**Lesson Topic: Solar System Grade level: Kindergarten Length of lesson: 2 hours**

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| **Desired Results** | |
| **Student objectives (outcomes):**  Students will be able to:   * Identify the different planets within the Solar System * Organize the planets by where they orbit around the Sun * Identify similarities and differences between different planets | |
| **Assessment Evidence** | |
| **Performance Task(s):**   * Diagrams * Discussion of planets | **Other Evidence:**   * Take Home Activity: Foam Planets OR Create Your Own Planet |
| **Learning Plan** | |
| **Learning Activities:**  9:30-10:30   * Introductions/Ice Breaker Activity   + Mention that Anna won’t be there this week but will join us next week   + Have everyone go around and say: (teacher goes first to model)     - Name     - If they could explore anywhere on Earth or in space, where would they go and why * Throughout the lesson, set up classroom expectations and reinforce them   + Attention: “If you can hear me, clap 1 time (2 times, 3 times)”   + Raise your hand and wait your turn   + Explain what students should do before/during an activity (will vary depending on activity)   + Going out in the hallway (ex. bathroom): Be at a level 0, hold a bubble, hands to ourselves, walking feet, etc. * We will introduce the planets with a fun video that goes through each planet, and the order as well as little facts. <https://www.youtube.com/watch?v=PCxjuDePdCI> It will draw the students in and give them an anchor. * We will then show them a diagram of the solar system, and remind them of the planet names. <https://docs.google.com/presentation/d/1F6qqhLbknzGy-bUlso876OW8UOr5niuRTr__7-n7Yfc/edit#slide=id.g13f0f9ec13b_0_402>   + Questions to ask and discuss:     - What are the planet names?     - Which planet is the biggest?     - Which planet is the smallest?     - What do you know about the planets?     - Is Pluto a planet?     - Would you rather want Pluto to be a planet or a dwarf planet? Why?     - Could we live on any other planet? Why/why not?     - (If you could) Which planet would you want to live on? Why? * We will then introduce the activity that they will be doing by showing them an example, and explain it briefly. * We will take a break to go to the restroom, get a drink, and give them some time to rest their brains. * Brain Break Ideas:   + Orbit around the room as planets     - Make sure to set boundaries beforehand depending on classroom and student safety   + Basic stretches that go along with characteristics of space     - Wave above head like comets     - Jumping at various heights to pretend that gravity is changing     - Pushing/Pulling like solar winds and the winds of the gas giants   10:30-11:30   * When we come back we will start the activity.   + Give every student 1 black piece of paper   + Students can color on their papers (ex. adding stars, asteroid belt, etc.) while they work on the activity.   + Explain that the puff balls are the sun and the circles are the different planets. Each group will come up and get their materials to glue onto their papers.   + Pass out crayons, markers, and gluesticks.   + Bring the students up in groups of 5 and give them all the materials (puff balls and circles), and help them draw the circles of orbit on their papers.   + One or two adults will monitor the students that have started working on it while the other continues to pass out materials and help the students get started.   + We will leave up the diagram on the board, and remind the students of the order of the planets. * As students finish up we will check their work, and make sure that there are no corrections needed. * We will have each student show their finished diagram to their group, and talk about what they like most about each other's work.   + We will also ask students: Point to Mercury on your diagram, can you find Earth, etc. and see if they can remember each of the planet names.   Clean Up/Getting Ready to Leave/Take-Home Activity   * Have students help put away the materials and throw away any trash. * Have everyone sit at their tables with their diagrams. * Pass out the Take-Home Activity and briefly explain what is. | |
| **Resources and Materials:**   * Glue Sticks (14 preferably, as many as possible) * Yellow Puff Balls (14) * Colored construction paper to cut out the different sized circles:   + **Colors: Red, Yellow, Light Blue/Blue, Dark Blue, Gray, Black**   + Black (14 sheets)   + Gray (5 sheets, 14 small circles: Mercury)   + Yellow (5 sheets, 14 small circles: Venus, 14 big circles: Saturn)   + Light Blue/Blue (10 sheets, 14 small circles: Earth, 14 big circles: Uranus)   + Dark Blue (5 sheets, 14 big circles: Neptune)   + Red (5 sheets, 14 small circles: Mars)   + Orange (5 sheets, 14 big circles: Jupiter) * Crayons and Markers (3 sets of each) * Adult scissors (2; if the construction paper are not pre-cut, then the teachers will need to cut them out) * Power point: <https://docs.google.com/presentation/d/1F6qqhLbknzGy-bUlso876OW8UOr5niuRTr__7-n7Yfc/edit#slide=id.p> | |
| **Extending the Lesson**  Students will take home an activity called sticky planets:   * They will have foam planets labeled with each name * With a little bit of water on the back of the foam they will stick to windows, or bathtub walls.   + Students will put them in the order that they learned, and point out each planet with their parents.   Materials Needed:   * 1. Craft Foam cut into circles for planet shapes and sizes (8 planets per student, 14 sets)      1. Foam Colors and sizes: **Red (small: Mars, big: Jupiter), Yellow (small: Venus, big: Saturn), Light Blue/Blue (small: Earth, big: Uranus), Dark Blue (big: Neptune), Gray (small: Mercury)**      2. The circles should be labeled with the planet names (see colors and sizes in i.)   2. Sandwich bags (14)   3. Instructions (Use a little bit of water on a window or bathtub wall and the planets will stick. Help your child put the planets in the order they learned, and see if they can name the planets. (14 copies of the instructions) <https://docs.google.com/document/d/1WhaLJUlXehonbE6p6TiCa0301heQJZO45esOVFpvX-0/edit>   Alternative Take Home Activity: Create Your Own Planet   * Students will be provided with a foam ball that they can decorate into one of the planets they learned about or create their own   Materials Needed:   * Foam Balls of various sizes for students to choose from | |

**Lesson Topic: Oobleck Grade level: Kindergarten Length of lesson: 2 hours**

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| **Desired Results** | |
| **Student objectives (outcomes):**  Students will be able to:   * Identify and describe characteristics of solids and liquids. * Explain the difference between Solids and Liquids, interact with many different materials, and discuss the state of matter. * Identify that matter can change states and look different once the changes have occurred. * Classify whether oobleck is either a solid, liquid, or another category. | |
| **Assessment Evidence** | |
| **Performance Task(s):**   * Exploring various solids and liquids (gasses will be touched upon briefly throughout, though the focus is on the other two states of matter listed) * Anchor chart and class discussion about solids, liquids, and classifying oobleck | **Other Evidence:**   * Take Home Activity: Making Oobleck |
| **Learning Plan** | |
| **Learning Activities:**  **9:30-10:30**   * We will take time to introduce Anna to the students and get to know each other   + Ice Breaker Activity: Have you ever created something but it changed later on? If so, what did you make and what happened to it? * We will introduce the Main Topic: Solids and Liquids * We will start with a fun song to bring the kids attention in- There are moves to go along with it that we will teach them to get them moving and engaged. <https://www.youtube.com/watch?v=5GDaIrpSdho> * Explain what will occur at the different stations that the students will explore in small groups.   + Students should NOT eat any of the materials   + Students should NOT open any of the containers (except play-doh).   + Students should NOT mix the play-doh colors   + The teachers should be the only ones opening the containers. * Have the students broken up into small groups and go to the different stations (~5 min each) to observe/manipulate different solids and liquids: * Add a timer for 5 min (start it as students transition to each of the stations)   + - Water bottles (not full but taped off so students can’t open them)     - Oil and water (closed clear container)     - Liquid soap and water (closed clear container)     - Liquid Glue (closed clear container)     - Play-doh (various colors, 4-5)     - Blocks   + **(~30 min total)** * Have students clean up the last station that they were at and return to their seats. * Talk about Solids and Liquids, what makes a solid and what makes a liquid and some properties and make an anchor chart. * While the anchor chart is being made, have 1 teacher hold an ice cube so students can visibly see the change * Ask students:   + What are some traits about solids? Liquids?   + Are solids always solids?   + Are liquids always liquids?   + Can they change states? How? Why? * Use the melting ice cube to explain the different states of matter and how matter can change (not all of the ways)   + How does it feel? What changed? What stayed the same? * We will talk about different items we see everyday, and talk about whether they are a solid, or a liquid   **Bathroom/Drink Break**  **10:30-11:30**   * Starts with Dr. Suess’s Bartholomew and the Oobleck   + Read through the book and discuss the story with the students * Introduce the oobleck   + Students should NOT eat the oobleck * Pass out a few tubs of oobleck and have students touch and feel it. Ask them if they think it's a solid or a liquid.   + **5-10 min of play/exploration**   + **Talk to the kids during this time about the oobleck (what they think about it, how it feels, could it be a solid/liquid, etc.)** * Remove the oobleck and start a class discussion * Have the students start with this activity   + If you think that oobleck is a SOLID, go to Wall #1   + If you think that oobleck is a LIQUID, go to Wall #2   + If you think that oobleck is SOMETHING ELSE, go to Wall #3 * Ask why they think it’s a solid, liquid, or something else * Where would oobleck fit on our anchor chart? Or states of matter? * Explain what oobleck is and why it is categorized in the way that it is   + Non-Newtonian fluid: It can change states of matter depending on the amount of pressure that is applied to it (ex. Slowly vs. quickly, little pressure vs. a lot of pressure, etc.) * If we finish early, give students more time to play with oobleck   **Clean Up/Getting Ready to Leave/Take-Home Activity**   * Have students help clean up, put away any materials, and throw away any trash. * Pass out the Take-Home Activity and briefly explain what is. | |
| **Resources and Materials:**   * Slideshow Link: [Saturday Science K: Liquids and Solids](https://docs.google.com/presentation/d/1ZdCjAxLSTew3354AWGLF-7XLIsqY5XSzspr8_jmvgl8/edit#slide=id.g1302b36be4b_0_45) * Water bottles (not the small ones, 16, example: <https://www.walmart.com/ip/Great-Value-Purified-Drinking-Water-16-9-Fl-Oz-24-Count/13448854?athbdg=L1600>) * Cooking oil (1, don’t need a lot just enough to mix in 4 of the water bottles, example: <https://www.walmart.com/ip/Great-Value-Vegetable-Oil-48-fl-oz/10451002?athbdg=L1200>) * Liquid soap (1, example: <https://www.walmart.com/ip/Softsoap-Liquid-Hand-Soap-Pump-Fresh-Breeze-7-5-oz/162179469>) * Liquid glue (4) * Play-doh (4-5, various colors) * Blocks (15-20) * Ice cube (1-2, must be kept frozen until the specific activity/discussion) * Bartholomew and the Oobleck by Dr. Suess **(Maddie is picking it up from the Monroe County Public Library)** * Cornstarch (2 boxes) * Print-outs of Oobleck instructions (16): [Oobleck Instructions](https://docs.google.com/document/d/1XGBL0p7stmqedfhCHC9Lm-pfQYPWM_pgqGvmolXPKxE/edit) | |
| **Extending the Lesson**  Students will take home instructions on how to make Oobleck at home   * Pass out the print outs of Oobleck Instructions: [Oobleck Instructions](https://docs.google.com/document/d/1XGBL0p7stmqedfhCHC9Lm-pfQYPWM_pgqGvmolXPKxE/edit) | |

**Lesson Topic: Weather/Water Cycle Grade level: Kindergarten Length of lesson: 2 hours**

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| **Desired Results** | |
| **Student objectives (outcomes):**  Students will be able to:   * Identify different types of weather. * Describe different types of weather through various characteristics (ex. Temperature, presence of clouds, seasons, etc.). * Identify the different primary stages of the water cycle. | |
| **Assessment Evidence** | |
| **Performance Task(s):**   * Sharing experiences about weather * [Drawing the Weather](https://docs.google.com/document/d/1EaETIXZL_TtbBRRonWM_ub7xgxbvgmBLaTqQ7VVG-0M/edit?usp=sharing) * Paper Plate Water Cycle | **Other Evidence:**   * Take Home Activity: [Take Home Activity](https://docs.google.com/document/d/1hVaPoKkWfxNEDB6iDz_7M8BjLUQVAgC86pX3mQsSGIk/edit?usp=sharing) |
| **Learning Plan** | |
| **Learning Activities:**  **Introduction:**   * We will start by asking students what they know about the weather, and what types of weather there are * We will ask them to share stories or experiences that they have had with different types of weather * We will then show them different pictures of different types of weather and ask them to react to how they would feel in this weather: Snow, Rain, Thunderstorm, Tornado, wind, Sunny, cloudy. * Then we will have students take 10 minutes and draw a picture of the weather for Sunny, Rainy, Windy, and Snowy [Drawing the Weather](https://docs.google.com/document/d/1EaETIXZL_TtbBRRonWM_ub7xgxbvgmBLaTqQ7VVG-0M/edit?usp=sharing) * For 5 minutes we will have them share with a partner.   **Outside:**   * We will take the students outside, and have them enjoy the weather for 5-10 minutes (if it's not raining, if the weather is bad then we will look out the window) * We will have students think about the weather, and make observations. Is the sun out? Are there lots of clouds? Does it feel warm? Is there wind? Is it strong? * We will bring the students in, discuss the weather, ask students the questions listed above, and get ideas flowing.   **BREAK AND BATHROOM BREAK**  **Transition to Water Cycle:**   * Who has heard of the Water Cycle? Does anyone know where rain comes from, and where it goes after it falls to the ground? * Today we are going to learn about the water cycle. * Introduce the Water Cycle Book: Drop: An Adventure Through the Water Cycle by Emily Kate Moon * After Reading the Book we will look at a diagram of the water cycle, and go through each part   Activity: Paper Plate Water Cycle   * We will show the steps of the activity on the board. * Each student will get a paper plate and draw two lines to section it into 4 parts * In each section, they will draw a lake (collection), a sun with lines with arrows up (evaporation), A rain cloud forming: a cloud (condensation), and rain coming down from the cloud (precipitation). * When students have drawn and colored each part, they will bring their plates up to us and we will add the arm with the brass pin and the raindrop. * They will practice moving their raindrop through the water cycle and can share them with friends.   **Clean Up/Getting Ready to Leave/Take-Home Activity**   * We will have students help clean up their station * We will play a game as they leave   Take Home Activity: <https://docs.google.com/document/d/1hVaPoKkWfxNEDB6iDz_7M8BjLUQVAgC86pX3mQsSGIk/edit?usp=sharing>  Need:  Ziploc baggie  tape  blue food coloring (optional)  marker (optional)  Water  Students and their parents will fill a ziplock back with a little bit of water, and optional can draw a lake at the bottom, and a sun and a cloud at the top.  Tape the bag to a window that gets a lot of suns  Over time the water in the bag will begin to evaporate to the top, and there will be condensation. This will show the water cycle for the students. | |
| **Resources and Materials:**   * Paper Plate (number of students in the class) * Markers * Crayons * Printed Sheet (number of students in the class): [Drawing the Weather](https://docs.google.com/document/d/1EaETIXZL_TtbBRRonWM_ub7xgxbvgmBLaTqQ7VVG-0M/edit) * Print out of Take Home Activity (number of students in the class): [Take Home Activity](https://docs.google.com/document/d/1hVaPoKkWfxNEDB6iDz_7M8BjLUQVAgC86pX3mQsSGIk/edit?usp=sharing) * Powerpoint [Saturday Science Weather/Water Cycle](https://docs.google.com/presentation/d/1Uo0Imk3dxM78YToLE6ktunzjhPgX7oVKKQSlgNj_c0M/edit?usp=sharing) * Brass Fasteners (number of students in the class) <https://www.officedepot.com/a/products/613827/Office-Depot-Brand-Round-Head-Fasteners/?utm_source=google&utm_medium=cpc&mediacampaignid=71700000107551011_19775927961&gclid=CjwKCAjwrdmhBhBBEiwA4Hx5g1YqM8FwdUjOQLY3k81y2WXCD2dAeI4JAQeCy4GsSAVbou-G7fXWgBoCHmgQAvD_BwE&gclsrc=aw.ds> * Scissors (adult) * Plain Paper | |
| **Extending the Lesson**  [Take Home Activity](https://docs.google.com/document/d/1hVaPoKkWfxNEDB6iDz_7M8BjLUQVAgC86pX3mQsSGIk/edit?usp=sharing) | |

**Lesson Topic: 5 Senses Grade level: Kindergarten Length of lesson: 2 hours**

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| **Desired Results** | |
| **Student objectives (outcomes):**  Students will be able to:   * Identify their 5 senses and what parts of their bodies use each sense. * Practice using their 5 senses to describe what is occurring through various activities/events. * Use some of their senses (instead of being able to use all of them) in order to identify different objects. * Explain how scientists use their 5 senses in order to understand nature. | |
| **Assessment Evidence** | |
| **Performance Task(s):**   * Identifying senses through the following activities:   + Catching a Ball   + Drum After Me   + Pretending to Eat their Favorite Food   + How animals use their senses (book) * [Mr. Potato Head](https://docs.google.com/document/d/1IgSjMybG_3hYSSJ7Xa75qrJhEK5-wLnhcgOMUT1A0Yw/edit) | **Other Evidence:**   * Take Home Activity: [The Five Senses](https://docs.google.com/presentation/d/1LOovpaYMmg9aE4gfQPdURMd_nkYFfGm2tM3ZlM7EEx4/edit?usp=sharing) |
| **Learning Plan** | |
| **Learning Activities:**  We will start with a discussion about what the five senses are and what they use them for.   * What are the 5 senses? * What are some ways you have used your five senses?   We will watch this video to introduce the lesson:  <https://www.youtube.com/watch?v=1xQgjryKO08>   * Main Idea: Using their senses (obviously can’t do taste) to build understanding * Identify their 5 senses and how they can implement them (ex. Touch with hands or feet) * Catching a ball activity (as a class)   + What do they notice? What happened while we played with the ball?   + What senses can they use to describe what happened?     - Ex: Sound of ball/kids, sight for where the ball went, touch to feel the ball * Drum After Me (Repeat after me but we drum out basic rhythms that they need to repeat back)   + Can be done on tables, floor, laps, etc.   + Do different tempos, rhythms, and dynamics (simpler/more dramatic of course)   + What do they notice? What happened while we drummed?   + What senses can they use to describe what happened?     - Ex: Sound of drumming, touch for what they are hitting their hands off of * Have students think about/pretend to eat their favorite food   + What senses can they use to describe what would/could happen?     - Ex: Taste the food (spicy, cold, soupy, etc.), touching the food, hearing them chew the food, the smell of the food * Discussion on which senses scientists rely on and why? (more open ended and no one right answer, but to get the kids talking in general)   Then we will read a book about Five Senses: “Senses” by Jinny Johnson   * Read the following pages: 6-17, 20-39   Mr. Potato Head Five Senses Chart   * <https://docs.google.com/document/d/1IgSjMybG_3hYSSJ7Xa75qrJhEK5-wLnhcgOMUT1A0Yw/edit> * We will have students cut out each part of the Mr. Potato Head. * One by one we will say, glue the part of Mr. Potato Head that is the sense of sight, hearing, taste, smell, and touch. And have students glue one by one.   Mystery Bags **I HAVE ALL THESE MATERIALS AND WILL BRING THEM FROM HOME**   * One with coins, can shake it, feel it and guess what it is * One with a small stuffed animal in it feel it and guess what it is * Container with Water in it, shake it and guess what it is. * One with pieces of paper in it (cut up scraps)   After this activity we will ask:   * What senses did you use? * What do you think is inside * Why do you think that?   We will end class with the video and a game. | |
| **Resources and Materials:**  [5 Senses Saturday Science K](https://docs.google.com/presentation/d/1kLMlZsJ9uyK7Nq7JbLoz7utOj736jHOvdttN2B_Zxy0/edit?usp=sharing)   * **NEED:**   + Beach ball   + Print for each student: <https://docs.google.com/document/d/1IgSjMybG_3hYSSJ7Xa75qrJhEK5-wLnhcgOMUT1A0Yw/edit>   + Glue sticks   + Scissors   + crayons   Take Home Activity: 5 Senses Checklist   1. **NEED:**    1. 5 Senses Checklist (1 for each student): [The Five Senses](https://docs.google.com/presentation/d/1LOovpaYMmg9aE4gfQPdURMd_nkYFfGm2tM3ZlM7EEx4/edit?usp=sharing)    2. Have the students identify each of the 5 senses when they do an activity (ex: Eating a meal) | |
| **Extending the Lesson**  [The Five Senses](https://docs.google.com/presentation/d/1LOovpaYMmg9aE4gfQPdURMd_nkYFfGm2tM3ZlM7EEx4/edit?usp=sharing)   * Have the students identify each of the 5 senses when they do an activity (ex: Eating a meal) | |

**Lesson Topic: Floating and Sinking Objects Grade level: Kindergarten Length of lesson: ~2 hours**

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| **Desired Results** | |
| **Student objectives (outcomes):**  Students will be able to:   * Describe various characteristics and objects that can sink, float, or do both in certain conditions. * Experiment with various designs of boats to determine characteristics of a strong boat that doesn’t sink. * Explain the basic concepts of gravity, buoyancy, displacement, density, and volume. | |
| **Assessment Evidence** | |
| **Performance Task(s):**   * Anchor Chart (done as a class) * Filling up boats with pennies until they sink * Learning the motions to the vocab words (see book for more) | **Other Evidence:**   * Take Home Activity: [Materials:](https://docs.google.com/document/d/188516Fls_L1LhV_6aDSdeFFzmtIYl2fG_A7JK0J9ABc/edit) |
| **Learning Plan** | |
| **Learning Activities:**  **Slides:** [**https://docs.google.com/presentation/d/1Y6F3gEXG0yyhS1sxRhoh2FL\_oCeVLcx90Sv8W44rgZk/edit#slide=id.ge713e4c63f\_0\_310**](https://docs.google.com/presentation/d/1Y6F3gEXG0yyhS1sxRhoh2FL_oCeVLcx90Sv8W44rgZk/edit#slide=id.ge713e4c63f_0_310)   1. **Anchor Chart**: To start the lesson, ask students what they know about floating and sinking, and what makes something float. Keep this chart visible throughout the lesson for the students to refer to. 2. **Activity 1**: Using different objects, have the students make a prediction on whether each object will float or sink.    1. **Objects**: Dice, Feather, Water bottle cap, Marble, Rock, Toothpick, Penny, Plastic Beads    2. Have a clear bucket of water at the front of the room, and after they have made their predictions drop each item into the bucket and have them assess whether they were right or wrong.    3. Repeat this process until all of the objects have been tested. 3. **Activity 2**: Divide the students into small groups (3-4) and give each group a small toy boat (or an aluminum foil boat)    1. Ask them to guess how many pebbles they can put in the boat before it sinks    2. Once each group has a number, have them start placing the pebbles in one by one, and count each one.    3. Once the boat sinks, have them record their number and say whether their guesses were right or wrong.    4. Bring the class back together and ask for answers on why they think their boat sank with that many pebbles, and see what they came up with. 4. **Return to Anchor Chart**: Ask the students about what they could add to the chart now that they’ve tested and observed various objects that have floated and sank. Ask questions to challenge their thinking, such as:    1. Can floating objects sink? How/Why?    2. Could objects that sink float? How/Why?    3. What are some characteristics you noticed about the objects that float?    4. What are some characteristics you noticed about the objects that sank?   **Bathroom/Drink Break**   1. **Reading**: “Captain Kidd’s Crew Experiments with Sinking and Floating” by Mark Weakland    1. Be sure to show the students the various examples and depictions throughout the story. Project them or show other examples if need be.    2. Go over the following words that were used throughout the book (include motions to help the students remember):       1. Gravity (have students touch the floor). “Gravity pushes down”       2. Buoyancy (have students jump up with their arms up) “Buoyancy pushes up”       3. Displacement (have students hold their arms out side to side, then have them stand on their tiptoes and reach their arms up slightly) “Nothing in the water.” “Something is in the water.”       4. Density (have students hold their breath, then after a few seconds have them release their breath)       5. Volume (have students stand with their arms and legs out, then have their students put their arms and legs close together) “More space.” “Less space.” 2. **Return to Anchor Chart**: After reading the book, ask the students about what they could add to the chart. Refer to the book as needed. 3. **Watch the following videos:**    1. [How Do Boats Float? | CURIOUS QUESTIONS](https://www.youtube.com/watch?v=VnLccU8mihQ&pp=ygUwY3VyaW91cyBnZW9yZ2Ugc2lua2luZyBhbmQgZmxvYXRpbmcgYm9hdCBwZWFjb2Nr)    2. [George Builds A Boat 🐵Curious George 🐵Videos for Kids](https://www.youtube.com/watch?v=KMvizNyQruM&pp=ygUjY3VyaW91cyBnZW9yZ2Ugc2lua2luZyBhbmQgZmxvYXRpbmc%3D) | |
| **Resources and Materials:** [**https://docs.google.com/presentation/d/1Y6F3gEXG0yyhS1sxRhoh2FL\_oCeVLcx90Sv8W44rgZk/edit#slide=id.ge713e4c63f\_0\_310**](https://docs.google.com/presentation/d/1Y6F3gEXG0yyhS1sxRhoh2FL_oCeVLcx90Sv8W44rgZk/edit#slide=id.ge713e4c63f_0_310)  4 Clear buckets for water (for each group)  Water (can get from sinks)  4 Tin Foil/Toy boats  Fish Pebbles/Small Marbles/Pennies (choose 1 material that can be shared among all of the groups for consistency. The students may be using several depending on the type of boat that they are using)  Random Objects (1 each):   * Dice * Feather * Water bottle cap * Marble * Rock * Plastic Beads (this can float and sink) * Toothpicks   Book: “Captain Kidd’s Crew Experiments with Sinking and Floating” by Mark Weakland (Maddie)  PRINT TAKE HOME: <https://docs.google.com/document/d/188516Fls_L1LhV_6aDSdeFFzmtIYl2fG_A7JK0J9ABc/edit> | |
| **Extending the Lesson**  [Materials:](https://docs.google.com/document/d/188516Fls_L1LhV_6aDSdeFFzmtIYl2fG_A7JK0J9ABc/edit) | |

Adapted from *Understanding by Design*, Expanded 2nd Edition (2005) by Grant Wiggins and Jay McTighe, Association for Supervision and Curriculum Development.