

# Winter's Water Works

**Grade Level:** Grades 1 & 2

**Science Skills:**

*Florida Sunshine State Standards:*

*Grade 1: SC.1.P.12.1*

*Grade 2: SC.2.P.13.4*

**Description:** Students will learn about the various ways that Winter moves in the water and how water is displaced differently with and without her tail.

**Materials:**

- 5 Gallon bucket
- Rubber gloves (enough for each student to have one)
- Rubber bands (enough for each student to have one)
- Cardboard or sturdy paper
- Safety scissors
- Animal Cut-outs
- Tape/Magnets
- “Winter’s Water Works: Teacher Copy” instruction sheet
- “Winter’s Water Works” worksheet
- “The Tale of the Tail: Winter’s Story” story

**Additional Materials:**

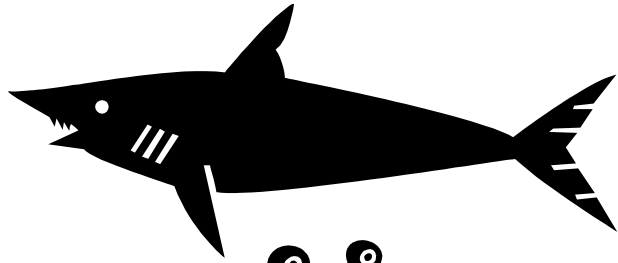
- Book – “Winter’s Tale” by Joanne Benazzi Friedland - available for purchase online (optional)
- Book – “Winter’s Tail” by Juliana Hatkoff, Isabella Hatkoff, and Craig Hatkoff – available for purchase online (optional)
- Activity Book – “Winter: The dolphin who lost her tail” – available free online (optional)
- Video – “Winter: The Dolphin that Could” – available for purchase online (optional)

**Preparations:**

Cut out and put tape on the backs of the Animal Cut-outs and their coinciding descriptions. Place these on the board. Make enough copies of “Winter’s Water Works” worksheet for each student. Fill bucket with water. Read through the “Winter’s Water Works: Teacher Copy” instruction sheet to understand experiment set-up.

**Procedures:**

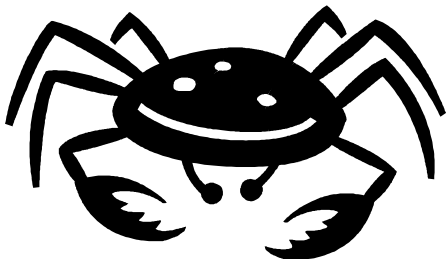
- 1) Talk to students about how animals move differently according to where they live (i.e. wolves run, mountain goats climb, fish swim, birds fly).
- 2) Have students look at the different underwater animals in the Animal Cut-outs you’ve created and ask them what they all have in common (*Answer: they live underwater*)
- 3) Even though each of these animals lives underwater, they all move differently. Have the students try to match which animal moves in which way. Save the dolphin for last.
- 4) Ask students how many of them have seen dolphins before and where.
- 5) Ask the students if they have heard about Winter the dolphin.
- 6) Read “The Tale of the Tail: Winter’s Story” aloud to the students.
- 7) Tell the students that today they are going to learn about how Winter moves through the water and why.
- 8) Pass out the “Winter’s Water Works” worksheets and experiment supplies.
- 9) Follow the instructions on the “Winter’s Water Works: Teacher Copy” instruction sheet to help students complete the assignment.



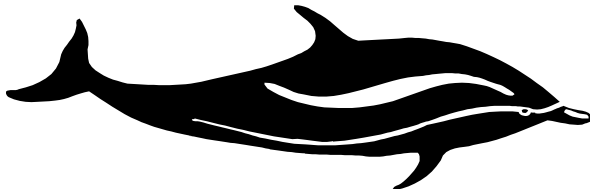
*Side to Side*



*Slow*



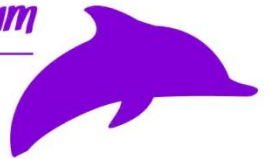
*Sideways*



*Up and Down*



*Fast*



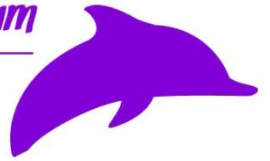
# *The Tale of the Tail: Winter's Story*

On the calm waters of Mosquito Lagoon one December morning, a crab trap buoy floated gently on the surface of the water. Beneath the buoy was a long rope and tied to the long rope was a crab trap. To a young dolphin calf, it looked like the perfect toy! The dolphin calf grabbed the rope in her mouth and began to play. She swam back and forth, up and down, twisting and turning around the rope. Suddenly, she realized that the rope was tangled all around her body. It was twisted around her fin on top, called a dorsal fin. It was twisted around her fins on the side, called pectoral fins. Most tightly, it was twisted around her tail, called her flukes. The young dolphin needed help and quick!

Luckily, a fisherman nearby saw the crab trap buoy bouncing around on the top of the water. He directed his boat closer and saw the little dolphin all wrapped up in the line of the crab trap. He called for help and waited until a rescue team arrived. The rescue team saw that the little dolphin would need the care of an animal doctor, called a veterinarian, and took her all the way across the state of Florida to Clearwater Marine Aquarium.

Once she was at Clearwater Marine Aquarium, the young dolphin was named Winter after the season in which she was found. The veterinarian and the animal care team at the aquarium realized that Winter's tail was very damaged from her experience with the crab trap – so damaged that she would never be able to use it again. Sure enough, her tail slowly began to fall off until it was completely gone.

Winter didn't let her missing tail slow her down. She learned how to swim side-to-side, like a fish swims. But the animal care team at CMA knew that swimming like that could hurt Winter's back – a dolphin's tail is supposed to move up and down! They worked with a group of people from Hanger Prosthetics, a company that makes artificial legs and arms for people. The doctors at Hanger designed a new tail for Winter. When Winter wears it, she can swim like a normal dolphin does – up and down!



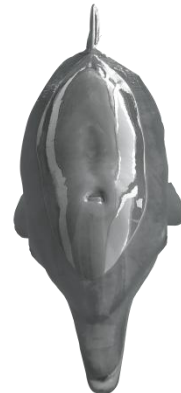
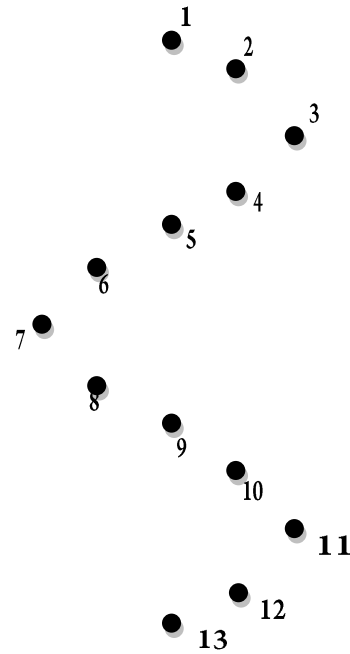
# Winter's Water Works

Name: \_\_\_\_\_

*Part One Directions:* Connect the dots and circle the correct **bold words** below to learn about Winter's tail!

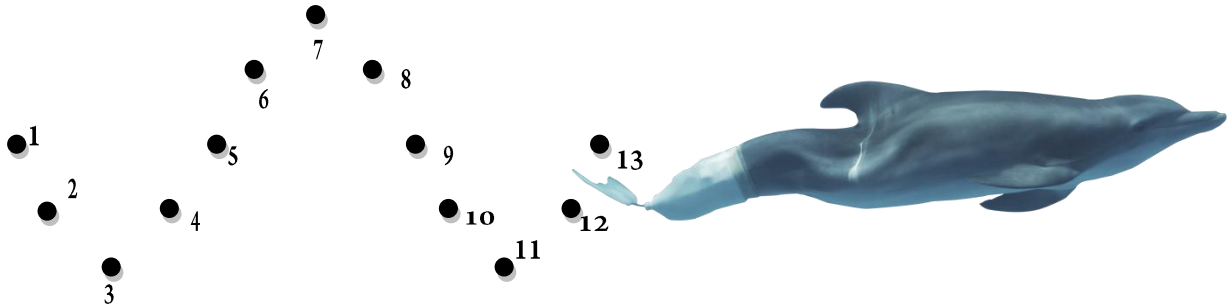
Without her artificial tail on, Winter swims  
( **side-to-side.**      **up-and-down.** )

This is how a  
( **fish**      **dolphin** )  
normally swims.



With her artificial tail on, Winter swims ( **side-to-side.** **up-and-down.** )

This is how a ( **fish** **dolphin** ) normally swims.



**Part Two Directions:** Use the pattern on the next page to create Winter's tail! Cut out the pattern on cardboard and wrap it around your wrist. Follow the directions given by your teacher to find out why Winter swims the way she does! Then, answer the questions below.

- 1) Without the tail over your hand, which movement moved more water in the bucket?

**Side-to-side**

**Up-and-Down**

- 2) With the tail over your hand, which movement moved more water in the bucket?

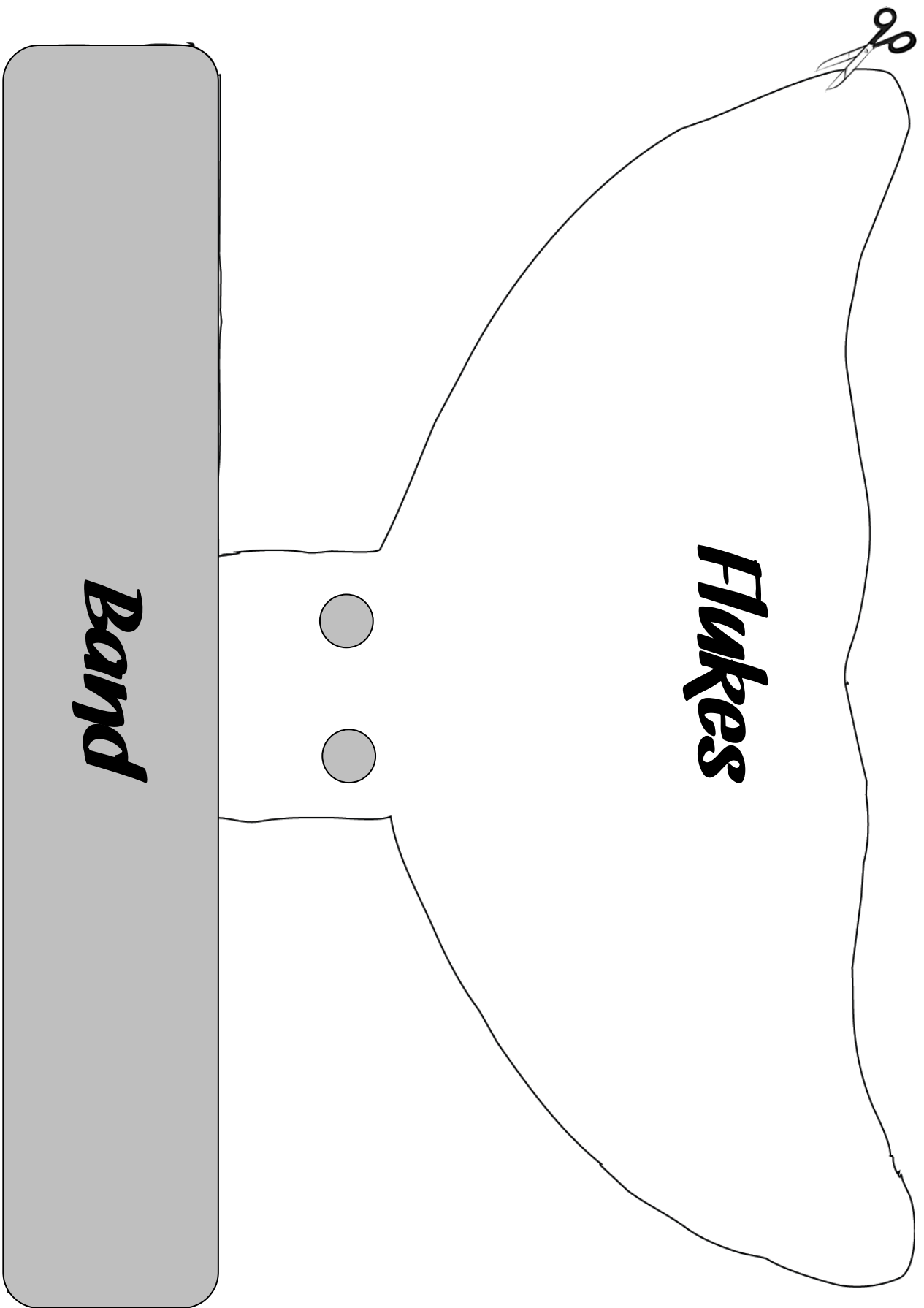
**Side-to-side**

**Up-and-Down**

- 3) If you were Winter, which way would you like to swim?

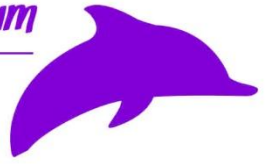
**With the tail**

**Without the tail**



***Band***

***Flukes***



# Winter's Water Works

## Teacher Copy

### Part One Answers

- Without her tail on, Winter swims **side-to-side**.
- This is how a **fish** normally swims.
- With her tail on, Winter swims **up-and-down**.
- This is how a **dolphin** normally swims.

### Part Two Directions:

- 1) Prior to class, fill up a bucket of water for students. The bucket must be big enough around for students to fit their hands, with the tails on, inside.
- 2) Pass out the cardboard, safety scissors, rubber glove, and rubber bands to students.
- 3) Instruct students to carefully cut out the pattern by tracing it onto the cardboard and cutting where they've traced.
- 4) Give students each one rubber glove. Tell them this is like Winter's gel that she puts on before she puts on her tail.
- 5) Have students each hold out their hand so that their thumb is facing up (see picture).
- 6) Tell them that their hand is Winter's tail stump without her artificial tail on. Let each student try to move their hand up and down (in a chopping motion in the water) and then side to side (like a fish swimming). Ask them which way moved more water.
- 7) Next, have the students fasten the tail to their hand using the cardboard band (labeled on the pattern) and the rubber bands. Once the rubber band is on, ask them why the gel (their glove) might be important to Winter. *Answer: The gel helps to protect Winter's sensitive skin while she wears the tail.*
- 8) Let each student try to move their hand, with tail, up and down (like a dolphin swimming) and side to side (like a fish swimming). You can either have them try this in the water bucket (though things may get messy) or use the tail to fan themselves and explain how the air moving is similar to the water Winter's tail would move.
- 9) Have students circle the correct answers on the bottom of their worksheet.

