Science:
• A nutcracker is a **simple machine** {any of the basic mechanical devices for applying a force, such as an inclined plane, wedge, or lever}.
  • Bill Nye the Science Guy [episode on simple machines](#)
  • How a nutcracker works: a nutcracker is a lever. Character nutcrackers are created more to meet a need for decoration, so they do not work as well as the more functional nutcrackers, but they still have the same basic premise. From [ehow](#): “An individual must pull a lever in the back of the nutcracker down, and then the jaw of the nutcracker opens up. A nut is placed in the mouth of the nutcracker, and the lever is then pushed in the opposite direction. This brings the jaw back up and if done with enough force, the nut cracks under pressure.”
  • Let’s learn about levers:
    • Read this [article from Home Science Tools](#) that briefly describes the three types of levers.
    • Here is a detailed science project and [full lesson on levers](#). An excellent resource if you have the time!
    • A wonderful [video on the physics of levers](#), of older students.
    • [This dad made an awesome lever](#) with his kids. Maybe you could try this project!

Ballet:
• Ballet is a style of dance that has its origin in Italy and France. Visit the Pittsburgh Ballet Theatre to learn the [history of ballet](#).
  • youtube videos: This ballet teacher does a wonderful job of teaching in these videos
    • [stretching](#)
    • [5 positions](#)
    • [how to do a pirouette](#)
  • [Here is a wonderful behind-the-scenes look](#) at the production of the Nutcracker at the Houston Ballet
• Ballet dancers must be in excellent physical shape. They are very conscious of their diet and nutrition, as well as the importance of keeping physically fit. Ballet takes a lot of energy, hard work and practice! Let’s learn about fitness and nutrition:
  • Nutrition- what we eat is important to maintain a healthy body. Here are some games, websites, and coloring pages to teach you more about how to eat well:
    • [coloring pages](#)
    • online games
      • [Blast off](#)
      • [Nutrition games](#)
    • [Food Pyramid](#)- explore how to eat healthy!
  • Keeping fit with exercise is the other piece to the healthy body puzzle. Explore these place to learn more about keeping fit:
    • [Kidnetic](#) is a great website with tons to explore related to fitness for kids!
Nutcracker Unit Study
Christine Hiester

- Presidential active lifestyle challenge
- Active game suggestions
  - Here are some great ABC exercise cards. We use these during our circle time. Print them out, laminate them, and then have each child choose a couple and spread them all out on the floor. Spend 20 seconds doing each exercise chosen. So fun!
  - Here is an age-graded list of activities for kids
  - Hand Jive!
  - A kid-friendly dance workout

History—
- Visit the Nutcracker Museum site for a history of nutcrackers. The Nutcracker Museum is in Leavenworth, Washington. Maybe you live close enough to go on a field trip!
- Here is a three minute video with the history of the story and the ballet.

Geography—
- Let’s learn about how Christmas is celebrated across the world! {This link will take you to a wonderful site with many resources and ideas for varied countries including Jamaica and China.}
- This mini-unit study on Christmas around the world includes the Netherlands and Poland
- You could spend months on this 31-Day series on Christmas around the world at www.paradisepraises.com. So many ideas, lots of information, and links galore.
- Here is a free printable passport to fill out each time you “visit” a country for Christmas

Math—
- Nutcracker by the numbers
- This adorable set of math activities for preschool and Kindergarten is based on the Nutcracker. If you don’t have unified cubes, use Legos instead.
- Deb at Living Montessori Now has free printables for Nutcracker themed activities including matching, cutting, and math.
- The Houston Ballet has put out a pdf of “Nutcracker by the Numbers”– a fascinating look at the production. Use this page to answer the following mathematical questions:
  1. If 70,020 people attended the Nutcracker last year and 30% were men, 25% were women, and the rest were children, how many of each group were there in attendance that season?
  2. If there are 33 performances per season, and 7000 lbs of dry ice are used per season, how many lbs of dry ice are used each performance?
  3. How many tons of dry ice are used per season?
  4. How many years were there between the very first production of the Nutcracker in Russia, and the first production of the Nutcracker at the Houston Ballet?
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• 5. Including people onstage, offstage, people who help prep, and in the orchestra, how many are involved in Houston’s entire season of the Nutcracker?
  • {Answers: 1. 21,006 men, 17,505 women, 31,509 2. 212 lbs {rounded} 3. 3.5 4. 80 years 5. 392 people

Music–
• Piotr Ilyich Tchaikovsky was a Russian composer in the 19th century. You have a brief bio in your CD booklet, but let’s do some research and activities to learn some more about him!
  • Here is a great mini unit study on Tchaikovsky, including some varied video excerpts
  • This youtube video has a very clever instrument map with the March from Nutcracker.
  • And this video is a rhythm instrument play-along of the Overture. Use a pair of rhythm sticks, or even a couple of pencils, to play along!
    • Study up on the instruments at this website of the Dallas Symphony Orchestra.
  • Here is a specific lesson on the Nutcracker contrasting it with jazz, including vocabulary, rhythm reading, and a bit of history too!
    • This picture book includes a CD of Duke Ellington’s arrangement.
• Other activities to do with the music:
  • Here is a movement activity you can do at home with music from the Nutcracker for elementary ages
  • Emily’s Kodaly Music site has a post with a few music and dancing activities to go with the music of the Nutcracker.
  • Christy at Real Life at Home created a unit study for the Nutcracker with many musical ideas.
  • Here’s a lesson plan from Quaver Music, which includes a printable listening and coloring activity for younger students.

Art–
• Let’s make nutcrackers!
  • How wooden nutcrackers are made {video}
  • Be inspired by this cute photo of paper towel roll nutcrackers to make your own!
  • Do you want to make really BIG nutcrackers for outside your house? Here’s a photo tutorial from HGTV.
  • Be a recycler! Use a burnt out light bulb to make this nutcracker ornament. So cute!
  • This ballerina cut-snowflake craft is beautiful! Hang this around your house this holiday season.
• Norman Rockwell was a “people’s” artist and is best known for his detailed paintings of everyday life in America, many of which have a Christmas or holiday theme. Click on the following links to view some of his most famous holiday paintings.
  • Santa Reading Mail
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- Freedom from Want
- Thanksgiving: Mother and Son Peeling Potatoes
- Jolly Postman
- Grandfather and Snowman
- Five Amazing Stories Behind Norman Rockwell’s Illustrations

Visit this site to learn more about this wonderful artist, or choose a few of these books from your local library:
- Storyteller with a Brush
- Norman Rockwell- Getting to know the world's great artists (by Mike Venezia)

Some of the most amazing art is snuggled up and hidden in children’s books. Check out some of these books and artists from your library, or put them on your holiday gift wish list!
- Nutcrackers (and their illustrators)
  - Maurice Sendak
  - Susan Jeffers
  - Renee Graef
- Other fantastic children’s book illustrators to explore:
  - Oliver Jeffers (Our family loves anything by him, especially Stuck)
  - Christ Van Allsburg (Check out The Sweetest Fig)
  - David Wiesner (Flotsam is our favorite)
  - Eric Carle (Brown Bear is our family favorite)
  - Graeme Base (Our favorite is Animalia)
  - Simms Taback (Joseph Had a Little Overcoat is the best, especially if you sing it!)
  - Alison Jay (this link takes you to a bio and photo journey through the steps of one of her paintings. Our favorite book by Alison is “I Took the Moon for a Walk”)
- Maybe one of these children’s book art museums is near you! Take a field trip!
  - Eric Carle Museum in Amherst, Massachusetts
  - Mazza Museum in Findlay, Ohio
  - NCCIL (National Center for Children’s Illustrated Literature) in Abilene, Texas

Language Arts–
- Fairy Tales: A fair tale is a type of short story that typically features European folklore characters, such as dwarves, elves, mermaids, goblins, or witches, and usually magic or enchantments. Fairy tales may be distinguished from other folk narratives such as legends (which generally involve belief in the truth of the events described). {from Wikipedia}
  - The Nutcracker is a fairy tale by E. T. A. Hoffman. Let’s explore some other famous fairy tales and their authors.
    - The Brothers Grimm: the German brothers compiled fairy tales passed down through oral tradition. These were originally intended for adult audiences, and the original tales thus have darker plot twists than the children’s versions.
      - Here are some of the original tales online
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• One of many illustrated versions
  • Hans Christian Andersen: Andersen was a prolific Danish author, most well-known for his fairy tales, of which there are hundreds. Find a chronological list here.
  • Lewis Carroll: most famous for Alice in Wonderland and its sequel
  • Charles Perrault: Perrault wrote fairy tales in the late 1600’s, based off of folk tales, and many, such as Puss in Boots and Little Red Riding Hood, are still in our story repertoire today.
  • Jon Scieszka has written some hilarious modern fairy tales and fables with some irreverent twists.
    • The Stinky Cheese Man
    • Squids will be Squids
  • E. T. A. Hoffman was a German writer, composer, and painter in the late 18th/early 19th centuries. Learn a bit about him here.

• Other activities:
  • This set of Nutcracker writing prompts would be a great way to have your elementary students respond to their experience with the ballet. Requires a small fee.
  • Nutcracker mad libs would be a fun way to review parts of speech.
  • Write your own fairy tale!
    • Follow this interactive lesson to write a “fractured” fairy tale by altering a famous favorite.
    • Put yourself in a fairy tale with this online game.
    • Here’s a pdf prompt page to print out and guide your student through the process of writing their own fairy tale