Backyard Barbecue
Homeschool Lesson Plan

Overview

Raddish is designed by a dedicated team of teachers and chefs who believe the kitchen classroom is the tastiest place to learn. We love watching learning come alive when kids mix math, stir science, and taste culture!

Paired with the materials found in your Backyard Barbecue box, this lesson plan divides your box into three 45-90 minute lessons. You can use these lessons for students from pre-K – middle school and adapt them to suit your needs. Depending on your timeframe, child's age, and their engagement, these lessons can be taught together or separated.

Please refer to the curriculum provided in your box: recipe guides, activity card, and introduction card.

Happy cooking! Happy learning!

Lesson #1: PULLED CHICKEN SANDWICHES
& THE SCIENCE OF OSMOSIS

Activity Time: 60 minutes

LEARNING OUTCOMES

- Students will be able to **define** and **differentiate** between *osmosis* and *diffusion.*
- Students will **use** their senses to **detect** osmosis.
- Students will develop an experiment with a ***purpose***, ***hypothesis***, and ***conclusion***.
- Students will **conduct** science experiments to see and experience diffusion and osmosis.
- Students will **read** and **practice** with the **Featured Culinary Skill** - Mastering Measuring Spoons.
- Students will **make** and **share** Pulled Chicken Sandwiches.

THE SCIENCE OF OSMOSIS

Notes for the Teacher:

- Osmosis is a relatively easy concept, so for older students you can incorporate more in-depth math and deeper concepts. Look to the Extension activities for more ideas.

Teacher Prep:

- Collect Materials:
  - Recipe Guide, tools, and ingredients listed
  - Intro
    - tea bags
    - water
    - clear container/jar
  - Yummy Balloon Diffusion Experiment
    - Balloon
    - Box (big enough to hold an inflated balloon)
    - Tape
    - Flavor extract (vanilla, mint, lemon)
  - Gummy Bear Osmosis Experiment
    - "Gummy Bear Osmosis Lab Sheet" (included – see page 25)
    - Ruler
    - Kitchen scale
    - 3 glass jars
    - Water
    - Salt
    - Gummy Bears
- Read
  - Read through the two experiments in the activity section to make sure you understand them and can support learning throughout.
- Watch
  - Diffusion- Why can we smell hot food from a distance? (2:08) https://www.youtube.com/watch?v=3SM8WsnXefw
  - Osmosis (5:52) https://www.youtube.com/watch?v=KmQyVWtxeqM&t=105s

Lesson: THE SCIENCE OF OSMOSIS

- Introduction:
    - Bring a tea bag, glass jar, and hot water to class.
    - Display the items and let the students wonder aloud what they will be learning about today.
    - Have them **share** their ideas and how it **connects** to the items.
    - Pour the water into the jar and ask the students to describe what they see.
    - Place the tea bag into the jar and instruct the students to observe.
    - **Ask:**
        - How did the water change?
        - Why do you think the water changed?
    - **Tell** the students that what they just observed is called *osmosis*. This lesson will teach them what osmosis and diffusion are and how they are different.

- Background Information: DIFFUSION AND OSMOSIS
    - **Share** the following definitions:
        - *Diffusion* is when molecules (things that are smaller than a drop of water) move from an area of high concentration to an area of low concentration.
            - Another way to explain: It is the process of spreading and mixing of one substance with another substance
        - *Osmosis* is a special case of diffusion, involving the movement of water into and out of cells.
            - In osmosis, water moves from a "more watery" solution to a "less watery" solution.
            - Osmosis is essential for the survival of all living organisms. It allows nutrients and minerals to move inside the cells and also for waste to move out of the cells.
    - **Break** the definitions up into parts and **help** the students to understand what they mean.
    - **Ask:**
        - Do you have any daily life examples of diffusion or osmosis to share?
    - Examples:
        - *Diffusion*
            - The smell of a cake baking
                - Aromatic (pleasant smelling) gas molecules are released into the air.
                - Optional video
                    - Diffusion- Why can we smell hot food from a distance? (2:08) https://www.youtube.com/watch?v=3SM8WsnXefw
            - A drop of food coloring in a glass of water

        - The food coloring starts together but then weakens and spreads throughout the whole glass.
    - *Osmosis*
        - Wrinkled fingers in a bath tub
            - The water from your surroundings is less concentrated than the water in your body so it moves through your cell membranes and tries to reach equilibrium (be in equal concentration) to what's in your body.
        - Salt on a slug
            - Slugs have no protective barrier between their cell walls and the outside world. If you put salt on the outside of a slug, the cells start osmosis to balance the concentration of water and water will flow out of its body.
        - Rehydrating dried fruit
            - Soak raisins, dried apricots, or dried cranberries and they will grow. The water isn't just flowing into empty spaces in the fruit. It is passing through the cell walls and rehydrating it.
            - Optional video
                - Osmosis (5:52) https://www.youtube.com/watch?v=KmQyVWtxeqM&t=105s

- Experiment Instructions: YUMMY BALLOON DIFFUSION & GUMMY BEAR OSMOSIS
    - YUMMY BALLOON DIFFUSION
        - **Collect** materials for the experiment as listed above.
        - **Show** the students the materials and **ask:**
            - Do you have an idea for an experiment to test diffusion?
            - What is the experiment's **purpose?** (testing for diffusion)
            - What is your **hypothesis?** (an idea you can test)
        - **Conduct** the "Yummy Balloon Diffusion" experiment
            - Prepare the experiment:
                - Pour several drops of flavor extract into a deflated balloon.
                - Blow up the balloon. Tie the end.
                - Place the balloon in the box and tape it shut.
                - Allow the box to rest for a few minutes.
            - Review this experiment's purpose and hypothesis:
                - **Purpose:** To observe the effects of the balloon on trapping the scent of the extract.
                - **Hypothesis:** The scent will/ will not stay trapped inside the balloon.
            - Examine the results:

        - After 10 minutes **open** one side of the box and ask the students to have a **sniff.**
    - Determine the conclusion
        - The scent did not stay trapped inside the balloon.
        - "I can smell the scent, even though it was inside the balloon, because the scent vapors diffuse through tiny holes in the surface of the balloon."
        - The inside of the box stays dry because the liquid molecules are too large for the membrane of the balloon.
        - This is diffusion!
- GUMMY BEAR OSMOSIS
    - **Collect** materials for the experiment as listed above.
    - **Show** the students the materials and **tell** them that they will be conducting an experiment to test osmosis.
    - **Give** students the "Gummy Bear Osmosis Lab Sheet" (included – see page 25)
    - **Read** through the experiment and answer any questions. Support non-readers/writers.
        - **Discuss** the purpose.
        - Choose a hypothesis.
        - Follow the procedure.
        - Record results.
        - Analyze the data
            - Describe the difference between the three gummy bears together.
        - Record a conclusion
            - The gummy bear in salt water became smaller because water had to move out of the gummy bear to even out the concentration of water.
            - The gummy bear in plain water had the opposite experience. Water moved from outside the gummy bear to inside to even out the concentration. As more cells inside the gummy bear gained water, it became bigger.

Extension:

- Try osmosis experiments with dried fruits like raisins or cranberries. Measure, weigh, or take a photo prior to soaking. Put them in water, wait overnight, then observe and measure them again. What changed?
- Naked Egg Experiment- The Sci Guys: Science at Home- SE1 – EP14: The Naked Egg and Osmosis (5:47) https://www.youtube.com/watch?v=SrON0nEEWmo
- Learn the Osmosis Rap Osmosis! Rap Science Music Video (4:02) https://www.youtube.com/watch?v=HqKlLm2MjkI

COOKING PULLED CHICKEN SANDWICHES

Kitchen Prep

- Read the PULLED CHICKEN SANDWICHES recipe card together.
- Identify and gather ingredients.
- Gather tools.
- Read the **Featured Culinary Skill - Mastering Measuring Spoons**
- Discuss kitchen safety. Specifically, STOVE TOP safety (Visit Raddishkids.com/pages/safety).

Prepare PULLED CHICKEN SANDWICHES

- Ask children to read or describe each step.
- Together, follow the steps in the recipe.
- Give each child a turn to slice, whisk, and shred.
- When the PULLED CHICKEN SANDWICHES are ready, eat, taste and share!
- While your friends and family are eating, show them the Salt Science Fun Bite from the Pulled Chicken Sandwiches recipe guide. Then tell them what else you learned about osmosis and diffusion.

RESOURCES

- Websites
  - https://blog.udemy.com/examples-of-osmosis/
  - https://www.science-sparks.com/osmosis-made-easy/
  - https://ny24000063.schoolwires.net/cms/lib/NY24000063/Centricity/Domain/208/GummyBearOsmosisLab.pdf
  - https://www.stemlittleexplorers.com/en/gummy-bears-osmosis-experiment/

- Videos
  - Diffusion – Real Life Examples (1:44) https://www.youtube.com/watch?v=fN7b1aBunoM
  - Diffusion- Why can we smell hot food from a distance? (2:08) https://www.youtube.com/watch?v=3SM8WsnXefw
  - How Osmosis Works
  - http://highered.mheducation.com/sites/0072495855/student_view0/chapter2/animation__how_osmosis_works.html
  - Osmosis! Rap Science Music Video (4:02) https://www.youtube.com/watch?v=HqKlLm2MjkI
  - Osmosis in Potato Strips – Bio Lab (5:19) https://www.youtube.com/watch?v=jTDATIaBV-o
  - What is Osmosis? (9:41) https://www.youtube.com/watch?v=Qf0I2O7voxg
  - Osmosis (5:52) https://www.youtube.com/watch?v=KmQyVWtxeqM&t=105s

Lesson #2: BBQ SIDE DISH TRIO
& HISTORY OF THE UNITED STATES FLAG

Activity Time: 45 minutes

LEARNING OUTCOMES

- Students will closely **observe** and **describe** the U.S. flag.
- Students will **discuss** how the flag came into existence, how it has changed over time, and what it represents or symbolizes.
- Students will **explore** the different elements of the U.S. flag and **discuss** what *symbolism* is.
- Students will **apply** their new understanding to **design** and **create** a flag to represent themselves.
- Students will **read** and **practice** with **Featured Culinary Skill** - How to Shuck Corn.
- Students will **make** and **share** BBQ Side Dish Trio.

HISTORY OF THE UNITED STATES FLAG

Notes for the Teacher:

- This lesson may bring up questions and emotions around how people feel differently about their flag at different times in history.
    - Encourage open conversation and listening, however insist upon use of actual examples instead of hearsay and rumor.
    - With older students, read and discuss news articles that relate to the flag and using it symbolically.
- In this lesson you will use a KWL chart (Know/ Want to Know or What I Wonder About/ Learned) to record and support student knowledge before beginning a lesson. Through their questions, they are helping to determine what information they will learn and therefore be more engaged. Finally they will complete the chart and decide how they will use/apply their learning.
    - Want to learn more about KWL charts?
        - https://ngl.cengage.com/infocus/index.php/2018/07/31/k-w-l-charts-a-simple-way-to-promote-critical-thinking-with-young-learners/

Teacher Prep:

- Collect Materials:
    - Recipe Guide, tools, and ingredients listed
    - U.S. Flag or image of one
    - World Map
    - Books about Flags (see list in resources)
    - Create a Flag Activity
        - cardstock or cardboard
        - scissors
        - glue
        - markers, crayons, etc.
        - glitter, yarn, tin foil, etc.
- Watch
    - History of the U.S. Flag, in Paper (4:00) https://www.youtube.com/watch?v=Qcviywh9Q_A
    - Watch Cartoons Online: United States Flag: Educational Video for Students/Children: American History (3:00) https://www.youtube.com/watch?v=49mQPyfWNGY

Lesson: HISTORY OF THE UNITED STATES FLAG

- Introduction: WHAT DO WE KNOW ABOUT THE FLAG?
    - **Say** "I am red, white, blue and starry too. What am I?"
        - **Have** students guess what you are talking about.
    - **Provide** students with a flag or an image from a book or printed out of the American flag.
    - **Discuss** what they know about the flag.
        - Where do you see the flag?
        - Why do you think people fly the flag?
        - Does the flag have a meaning? If so what?
        - Where have you seen a lot of flags in one place?
        - When you see the flag how does it make you feel? Is that feeling dependent on the situation you see it in?
    - **Share**:
        - The U.S. flag is a symbol of the country, but it has not always looked the way it does now.
        - Today they will learn about how the flag came into existence, how it has changed over time, and what it represents or symbolizes.
        - They will have the opportunity to design and create a flag to represent themselves.

- Information: THE FLAG HAS EVOLVED
    - **Provide** students with an actual U.S. flag or image.
        - Challenge students to observe it closely, count, describe, and consider all its parts.
    - **Ask** the students the following questions and record their answers in a K/W/L (see teachers notes for more information) chart:
        - What do you see?
        - What do you think you know about this flag?
        - What do you want to know?

What I Know	What I Want to know	What I Learned
It has red and white stripes	Why are they red and white?	
It has a blue rectangle in the upper left corner?	Why is it in that spot on the flag?	

    - **Choose** how to share further historical information with your students.
    - Suggestions (feel free to use other resources that you have):
        - Younger students:
            - **Watch** the video

- Watch Cartoons Online: United States Flag: Educational Video for Students/Children: American History (3:00) https://www.youtube.com/watch?v=49mQPyfWNGY
- **Read or watch** read aloud:
  - F is for Flag by Wendy Cheyette Lewison
    F is for Flag read aloud (3:57)
    https://www.youtube.com/watch?v=p57BhYHBA58
  - Our Flag by Karl Memmling
    Our Flag (5:44)
    https://www.youtube.com/watch?v=sYAw2_VFBDE

- Older Students
  - **Watch** the video
    - History of the U.S. Flag, in Paper (4:00) https://www.youtube.com/watch?v=Qcviywh9Q_A
      (a couple of quick references to how states were formed- one sided view- may be a cause for further discussion with older students)
    - National Constitution Center "The History of the US Flag (13:29) https://www.youtube.com/watch?v=UONq4YCF4R4
      (lots of info- for older interested students)
  - **Read or watch** read aloud:
    - Red, White, and Blue: The Story of the American Flag by John Herman (10:19) https://www.youtube.com/watch?v=-TSFDgbm8cI
    - Stars and Stripes: The Story of the American Flag by Sarah L. Thomson

- After reading or watching videos, **discuss** the following points and any others:
  - How many stripes does the flag have? What do they represent?
  - Why is the flag red, white, and blue?
  - Why are there stars on the flag? What do they represent?
  - What is a *canton*?
    - A rectangular area at the top hoist corner of a flag, occupying up to a quarter of the flag's area.
    - On the American flag: the blue area with stars
  - What different names does the United States Flag have?
    - Old Glory, Star Spangled Banner, Red White and Blue
  - Has the flag always been the same? If not, how and why has it changed?
  - What is the purpose of the flag?
  - Do you think the flag will always stay the way it is now? Why or why not?
- **Refer back** to the KWL Chart from earlier and **fill in** the answers to questions the students wanted to learn. Do **further research** to find any outstanding answers.

- Activity Instructions: CREATE A FLAG THAT REPRESENTS YOU
    - **Collect** flag making materials.
    - **Tell** the students that now it is their turn to **design** and **create** a flag that represents themselves (or if desired: their family or an organization they are part of)
    - **Inform** students that *vexillography* is the art of designing flags.
    - **Explore** other flags for ideas:
        - Country Flags - http://flagpedia.net/index
        - World Organization Flags - https://www.onlinestores.com/flagdetective/flag-search-world.htm
        - U.S. State Flags - https://statesymbolsusa.org/categories/state-flag
    - Explain that when designing a flag, you should decide on:
        - Shape
            - Almost always rectangular because it has the most space to accommodate a design
            - Nepal's flag is made up of two overlapping triangles!
        - Design
            - Symmetry
                - symmetrical - Canada's flag 
                - asymmetrical - Norway's flag 
        - Symbolism
            - Decide on what you want your flag to represent.
                - Choose colors that have meaning.
                    - Research what different colors symbolize:
                        - https://www.kids-world-travel-guide.com/flag-colors.html
                        - https://www.colormatters.com/color-resources/color-matters-for-kids/59-color-symbolism/the-meanings-of-colors
                - Imagery
                    - This can communicate your purpose or intention.
                    - Decide where on you flag you will add your image (center, in a canton, etc.)
        - Tips
            - Keep it simple!
                - Focus on only 2-3 colors
                - Avoid writing
                    - Most flags don't have writing on them, the symbols and colors should do the talking for you.
                - Create a simple design
                    - Decide on a design that is easy to draw - otherwise it is hard to reproduce.

        - Try using shapes, cookie cutters, stencils, or clip art.
        - Make it personal!
            - The more you put of yourself into the flag, the clearer it will be.
    - **Support** students to **create and plan** their design on scratch paper.
    - **Provide** resources for students to realize their plans.
    - **Display** flags. Have students **guess** which flag belongs to which person and their **interpretation** of the symbolism.
    - Have each student **present** the intent for their flag.

Extension:

- **Learn** more about Betsy Ross. Have a **conversation** about "how do we know what happened in history?"
    - Watch this fun kid centric video:
        - The History of Betsy Ross (7:30) https://www.youtube.com/watch?v=4OIQiwVuc4I
- **Read** about Friedrich Hundertwasser: an artist, architect, environmentalist, and eco-activist.
    - What does an artist have to do with flags?
    - He designed alternative flags for New Zealand and Australia
        - https://kidzfeed.com/hundertwasser-facts-for-kids/
        - https://nzhistory.govt.nz/media/photo/hundertwasser-koru-flag
        - http://www.yeswhangarei.co.nz/wp-content/uploads/2014/04/manifesto.pdf
        - https://www.smh.com.au/national/friedrich-hundertwassers-radical-vision-for-a-new-australian-flag-20150924-gjtxsb.html
- Young students can **watch** this video about the flag and **talk** about patterns
        - Preschool Learning: American Flag Patterns (7:11) https://www.youtube.com/watch?v=u2hYXaHS3sA

COOKING BBQ SIDE DISH TRIO

Kitchen Prep

- Read the BBQ SIDE DISH TRIO recipe card together.
- Identify and gather ingredients.
- Gather tools.
- Read the **Featured Culinary Skill - How to Shuck Corn.**
- Discuss kitchen safety. Specifically, KNIFE safety (Visit Raddishkids.com/pages/safety).

Prepare BBQ SIDE DISH TRIO

- Ask children to read or describe each step.
- Together, follow the steps in the recipe.
- Give each child a turn to shuck, cube, and dice.
- When the BBQ SIDE DISH TRIO are ready, eat, taste and share!
- While your friends and family are eating, share what they learned about the U.S. flag, display their own flag creations, and share the symbolism included.

RESOURCES

- Books
  - Why are There Stripes on the American Flag by Martha E. H. Rustad
    - (5:32) https://www.youtube.com/watch?v=mQ_19RxAjm0
  - Red, White, and Blue: The Story of the American Flag by John Herman
    - (10:19) https://www.youtube.com/watch?v=-TSFDgbm8cI
  - Stars and Stripes: The Story of the American Flag by Sarah L. Thomson
  - F is for Flag by Wendy Cheyette Lewison
    - F is for Flag read aloud (3:57) https://www.youtube.com/watch?v=p57BhYHBA58
  - Our Flag by Karl Memmling
    - Our Flag (5:44) https://www.youtube.com/watch?v=sYAw2_VFBDE

- Websites
  - https://kidzfeed.com/hundertwasser-facts-for-kids/
  - https://nzhistory.govt.nz/media/photo/hundertwasser-koru-flag
  - http://www.yeswhangarei.co.nz/wp-content/uploads/2014/04/manifesto.pdf
  - https://www.smh.com.au/national/friedrich-hundertwassers-radical-vision-for-a-new-australian-flag-20150924-gjtxsb.html
  - https://www.kids-world-travel-guide.com/flag-colors.html
  - https://www.colormatters.com/color-resources/color-matters-for-kids/59-color-symbolism/the-meanings-of-colors
  - http://flagpedia.net/index
  - https://www.onlinestores.com/flagdetective/flag-search-world.htm

- http://www.usflag.org/history/flagevolution.html
- https://www.wikihow.com/Design-a-Flag

- Videos
  - History of the U.S. Flag, in Paper (4:00)
    https://www.youtube.com/watch?v=Qcviywh9Q_A
    (a couple of quick references to how states were formed- one sided view- may be a cause for further discussion with older students)
  - National Constitution Center "The History of the US Flag (13:29)
    https://www.youtube.com/watch?v=UONq4YCF4R4
    (lots of info- for older interested students)
  - Watch Cartoons Online: United States Flag: Educational Video for Students/Children: American History (3:00) https://www.youtube.com/watch?v=49mQPyfWNGY
    (factual with comprehension questions built in)
  - Independence Day and the History of the American Flag (3:13)
    https://www.youtube.com/watch?v=I9aGW3YNajE
    (discusses Betsy Ross and George Washington
  - The History of Betsy Ross (7:30) https://www.youtube.com/watch?v=4OIQiwVuc4I
    (Fun kid oriented talk show model)
  - Preschool Learning: American Flag Patterns (7:11)
    https://www.youtube.com/watch?v=u2hYXaHS3sA
    (really basic for young students more of a focus on pattern than history)

Lesson #3: RASPBERRY LEMONADE BARS
& FUN WITH IDIOMS

Activity Time: 60 minutes

LEARNING OUTCOMES

- Students will learn the definition of an *idiom*.
- Students will ask questions and support answers by connecting prior knowledge with literal information found in and, inferred from text.
- Students will explore the use of figurative language in texts.
- Students will use context to confirm or self-correct understanding in a story or conversation.
- Younger students will create idiom art.
- Older students will brainstorm a list of idioms.
- Older students will discuss how they believe idioms get started and may optionally research the origins of ones they find interesting.
- Students will **read** and **practice** with **Featured Culinary Skill** - Juicing a Lemon.
- Students will **make** and **share** Raspberry Lemonade Bars.

FUN WITH IDIOMS

YOUNGER STUDENTS

Notes for the Teacher:

- This lesson can be silly and fun! Embrace it and be prepared for fits of giggles.
- This lesson may also trigger conversations about interpretation of what people mean when they say something.
    - What we understand someone is saying may not be what they meant at all!
        - How do we deal with that?

Teacher Prep:

- Collect Materials:
    - Recipe Guide, tools, and ingredients listed
    - "Losing Pieces" a poem by Shel Silverstein (included – see page 26)
    - More Parts by Ted Arnold (if you can't find the book show the video)
        - More Parts- read aloud (3:26) https://www.youtube.com/watch?v=g6BmwU84dvY
    - My Idiom Art
        - Letter size or larger paper
        - Drawing materials (markers, crayons, paint, etc.)
        - Writing material (pencil, pen)
        - Index Card
        - Tape
        - Create an appropriate list of idioms for your students:
            - http://www.idiomsite.com/
            - http://www.eslcafe.com/idioms/

- Read
    - More Parts by Ted Arnold
        - More Parts- read aloud (3:26) https://www.youtube.com/watch?v=g6BmwU84dvY
    - "Losing Pieces" a poem by Shel Silverstein (included – see page 26)
- Watch
    - https://vimeo.com/12236342
    - Idioms and Their Meanings (2:22) https://www.youtube.com/watch?v=Az8ApiCC1Z4

Lesson: FUN WITH IDIOMS

- Introduction: DON'T WORRY, THIS IS A PIECE OF CAKE!
    - **Read** More Parts by Ted Arnold, stopping as you go to ask questions.
    - **Ask:**
        - Did the words in the story mean exactly what they said?
            - When Mom said "I bet that broke your heart." Did that mean his heart wasn't working anymore?
            - Dad asked him to "give him a hand." Which hand did he want? The left or the right? Ha! Ha! Or did he mean something else?
            - The neighbor said the joke would "crack him up." Why would the neighbor say he was going to fall into pieces? Is that what he really meant?
    - **Discuss** the phrases in the story. Ask:
        - Why do you think people would say such weird things?
    - **Tell** the students that those silly phrases are called *idioms*. Today they are going to have the opportunity to **share** ones that they already **know** and **learn** some new ones.

- Information: WHAT IT SOUNDS LIKE ISN'T WHAT IT MEANS!
    - **Share** the definition of an idiom:
        - An idiom is a group of words which mean something different from what the words say.
    - **Ask** the students if they know any idioms to share.
    - **Clarify** and **assess** if the students understand the difference between funny phrases that can be literally understood and idioms that cannot.
    - **Create** a T chart that has idioms written on the left and the meaning written on the right. For pre-readers/writers draw pictures to represent the literal and figurative meanings.
    - **Optionally, show** the video
        - https://vimeo.com/12236342
    - **Pause** the video to **clarify understanding** that the words in the idiom, if understood to mean exactly what they say, wouldn't make any sense. Instead, you have to learn the meaning behind the words grouped and used together to mean something very specific.

- Instructions for Activity: MY IDIOM ART
    - **Collect** materials as listed above.
    - **Explain** to students that they will be drawing the literal meaning of the idiom just like in this video or model the process below for them.
        - https://vimeo.com/12236342
    - **Provide** the students with a list of idioms to choose from and **support** them in choosing one to illustrate.

- **Encourage** students to include all aspects of the idiom in their drawing.
- Have students **write** the idiom on one side of the index card, and the meaning on the back.
- **Tape** the index card to the back of the picture with the idiom side up.
- **Display** the idiom art.
- Have friends and family look at the art and **guess** the idiom and explain what they think the meaning is. They can then look at the back of the picture to check.

Extension:

- **Create** a memory game with drawings of idioms and their written matching phrase.
- **Make** more idiom art and create a whole book.
- **Look** for idioms in stories, movies and poems.
- **Interview** friends and family about their favorite idioms.

FUN WITH IDIOMS

OLDER STUDENTS

Notes for the Teacher:

- This lesson may trigger conversations about tolerance and understanding that not everyone understands what they read or hear. Not because they don't understand the words, or are stupid, but simply because they don't share the same experiences with the language.
- By developing a clear understanding of figurative language, students can further comprehend texts that contain metaphorical and lexical meanings beyond the basic word level.
- Discussions focused on the origins of words and phrases help students understand how language transforms over time and, thereby, enables them to hypothesize in a more meaningful way the meaning of unfamiliar words or phrases.

Teacher Prep:

- Collect Materials:
  - Recipe Guide, tools, and ingredients listed
  - Chart paper and markers for recording brainstormed idioms
  - Books (these titles are good for older students but any from those listed below will work)
    - Monkey Business, The Cat's Pajamas both by Wallace Edwards
    - There's a Frog in My Throat: 440 Animal Sayings a Little Bird Told Me by Loreen Leedy
  - Use It or Lose It Activity
    - Common idioms printed on slips of paper. Lists of idioms found here:
      - http://www.idiomsite.com/
      - http://www.eslcafe.com/idioms/
    - Pen and paper for writing script
    - Optional video camera, and props.
- Watch
  - https://vimeo.com/12236342
  - Idioms and Their Meanings (2:22) https://www.youtube.com/watch?v=Az8ApiCC1Z4

Lesson: FUN WITH IDIOMS

- Introduction: EASY AS PIE
    - **Ask** students to respond to the following prompt in writing:
        - Many cultures have different phrases and sayings that other cultures don't use. Brainstorm a list of sayings either that you use or have heard others use that may not be widely understood by other cultures or groups of people.
    - **Discuss** some of the responses, either in pairs or as a whole group.
    - **Explain** that today they are going to be learning about a type of language called *idioms*:
        - Definition: An expression that cannot be understood from the meanings of its separate words but must be learned as a whole.
    - **Return** to the list of brainstormed phrases and have students circle the examples that they believe to be idioms.
    - **Ask** students to share the circled phrases and explain why they believe them to be idioms.
    - **Share** that today the students will be learning about the difference between literal and figurative language and get to know some fun idioms along the way!

- Background Information: LITERAL VS. FIGURATIVE LANGUAGE
    - **Share** the terms *literal* and *figurative* and ask students to discuss what they think the difference is.
    - **Ask** students to write a definition of each term.
        - *Literal language* uses words exactly according to their usually accepted meaning or definition.
        - *Figurative language* uses words in a way that is different from their usually accepted meaning or definition in order to convey a more complicated meaning or for effect.
    - **Explain** that idioms are sayings that have both a literal (exact) and figurative (understood) meaning.
    - **Provide** students with an idiom example and have them describe the literal and then the figurative meaning. Examples: (sourced from http://www.idiomsite.com/)
        - All bark and no bite.
        - An arm and a leg.
        - Bend over backwards.
        - Can't cut the mustard.
        - To cry wolf.
    - Optionally **show** students one or both of these kid led videos:
        - https://vimeo.com/12236342
        - Idioms and Their Meanings (2:22) https://www.youtube.com/watch?v=Az8ApiCC1Z4
    - **Discuss** why idioms are difficult for people from other cultures or groups to understand.

        - Have students **reflect** on what it would **feel** like to not understand idioms used in everyday conversation.

- Activity Instructions: USE IT OR LOSE IT
    - **Ask** the students to think of a time in their life where the idiom "a slap on the wrist" applied.
        - Have students share their examples and explain how the idiom applies.
    - **Tell** students that they will work in groups of 2-3 (if possible) to come up with a short skit that demonstrates how the idiom applies to a real-life situation.
        - If working alone, students can **write** a monologue, or play more than one character themselves.
        - **This is not acting out the literal meaning of the idiom. It is showing the figurative meaning in context.**
    - **Provide** students with idiom dictionary or websites to look up the meaning of their idiom.
    - **Support** students in working together to write a short script of their skit.
    - **Provide** students with practice time and props for their skit.
    - Have students **perform** their skits for other students, or friends and family.
        - Optionally, **record** their skit and share more widely.

Extension:

- **Explore** other types of figurative language like simile, metaphor, personification, or onomatopoeia.
- **Challenge** students to go on an idiom **hunt** in books, poems, or films.

COOKING RASPBERRY LEMONADE BARS

Kitchen Prep

- Read the RASPBERRY LEMONADE BARS recipe card together.
- Identify and gather ingredients.
- Gather tools.
- Read the **Featured Culinary Skill - Juicing a Lemon.**
- Discuss kitchen safety. Specifically, OVEN safety (Visit Raddishkids.com/pages/safety).

Prepare RASPBERRY LEMONADE BARS

- Ask children to read or describe each step.
- Together, follow the steps in the recipe.
- Give each child a turn to press, juice lemons, and pour.
- When the RASPBERRY LEMONADE BARS are ready, eat, taste and share!
- While your friends and family are eating, younger students can display their idiom art and older students can perform their skits and explain the difference between literal and figurative language.

RESOURCES

- Books
  - Scholastic Dictionary of Idioms by Marvin Terban
  - More Parts by Ted Arnold
    - More Parts- read aloud (3:26) https://www.youtube.com/watch?v=g6BmwU84dvY
  - In a Pickle and Other Funny Idioms by Marvin Terban
  - There's a Frog in My Throat: 440 Animal Sayings a Little Bird Told Me by Loreen Leedy
  - The World is Your Oyster by Tamara Hames
  - Why the Banana Split by Rick Walton
  - Butterflies in My Stomach, Reach for the Stars, You Are What You Eat all by Serge Bloch
  - Monkey Business, The Cat's Pajamas both by Wallace Edwards
  - "Losing Pieces" a poem by Shel Silverstein

- Websites
  - https://wiki.kidzsearch.com/wiki/idiom
  - http://www.readwritethink.org/files/resources/interactives/idioms/
  - http://www.readwritethink.org/classroom-resources/lesson-plans/figurative-language-teaching-idioms-254.html?tab=4#tabs
  - http://www.idiomsite.com/
  - http://www.eslcafe.com/idioms/

- https://www.teacherspayteachers.com/Product/Class-IDIOMS-Book-Figurative-Language-841049

- Videos
  - https://vimeo.com/12236342
  - Idioms and Their Meanings (2:22) https://www.youtube.com/watch?v=Az8ApiCC1Z4

GUMMY BEAR OSMOSIS Lab Sheet

Purpose

- To observe the effects of _____ on a gummy bear.

Hypothesis (circle the one you think will happen)

- The gummy bear in salt water will… shrink swell stay the same
- The gummy bear in no water will… shrink swell stay the same
- The gummy bear in plain water will… shrink swell stay the same

Procedure

- Prepare the glasses
  - Label the glasses: plain water, salt water, control group
    - Plain Water – Add ½ cup water
    - Control group (No water) – Add nothing
    - Salt Water – Add ½ cup water. Then add a teaspoon of salt at a time and stir. Keep adding until no more salt will dissolve. (This is a *saturated* solution.)
- Prepare the gummy bears
  - Collect 3 gummy bears.
  - Describe **each** gummy bear. Weigh using a scale (if possible) and measure with a ruler.
  - Record the data for each gummy bear in the "Before" column of the chart below.
- Conduct the experiment
  - Place a gummy bear in each glass.
  - Wait for tomorrow.
  - Carefully (the membrane becomes thin) remove the gummy bear from the glass.
  - Measure and describe the gummy bears in the "After" column of the chart below.

Data

Gummy Bear in **Plain Water**

	Color	Length	Width	Thickness	Mass
Before					
After					

Gummy Bear in **Salt Water**

	Color	Length	Width	Thickness	Mass
Before					
After					

Gummy Bear in **No Water**

	Color	Length	Width	Thickness	Mass
Before					
After					

Analysis

- Describe the difference between the three gummy bears after the experiment.

Conclusion

- What did we learn about osmosis?

"Losing Pieces"
By Shel Silverstein

Talked my head off
The conversation never stops
Worked my tail off
Sweating buckets of drops
Cried my eyes out
Which left and ocean of tears
Walked my feet off
Which I haven't seen in years
Sang my heart out
I am barely alive
So you see—
There's really not much
left of me