

TERRIFIC TARDIGRADES

AGES

Children 8+ years
Multigenerational

PROGRAM DESCRIPTION

What are tardigrades? They are microscopic water bears! This program requires some prep but is a fun multigenerational event. Read a book about tardigrades, such as *My Tiny Pet* by Jessie Hartland, share photos and facts, or show brief YouTube videos. Then let participants cycle through the stations you have set up from the following options:

- Station 1: Gummy Water Bears
- Station 2: Tardigrade Watercolors
- Station 3: Microscope
- Station 4: Tardigrade Buttons
- Station 5: Tardigrade Shrinky Dinks

Suggested runtime: 120 minutes



Image source: Shutterstock

MATERIALS AND PREPARATION

Station 1: Gummy Water Bears

You will need:

- Gummy bears
- Baking trays
- Water
- Hand wipes

At least three hours before the program, cover gummy bears with a layer of water on a baking tray. They will bloat to look like water bears. Participants can feel their squishiness. Remember the hand wipes, and leave out a few dry bears for comparison.

Station 2: Tardigrade Watercolors

You will need:

- Watercolor paper or cardstock
- Printed tardigrade silhouettes (optional; see Printables)
- Paintbrushes and watercolors
- Cups of water

ADAPTATION:

For preschoolers, read a version of “Goldilocks and the Three Bears,” but replace bears with water bears. You could do this by printing photos and laminating them to create a felt board set, then send children to the gummy water bears and watercolor stations (with crayons instead of watercolors). Talk about how water bears are also known as tardigrades and moss piglets, and be sure to set out photos!

ADAPTATION:

Teens could make the buttons or Shrinky Dinks themselves. You could also turn the tardigrade theme into a “paint and partake” program in which teens follow along to paint the same picture.

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Set out paper and watercolor supplies. Optionally, print tardigrade silhouettes on the watercolor paper or cardstock.

Station 3: Microscope

You will need:

- A microscope
- Tardigrade slides

Prepare individual slides before the program.

Station 4: Tardigrade Buttons

You will need:

- A button maker
- Button-making supplies
- Printed images at the correct scale (see Printables)

Station 5: Tardigrade Shrinky Dinks

You will need:

- Shrink film (#6 plastic)
- Tardigrade images (see Printables)
- Toaster oven (325 degrees)
- Cookie sheet
- Two pieces of cardstock
- An oven mitt
- A spatula
- A trivet for the hot cookie sheet
- A hole punch or peel-and-stick pins
- Set out precut plastic, printed tardigrade images, and alcohol-based markers. Participants draw or trace a tardigrade on the plastic.
- Punch holes in the plastic before baking.
- Line the cookie sheet with cardstock, place the tardigrades on top (not touching each other), and cover with the second piece of cardstock.
- Baking time: 2–4 minutes at 325 degrees. Watch carefully!
- Put the hot cookie sheet on a heat-resistant surface or trivet.
- As soon as they are out of the oven, use your spatula to peel off the top layer of cardstock and flatten each tardigrade individually. If they do not flatten, put them back in the oven to reheat and redo.

UNIQUE SPACE AND PERSONNEL NEEDS

You will need one staff member or volunteer for each station. The microscope station could be a great partnership opportunity with a local biology teacher or science enthusiast. If you do not have a microscope, you could also try a local park, which might have one available for outreach programming.

TIP:

If you divide the participants into groups, consider making tardigrade buttons in different colors, one for each group to wear.

TIP:

You can also purchase printable plastic on which to print the tardigrade images (see Printables). Participants color the tardigrades before shrinking.

WARNING:

#6 plastic leeches styrene, a known carcinogen, when heated. Using a craft-only toaster oven and a disposable cookie sheet and spatula is recommended.

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RESOURCES

Web

Tardigrade YouTube videos:

- <https://youtu.be/eXBkmLzBHZk>
- <https://youtu.be/-irqb99btZY>
- <https://youtu.be/Ysu0Ex2l4JE>
- <https://youtu.be/TSaVEEXEZnw>

Purchase tardigrades here: <https://bit.ly/2X6gri0> or here: <https://bit.ly/2TiIYkk>

Basic shrink film: <https://amzn.to/2ZhBOzA>

Printable shrink film: <https://amzn.to/2Zg1qwl>

Tardigrade Books

Picture Books

My Tiny Pet (2019) by Jessie Hartland (F)

Willow the Water Bear (2018) by Houston Kidd (F)

Early Readers

Extreme Survivors: Animals That Time Forgot (2017) by Kimberley Ridley (NF)

Middle Grade

Leaf Litter Creatures (2018) by Leslie Bulion and Robert Meganck (NF)

Unseen Worlds: Real-Life Microscopic Organisms Hiding All Around Us (2019) by H el ene Rajcak and Damien Laverdunt (NF)

Unusual Creatures: A Mostly Accurate Account of Some of Earth's Strangest Creatures (2014) by Michael Hearst et al. (NF)

Amazing/Extreme Animals Nonfiction

Picture Books

Cuddly Critters for Little Geniuses (2018) by Susan Patterson et al.

Gross as a Snot Otter (2019) by Jess Keating

Look at Me! Wild Animal Show-Offs (2018) by Jim Arnosky

Weird Animals (2019) by Mary Kay Carson

Early Readers

Actual Size (2004) by Steve Jenkins

Extreme Survivors (2014) by Connie Roop and Peter Roop

Stinkiest! 20 Smelly Animals (2018) by Steve Jenkins

Teensy, Weensy Animals (2015) by Joan Emerson

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Middle Grade

Deadliest Animals (2011) by Melissa Stewart

Encyclopedia of Strangely Named Animals (2019) by Fredrik Colting

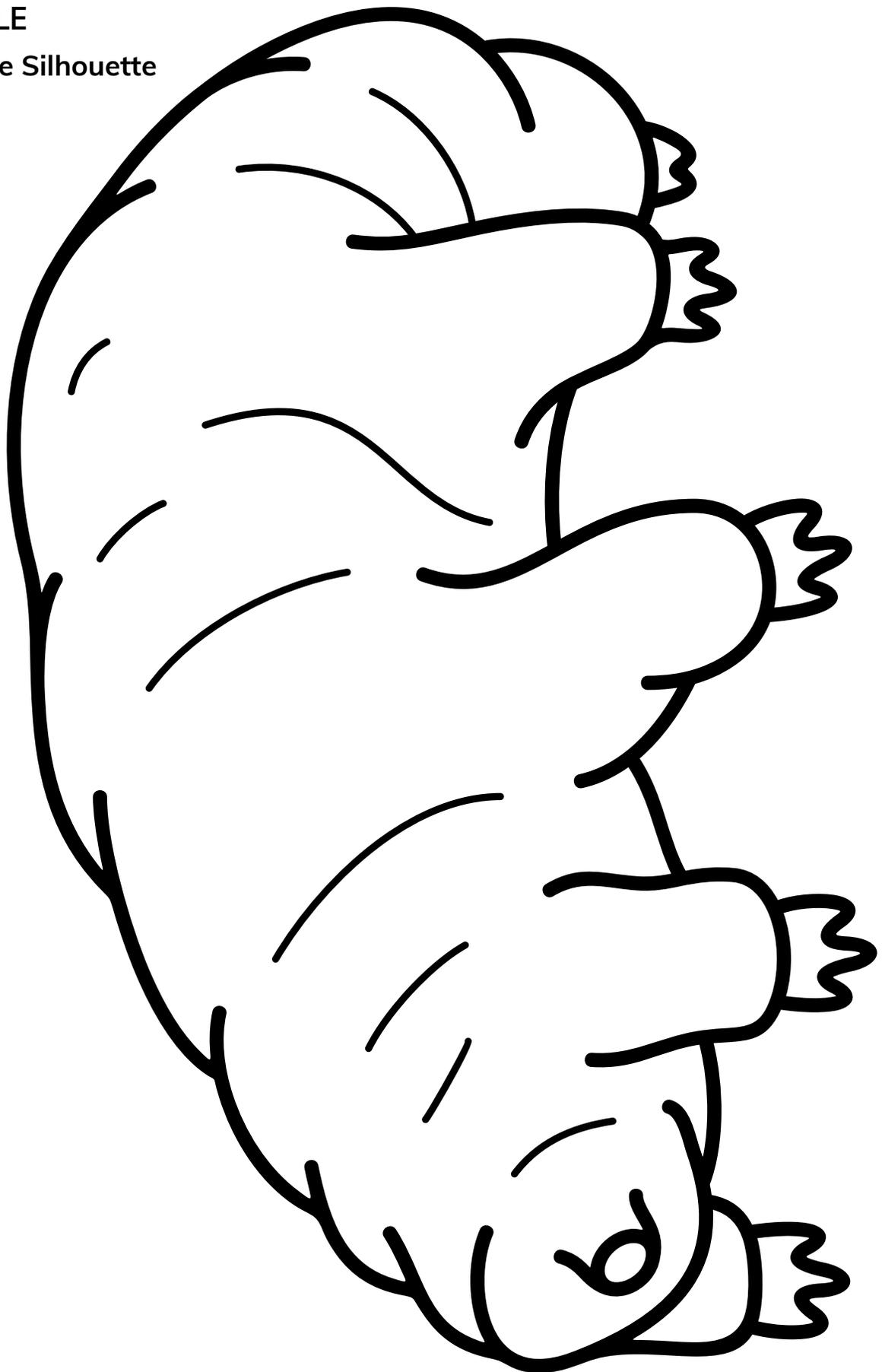
Giant Squid (2016) by Candace Fleming and Eric Rohmann

Masters of Disguise: Amazing Animal Tricksters (2016) by Rebecca L. Johnson

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PRINTABLE

Tardigrade Silhouette



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PRINTABLE

Tardigrade 2.5" Inkjet Button Template

