

ELINOR WONDERS WHY

EWI Interstitial 122

Mz. Mole Story Time:

Daphnia
By Matt Giorgianni

Follows: Frozen Fish - When the pond freezes, Elinor and her friends become worried about how the fish who live there can survive the winter. With Farmer Bear's help they learn they're fine, resting in the cold water beneath the ice

Curriculum: The kids learn about Daphnia, the cute little water flea, that lives in ponds that dry up. They have special eggs which dry out and wait until the rains and streams fill the pond back up, only then do they hatch.

LS4. Understand that all animals and plants have a life cycle, can reproduce, and change and grow over time:

LS5. Begin to understand that animals and plants depend on other living things and nonliving things in the environment to meet some of their needs:?

FIRST DRAFT: September 8, 2019
SECOND DRAFT: September 27th, 2019
POLISH DRAFT: October 15, 2019

Open on MZ. MOLE, ELINOR, OLIVE, ARI and KIDS (as necessary). The kids are spread out, looking for something in different directions. The sun is overhead and it is hot. Mz. Mole is carrying a bag.

9 ELINOR 9
Oh, I get it. Now it's SUMMER and
there isn't much rain so the pond
is all dried up.

10 MZ. MOLE 10
That's right.

11 ARI 11
But there were so many little
critters living in the pond. What
happened to them?

12 MZ. MOLE 12
Those critters have some very
clever ways to survive. Let's read
about one of my favorites, called
Daphnia.

Mz. Mole pulls out a book from her bag and opens to a picture
of a pond

2. EXT. IMAGE OF POND IN BOOK

CROSS/SECTION: We see daphnia bobbing in the water, they are
quite small.

Adult daphnia with eggs image ref:

https://upload.wikimedia.org/wikipedia/commons/thumb/4/4e/Daphnia_pulex.png/440px-Daphnia_pulex.png

13 ELINOR 13
Look how they bounce up and down!

Mz. Mole turns the page and with a magnifying glass we can
see a Daphnia close up with two eggs on her back. (Or Mz. Mole
can us a magnifying glass. Some books have these attached by
a string)

14 OLIVE 14
She has little eggs on her back!

15 Mz. Mole turns the page a few times and the level of the pond 15
drops down with each turn.

15 ARI 15
Oh no, their pond is drying up! We
should warn them.

16 MZ. MOLE 16
Not to worry, the momma daphnia
makes a special case that keeps her
eggs safe as the pond dries up.

The Daphnia's back develops a hard brown case. We see the egg
case fall off the Daphnia's back, the daphnia swims away as
the case falls to the bottom of the pond.

Egg case ref:

https://upload.wikimedia.org/wikipedia/commons/thumb/5/52/Daphnid_GLERL_1.jpg/440px-Daphnid_GLERL_1.jpg

Pages Turn and we see the level of the pond drop until there is just dry dirt with a brown egg case resting on it.

17 ELINOR 17
Don't the little eggs need water?

18 MZ. MOLE 18

They do. But if they are in their
special case they can wait for the
spring rains to fill up the pond
again. Then, pop! Out come the new
little daphnia.

We see rain fill the water level back up. We zoom in closer to the brown egg case at the bottom. When Mz. Mole says "pop!" Two little daphnia pop out of the case and start bobbing around.

Baby daphnia image ref:

<https://upload.wikimedia.org/wikipedia/commons/thumb/5/52/Daphnid GLERL 1.jpg/440px-Daphnid GLERL 1.jpg>

19 OLIVE 19
There they are!

20	MZ. MOLE	20
	Indeed! Nature has a lot of clever tricks to help pond creatures survive the summer.	

3. EXT. POND -- DAY

The kids are sitting around the dried area, looking hot and tired, except for Olive who is next to Mz. Mole

21 OLIVE 21

So there's a whole pond here just
waiting for water to bring it back
to life?

22 MZ. MOLE 22
That's right! A little like your
friends over there.

Mz. Mole smiles and winks at Olive and pulls a jug of water out of her bag. Olive smiles, puts her trunk in the water, sucks it up and then sprays it in the air. The water falls on the other kids and they start <GIGGLING AND LAUGHING> and running around

Video of swimming:

<https://www.youtube.com/watch?v=3rOCjjD29SY>