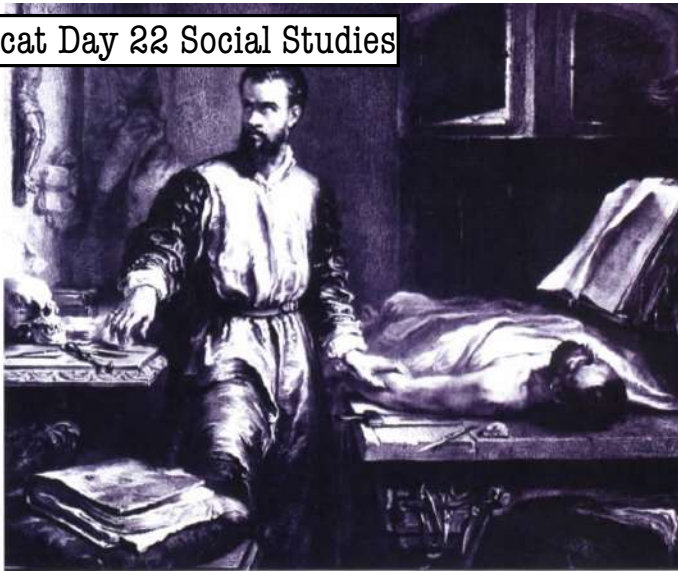
Nicolaus Copernicus

30.7 Andreas Vesalius, Belgian Scientist

Andreas Vesalius (1514–1564) was born in Brussels, in what is now Belgium. He became an outstanding scientist. His work changed medicine and the study of anatomy.

Personality and Training

Vesalius came from a family of doctors and pharmacists. (Pharmacists are people who prepare medicines.) He was always interested in living things, and especially in anatomy. As a young boy, he studied stray dogs and cats.



Vesalius attended universities in Belgium, France, and Italy. In 1537, he earned his medical degree, specializing in anatomy. Later he became a personal doctor for Italian and Spanish royalty.

Vesalius was hardworking, curious, and confident. He was also said to be gloomy and distant at times.

Talents and Achievements Vesalius was a talented observer and an independent thinker. He also had the artistic skill to draw his observations.

In Vesalius's day, physicians' understanding of human anatomy was based on the works of the ancient Greek physician Galen. Vesalius studied Galen, but he soon broke with this tradition. Like Copernicus, he was determined to observe things for himself.

Vesalius began **dissecting**, or cutting open, dead human bodies. His research showed that Galen's work had relied on studies of animals. As a result, it had many errors when applied to humans.

Vesalius made many discoveries about the human body. For example, he showed that the human heart has four hollow areas, called *chambers*. His discoveries led him to write his own seven-volume textbook of anatomy.

Vesalius called his book *On the Structure of the Human Body*. It explained the construction of the body and how the body functions. The book contained prints by artists that were based on Vesalius's drawings of the body.

Vesalius's book was a major breakthrough. It changed what people knew about human anatomy and how they studied it. It also changed physicians' understanding of medicine. Today his book is seen as the world's first modern medical textbook.

Vesalius dissected dead bodies to study human anatomy. He insisted on performing dissections himself rather than relying on untrained assistants.

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dissect to cut and separate the parts of a living thing for scientific study



Andreas Vesalius



Queen Isabella I helped sponsor Christopher Columbus's attempt to find a route across the Atlantic Ocean to Asia. Instead of Asia, Columbus found the Americas. In this painting, Isabella wishes Columbus a safe and successful voyage.

30.8 Isabella I, Queen of Spain

Queen Isabella I (1451–1504) was born in the Spanish kingdom of Castile. She is best remembered for helping to unify Spain and for sponsoring the voyages of Christopher Columbus.

Personality and Training Isabella was the daughter of the king of Castile. She was highly intelligent, strong-willed, and a devoted Catholic. Girls at that time received little education, so Isabella's schooling was limited. In adulthood she educated herself by learning Latin. As queen, she supported scholarship and art, collected fine paintings, and built schools.

When her father died, Isabella's half-brother, Henry, became king. At 13, Isabella was brought to Henry's court. There she learned about court affairs.

Talents and Achievements Isabella was a forceful woman who could hold her own in court politics. Against Henry's wishes, in 1469 she married Ferdinand of Aragon, prince of the other major kingdom in Spain at that time. When Henry died five years later, Isabella became queen of Castile. In 1479, Ferdinand inherited the throne of Aragon. The two monarchs now ruled jointly over a united Spain.

Isabella and Ferdinand actively encouraged exploration. Isabella gave her support to Christopher Columbus, an Italian who proposed to find a new sea route to Asia. In 1492, Columbus sailed across the Atlantic and stumbled upon the Americas. His discovery of this "**New World**" would lead to a Spanish empire and create great wealth for Spain. You will learn more about his voyages and their impact in Unit 8.

Isabella and Ferdinand also sought to further unify Spain as a Catholic country. Jews who refused to convert to Catholicism were forced to leave the country. This harsh action cost Spain many of its most talented and productive citizens. For the Spanish Jews, it was a tragedy.

New World the name given by Europeans to the Americas, which were unknown in Europe before the voyages of Christopher Columbus

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Queen Isabella I

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30.9 Elizabeth I, Queen of England

Queen Elizabeth I (1533–1603) was one of England's most popular and successful monarchs. Born in London, she was the daughter of King Henry VIII and his second wife, Anne Boleyn.

Personality and Training When Elizabeth was two years old, King Henry lost interest in her mother, Queen Anne. Claiming that Anne had been unfaithful to him, he had her beheaded.

Elizabeth was raised in a separate household, away from the royal court. An English scholar became her teacher and educated her as a possible future monarch. Elizabeth was a gifted student. She became highly educated and learned to speak Greek, Latin, French, and Italian.

Elizabeth was strong-minded ruler, but she was not stubborn. As queen she was willing to listen to good advice, and she was always devoted to England.

Talents and Achievements Elizabeth became queen at age 25 and reigned for 45 years, until her death. She never married, because she feared that a husband would take her power. She said she was married to the people of England.

Elizabeth was a conscientious and able ruler. She was strong and independent, but she was also flexible. She was willing to change unpopular policies. She showed political skill in balancing the interests of different people in her court. She inspired great love and loyalty from her **subjects**, who called her "Good Queen Bess."

Elizabeth's long reign is often called England's Golden Age. Culture thrived under her. She supported theater, fashion, literature, dance, and education. Poets and **playwrights** composed some of the greatest works in the English language.

Elizabeth worked to strengthen England's economy, and she encouraged trade and commerce. She authorized English trading companies in Africa, Asia, and the Americas. Her funding of sea exploration helped England gain a foothold in North America. In 1588, the English navy defeated the Spanish **Armada**, a mighty fleet that tried to attack England. This victory sparked a national celebration and further strengthened England's sea power. By the time Elizabeth died, England was one of the strongest and richest countries in the world.

subject a person under the rule of a monarch
playwright an author of plays
armada a large fleet of ships



Queen Elizabeth I welcomed artists, writers, dancers, musicians, and other cultural figures to her court. One frequent visitor was poet and playwright William Shakespeare.



Queen Elizabeth I

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30.10 William Shakespeare, English Poet and Playwright

William Shakespeare (1564–1616) was born in the English town of Stratford-on-Avon. He was a major figure in the English Renaissance. He is often called the world's greatest playwright and one of its finest poets.

Personality and Training Shakespeare's father was a glove maker. As a boy, William studied Latin and classical literature in grammar school. He never went to a university. His plays, however, show a broad knowledge of many subjects, from history and politics to music and art.

In his early 20s, Shakespeare became an actor with a theater company in London. He learned about drama by performing and writing plays for the company. Many of his plays were first presented at the Globe Theatre.

Shakespeare had a reputation for being quiet and a bit mysterious. His writings show that he

was curious and keenly observant. He thought deeply about life and its sufferings. Yet he also had a sense of humor and found much to laugh at in life.

Talents and Achievements Shakespeare was a skilled actor, but he was an even greater poet and playwright. He had an enormous talent for expressing thoughts and feelings in memorable ways. His plays show that he had a deep understanding of human behavior and emotions. Above all, he had the skill to present his understanding through vivid characters and exciting drama.

Shakespeare's poetry is widely admired, especially the 14-line poems called *sonnets*. Many of his sonnets are beautiful love poems. He is best known, however, for his plays. He wrote both **comedies** and **tragedies**. Many of his 38 plays are still performed today around the world. Among the most popular are *Romeo and Juliet*, *Hamlet*, *Macbeth*, and *The Merchant of Venice*.

Shakespeare's plays cover a broad range of subjects. He wrote about history, romance, prejudice, murder, suicide, and war. His plays remain popular in part because he wrote about timeless themes such as love, jealousy, power, ambition, hatred, and fear.

Shakespeare has had a deep influence on writers. He also left a lasting mark on the English language. Many common sayings come from Shakespeare, such as "Love is blind" and "All's well that ends well." People often quote his witty, wise lines, sometimes without knowing that they owe their graceful words to Shakespeare.



Shakespeare wrote about life with both humor and drama. This tragic scene is from his play *Romeo and Juliet*.

comedy an amusing play with a happy ending
tragedy a serious play with a sad ending



William Shakespeare

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30.11 Miguel Cervantes, Spanish Writer

Miguel Cervantes (1547–1616) was born near Madrid, Spain. He is best known for his comic novel *Don Quixote*.

Personality and Training Little is known of Cervantes' education. He may have studied with priests influenced by humanism. It is certain that he loved to read.

Much of Cervantes' education came through hard experience. At 23, he became a soldier. In a battle at sea, he was shot twice in the chest. He also injured his left hand so badly that the hand became useless. Several years later, he was taken prisoner at sea by pirates. He spent five years as a slave in North Africa until his family bought his freedom.

Cervantes' early life shows that he was adventurous and courageous. His sense of humor could be biting, but he also turned it on himself. He once bragged that the public liked his plays enough not to boo them off the stage or throw vegetables at the actors.

Cervantes' life also had a shady side. He was imprisoned twice for disputes involving money and was once a suspect in a murder.

Talents and Achievements A gifted writer, Cervantes wrote many plays, poems, and novels. He had a particular talent for **satire**. His masterpiece, *Don Quixote*, pokes fun at romantic stories of heroic knights as well as Spanish society. The main character in the novel, Don Quixote, is a tall, thin, elderly man who has read too many tales of glorious knights. Although the age of knights is past, he dresses up in rusty armor and sets out to do noble deeds. With him is short, stout Sancho Panza. Sancho is an ordinary farmer who rides a mule, but Don Quixote sees him as his faithful squire.

Together the two men have a series of comic adventures. In Don Quixote's imagination, country inns turn into castles and windmills into fearsome giants. While his adventures are very funny, there is something noble about the way he bravely fights evil, even if his deeds are only in his mind.

Don Quixote was very popular in Spain. King Philip III supposedly saw a man reading and laughing so hard that he was crying. The king said, "That man is either crazy or he is reading *Don Quixote*." Today, *Don Quixote* is considered one of the masterpieces of world literature.



Don Quixote, shown here with his armor, is the hero of Cervantes' comic novel by the same name.

satire a work that uses sharp humor to attack people or society

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Miguel Cervantes

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30.12 Leonardo da Vinci, Italian Renaissance Person

Leonardo da Vinci (1452–1519) was born in a village near Florence. His wide range of interests and accomplishments made him a true Renaissance person.

Personality and Training As a teenager, Leonardo trained in Florence under a master sculptor and painter. All his life he studied many subjects, including art, music, math, anatomy, botany, architecture, and engineering.

Leonardo spent much of his life in Florence and Milan. He worked as an artist, engineer, and architect for kings, popes, and wealthy patrons. A handsome, brilliant man, he had a special love of animals. Sometimes he bought caged animals at the market and set them free. He also was a vegetarian (he ate no meat), which was quite unusual at the time.

As you can see from all the topics he studied, Leonardo was endlessly curious. He was a careful observer and liked to figure things out for himself.

Talents and Achievements Leonardo was gifted in many fields. He was an accomplished painter, sculptor, architect, engineer, and inventor.



Mona Lisa is one of Leonardo da Vinci's best-known paintings. This surprisingly small painting—only about 20 by 30 inches—has had a huge and lasting influence on artists to this day.

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Leonardo da Vinci

Leonardo's notebooks show him to be one of the greatest creative minds of all time. Like Albrecht Dürer, he closely studied proportions. He made precise drawings of people, animals, and plants. He also sketched out ideas about geometry and mechanics, the science of motion and force. He designed weapons, buildings, and a variety of machines. Many of the inventions he drew, such as a helicopter and a submarine, were centuries ahead of their time.

Leonardo's paintings are among the world's greatest works of art. One of his masterpieces is the *Mona Lisa*, a painting of a woman with a mysterious smile. It is one of the most famous paintings in the world. Like his other paintings, it displays a remarkable use of perspective, balance, and detail. The rich effects of light, shade, and color reveal Leonardo's close study of light. Students of his art also detect how principles of geometry helped him organize the space in his paintings.

Leonardo's art inspired other great artists, such as Michelangelo. With his many interests and talents, Leonardo is a nearly perfect example of the spirit of the Renaissance.

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30.13 Chapter Summary

In this chapter, you learned how the Renaissance spread from Italy across Europe. You learned that trade, travel, education, and the printing press all helped to spread Renaissance ideas. Then you studied the lives and accomplishments of 10 Renaissance people.

Renaissance artists like Michelangelo, Titian, and Dürer created many kinds of art. Each displayed humanist ideals of realism and beauty. Through their observations and fresh thinking, scientists like Copernicus and Vesalius dramatically increased human knowledge. Queen Isabella and Queen Elizabeth were strong monarchs who supported the arts and encouraged exploration. Shakespeare and Cervantes created masterpieces of world literature. Leonardo da Vinci was a creative genius. His many interests made him a true Renaissance person.

The spirit of the Renaissance led people to question many ideas and practices. Some of these questions were directed at the church. In the next chapter, you will learn about a time of religious unrest in Europe called the Reformation.

Pope Julius II ordered artists Bramante, Michelangelo, and Raphael to construct the Vatican and St. Peter's cathedral.

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Leading Figures of the Renaissance 345

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Day 22 - Influential People

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1. Read the chapter and complete the chart on the five influential people.

| Artist | Lived (year of birth to year of death) | From (the place) | Personality & Training | Talents & Achievements |
|--|--|---------------------|---------------------------|---------------------------|
| Michelangelo , Italian Sculptor and Painter | | | | |
| Titian , Italian Painter | | | | |
| Albrecht Dürer , German Artist | | | | |
| Nicolaus Copernicus , Polish Scientist | | | | |
| Andreas Vesalius , Belgian Scientist | | | | |

2. Choose one of the people listed above. Write them a letter and include the following information:

- ☐ Tell them one thing you admire about them and/or their achievements.
- ☐ Come up with three questions you'd like to ask them.
- ☐ Format the writing like a letter (Dear _____, ... Sincerely.).
- ☐ Pay close attention to your spelling, grammar, and punctuation.