

ELINOR WONDERS WHY

EW152: BIG TREES

Written by
Jorge Cham and Daniel Whiteson

Question: How do I make my block tower tall?

Logline: Ari wants to build as big a block tower as he can, but it keeps falling down until he gets some building inspiration from the sequoia trees.

Curriculum: LS2. Understand that animals have different body parts that are used in different ways to meet their needs, and that plants have different parts that help them survive and grow:

- b. Identify the basic parts of plants and their function
- c. Compare how the external body parts of animals and plants are the same and/or different
- d. Explore how different external features of a plant or animal help it survive in its environment. (Elinor and her friends observe the size of the sequoia tree, especially the circumference of the base.)

ND3. (RTL Crosscutting concept 'Structure and Function'): Understand that structures and materials in the natural world can be used or can inspire the engineering of structures with similar function in the designed world. (Ari decides to copy the structure of the big tree to help him build a more stable block tower at home).

SEP1. Asking questions (science) and defining problems (engineering)

- a. Demonstrate curiosity about the greater world outside of their local environment

- b. Ask more complex questions about observable phenomena

- c. Ask and/or identify cause and effect questions that can be answered by an investigation

- d. Identify a problem that can be solved by the design a new or improved object or tool (engineering)

(Elinor and her friends observe the structure of the Sequoia, which Ari relates to the problem of his unstable block tower).

SEP3. Planning and carrying out investigations

- a. Identify and use a greater variety of tools to extend the senses for observing, measuring, and recording data about objects and events

- b. Compare and contrast objects and events by describing similarities and differences in detail

- c. Demonstrate an ability to make and test predictions based on background knowledge and experiences

- d. With guidance, plan and conduct simple investigations using simple tools

- e. Design and build a solution to a simple problem (engineering)

SEP5. Using mathematics and computational thinking

d. Use measurement tools to measure and quantify properties of observable phenomena and objects

(Elinor and her friends measure the base of the tree by counting the number of kids it takes to encircle it)

SEP6. Constructing explanations (science) and Designing Solutions (engineering)

a. Use background knowledge experiences, and data to construct reasonable explanations and theories of natural phenomena (science)

b. Look for and describe patterns and relationships in natural phenomena (science)

c. Use and apply productive science discourse to support an explanation

d. Use evidence to support a theory or solution to a problem (engineering) (Elinor and her friends observe that the Sequoia is more stable be-cause of it's wide base, and Ari used that idea to make his block tower more stable).

FIRST DRAFT: October 18, 2019

1. INT ARI'S LIVING ROOM / DAY

We open on a wooden toy block being held under another block. As we pull out, we see that it's being held up by ARI. The camera pulls out further and rotates to reveal that he's hanging upside down from the living room chandelier (can we add a chandelier to the living room?), holding a block with one hand while trying to place another one on top of a teetering tower of ~10 blocks. (If the height still doesn't work, we could put the block tower on top of the coffee table?).

Ari narrates to himself like a golf commentator.

1	ARI (COMICALLY LOUD WHISPER)	1
	Here we go folks. If Ari can place	
	these last two blocks...	

He slowly readies to place the first block.

2	ARI (CONT'D)	2
	... this will officially be the	
	tallest block tower IN THE WORLD!	

He gingerly places the block.

3	ARI (CONT'D)	3
	Stay right there, little block. No	
	falling.	

The tower teeters for a moment.

4	ARI (CONT'D)	4
	Uh oh.	

But the tower doesn't fall.

5	ARI (CONT'D)	5
	Phew! One more block for the WORLD	
	RECORD.	

He reaches out to place the next block. <SFX: MIRI OFFSCREEN
BABY COOING> *

Ari reacts, pulling back his arm as Miri crawls near the base
of the tower. *

6	ARI (CONT'D)	6
	Hi Miri. Be careful, I'm trying to	
	build the tallest block tower in	
	the world.	

Miri gestures that she wants to play too.

7 ARI (CONT'D) 7
Oh, I know you want to help, but
this is really important. It's for
the world record.

Ari reaches out and puts the last block on the unstable looking tower. The tower teeters.

[illegible]

The tower starts to lean one way. <SFX: GASP!> Ari flies down. He hovers on the side that's falling and blows desperately on the tower to keep it up. The tower teeters the other way. Ari flies to the other side and blows on it again. It sort of looks like it works, but then: PLOP. The tower falls on him, showering him comically with blocks.

Miri <SFX: GIGGLES>.

9 ARI (CONT'D) 9
Yeah, I know. It's kinda fun when
it falls down.

He gets up and assesses the fallen blocks.

10	ARI (CONT'D)	10
	I guess I'll have to keep trying!	

11 MR. BAT (OS) 11
Ari, are you ready for school? It's
time to go.

Mr. Bat appears in the doorway.

12	ARI	12
	Aww, can I build one more tower?	
	Pleaaaaase?	

13 MR. BAT 13
You can't be late. Remember, today
is a special day: it's your class
field trip!

Ari gets very excited, does a little celebration dance as Miri crawls over to Mr. Bat.

14 ARI 14
YES! Field trip! Wooo hoo!

Ari flies over to the kitchen table, where Mr. Bat has Ari's hat and is packing his lunch. He puts the hat on Ari's head.

15 ARI (CONT'D) 15
Did you pack my extra snacks? Field
trips make me extra hungry.

16 MR BAT 16
I know. I've been your dad for a
few years now.

Mr. Bat calls out the snacks as he packs them.

17 MR BAT (CONT'D) 17
Here's your morning snack, your bus
ride snack. The mid-morning snack.
Lunch snack. Afternoon snack.

18	ARI	18
	Wait, what about the emergency back up snack?!	

[illegible]

He puts one last snack in.

20 ARI 20
Thanks, Dad! You're the best. Bye
Miri!

He grabs the lunchbox with his feet and flies towards the door. The over-stuffed lunchbox pulls him to the floor as it goes over the edge of the table.

21 ARI (CONT'D) 21
Don't worry. I got this.

He comically drags it out of the kitchen.

2. EXT SCHOOL YARD / BUS - DAY

The class kids are gathered outside the school where a school bus sits waiting for everyone to arrive. Ari arrives carrying his lunchbox. His friends ELINOR and OLIVE are already there, hanging out by a nearby tree. The two girls have their arms wrapped around the tree, linking hands and <SFX: GIGGLING> as Ari walks up to them.

22 ARI 22
Hi, Elinor! Hi, Olive! Uh, what are
you doing?

23 OLIVE 23
(giggles) We're hugging a tree! I really love trees, so I wanted to give this one a hug, but my arms couldn't reach all the way around.

24 ELINOR 24
So I helped her! And now we're playing ring around the tree.

The girls do a turn around the tree and let go, <SFX: GIGGLING> as they dust themselves off.

25 OLIVE 25
Ari, are you excited for our field trip today?

26 ARI 26
Yeah! Although... it did keep me from getting a world record this morning.

27 ELINOR 27
A world record?

28 ARI 28
Yup, I'm trying to build the TALLEST block tower in the world.

Ari raises one arm up as high as he can.

29 ELINOR 29
Ooooh.

30 OLIVE 30
Oh! Mz. Mole said we are going to see some TALL trees today for our field trip.

31 ARI 31
Really? Cool! I like anything tall. How tall do you think the trees will be?

The kids think for a moment. Olive points to a nearby tree.

32 OLIVE 32
The trees in the playground are already pretty tall. They are as tall as the school.

33 ELINOR 33
Maybe the big trees will be even taller. Like as tall as my house!

We see a thought bubble with the tree from the schoolyard, compared to the school. Elinor's house appears and the tree pops and stretches to match its height.

ARI
That's pretty tall.

35 OLIVE 35
Or maybe, they'll be as tall as the
town hall tower!

In the thought bubble, we see the tree stretch up and the town hall tower appears next to it.

ARI

Whoa, now that would be TALL.

Elinor looks puzzled.

37 ELINOR 37
Hmmm, I never thought about it
before. I wonder how tall can a
tree get?

At that moment, the bus gets started, and Mz. Mole calls them in.

38 MZ. MOLE 38
 Alright, class! Who's excited about
 going on a field trip??

The kids all shout positively <SFX: YEAH! WOO HOO! WALLA>.

39 MZ. MOLE (CONT'D) 39
Well, hop on board!

The kids excitedly pile into the bus. As they climb up, they say hi to the conductor, DEPUTY MOUSE. <SFX: HI, DEPUTY MOUSE/HELLO! WALLA>

```

40                                DEPUTY MOUSE                                40
                                Good morning, kids!

```

3. SCHOOL BUS - DAY

Inside, the three kids find their seats. Ari immediately opens his lunchbox.

41	ARI	41
	Yes! Time for my bus snack!	

42 MZ. MOLE 42
Ok, Deputy Mouse, are you ready to
drive us to... the supermarket?

The kids react in outrage.

43 CLASS 43
No!/We can't go to the supermarket
for a field trip!/Mz. Mole!

Deputy Mouse <SFX: CHUCKLES>.

44 MZ. MOLE 44
Just kidding! Deputy Mouse, please
drive us to... the dentist!

More outrage. <SFX: NO!/NOT THE DENTIST!/MZ. MOLE! WALLA>.

45 ELINOR 45
Mz Mole! Field trips are supposed
to be fun!

46 MZ. MOLE 46
Ha ha. Just some old teacher
silliness. No, today we are going
to see something VERY SPECIAL. It's
a very tall kind of tree, called a
Sequoia.

47 OLIVE 47
Sequoia. I like that word!

48 ARI 48
How tall is a Sequoia, Mz. Mole? Is
it taller than the town hall tower?

49 MZ. MOLE 49
Why it's the tallest tree IN THE
WORLD!

The kids <SFX: OOH/AHH/YAY!>.

50 DEPUTY MOUSE 50
One Sequoia forest, coming right
up!

Deputy Mouse starts the bus (it purrs quietly, as it runs on
green energy).

4. EXT. ANIMAL TOWN AND BEYOND -- DAY

We see the bus roll out of Animal Town and over different
landscapes.

5. EXT REDWOOD GROVE -- DAY

57 OLIVE 57
Mz. Mole, are *these* the tall
sequoia trees?

58 ARI 58
They must be! Look how tall they
are.

59 ELINOR 59
Whoa... I think they're taller than
the town hall tower.

On a wide view, we see that the trees are indeed several storeys high.

```
60                                MZ. MOLE                                60
                                Nope! These are still young Sequoia
                                trees. Let's keep going!
```

The kids <SFX: WHOA... WALLA> as they keep walking.

Finally, they arrive at the main clearing. At first, the kids (in the show and at home), can't tell they are next to a giant sequoia because it's SO big that the base of it fills a whole side of the screen on a medium shot.

Mz. Mole stretches her arms out.

61 MZ MOLE 61
Here we are, kids! What do you
think? Pretty tall, right?

The kids look around, a bit confused <SFX: HUH?/WHERE ARE THE TREES? WALLA>.

62 ELINOR 62
Where are the big trees, Mz Mole?

63 MZ MOLE 63
Right here! You're standing right
next to one of them!

The camera pulls out to reveal that they are at the base of a giant sequoia.

64 ARI 64

That's a tree? I thought it was the
side of a mountain.

[illegible]

The kids look up. The tree is SO tall, they can't even see the top.

```

66                                OLIVE                                66
                                SO... MUCH... TREE!

```

Olive is in love. The kids are all astonished.

```
67                ARI                                67
Now THAT is a tall tree!
```

Elinor looks curious.

68 ELINOR 68
Mz. Mole, I have a question.

69 MZ MOLE 69
I knew you would, Elinor.

70 ELINOR 70
How tall is this tree? I can't even
see the top.

71 OLIVE 71
Yeah, without seeing the top, we
can't tell how tall it is.

72 ARI 72
That sounds like a job for
everyone's favorite bat. <pause>
I'm talking about me. I'll check it
out!

Ari takes off flying.

73 MZ MOLE 73
Be careful up there, Ari!

We see Ari fly up... And up... And up. He passes some birds and keeps going... Up... and up... He goes through a small cloud... and keeps going! Finally, he gets to the very top. On a super wide shot, we get a full view of the scale of the tree. It's about 300ft (90m) tall.

74		ARI		74
	WOWWWWWW.			

Ari looks down to see his tiny class. There's a short breeze, and his hat blows off and falls down.

75 ARI (CONT'D) 75

My hat!

We follow the hat down, down, down...

The hat lands on Mz. Mole, followed shortly by Ari.

76 ELINOR 76
How tall was it, Ari?

77	ARI	77
	So tall! But it also got thinner at the top.	
78	OLIVE	78
	It took your hat FOREVER to fall down.	
79	ELINOR	79
	Is it higher than the town hall tower?	
80	ARI	80
	Way higher! I passed some birds on the way up!	
81	OLIVE	81
	Is it taller than the clouds?	
82	ARI	82
	I had to fly THROUGH a cloud to get to the top.	
The class kids all <SFX: OOOH WALLA>.		
83	OLIVE	83
	What was it like?	
84	ARI	84
	(thinks for a beat) Mmm... cloudy.	
The kids <SFX: GIGGLE>. Elinor looks up, curious.		
85	ELINOR	85
	I wonder... Why is this tree so tall?	
86	OLIVE	86
	Maybe it was planted by a giant?	
(Thought bubble of giant Olive planting a giant tree).		
87	ARI	87
	Or maybe it got stretched out by some birds?	
(Thought bubble of birds pulling on a tree).		
88	ELINOR	88
	(giggling) Those are fun ideas. I know, maybe it ate and drank a lot of water.	

89	ARI	89
	Wow. I don't think I brought THAT many snacks.	
90	MZ MOLE	90
	Actually, you're right, Elinor! This forest is perfect for these trees to grow in. They have just the right amount of water and sun so they just keep growing and growing.	
91	OLIVE	91
	Forever?	
92	MZ MOLE	92
	Some of these trees, like this one, are THOUSANDS of years old.	
General <SFX: WHOAAA>.		
93	OLIVE	93
	That's older than my mom.	
94	MZ MOLE	94
	Ha! Yes, by quite a bit.	
95	ELINOR	95
	Mz. Mole, does that mean that WE will also get really tall when we get old?	
96	MZ MOLE	96
	I wish! No, animals like you and me stop growing at some point. Thank goodness, or your parents would be super tall!	
They all <SFX LAUGH>. Olive goes up to the tree.		
97	OLIVE	97
	Look how wide the tree is here in the bottom. I probably can't even hug it like I do our trees at home.	
Olive tries hugging the tree.		
98	ELINOR	98
	I'll help you, Olive!	
99	ARI	99
	Me too!	

One by one, the whole class joins in, linking arms and making a circle around the tree <SFX: ME TOO! YEAH! WALLA>.

100 MZ MOLE 100
Ha ha, I love it!

The kids form a circle, linking hands. Finally it takes the whole class including Mz. Mole. All the kids <SFX: GIGGLE> and enjoy this magical moment.

101 ELINOR 101
Wow. Why is the bottom of the tree so WIDE, Mz. Mole?

102 MZ MOLE 102
Hmmm, good question, Elinor. What do you think would happen if the tree was thin all the way up?

The kids think about that for a beat <SFX: HMMM>. Ari leans back against a little sapling, which bends under his weight.

103 ARI 103
Woah! This tree is really bendy.

Elinor curiously tries bending the tree a little. Then she has an idea. She runs over to the base of the giant tree, pushes on it. It's rock solid.

104 ELINOR 104
I know! If the tree was thin all the way up, it would be really bendy. And then it wouldn't be able to stay up so tall.

On a thought bubble, she imagines a really thin tall tree. The tree bends completely over.

105 ARI 105
It would fall over, just like my block tower!

106 OLIVE 106
Maybe the tree has to be wide at the bottom so that it can be really tall at the top?

107 MZ. MOLE 107
That's exactly right, clever scientists! Being really wide at the bottom helps you be really tall without falling over.

On their realization, the kids sing a song to recap:

108

ELINOR/ARI/OLIVE

108

Sequoias grow up, up, up
Into the sky
Sequoias grow big, big, big
We wonder why

How do these trees
Grow so tall
When the wind blows
Why don't they fall?

These trees are tall
and oh, so wide
That helps them stay
standing upright!

Sequoias grow up, up, up
Into the sky
Sequoias grow big, big, big
Tall and wide

As the song ends, the kids marvel at the tree and run around the base of it. We fade out.

6. INT ARI'S KITCHEN -- DAY

Ari comes in the door, bubbling with excitement.

109

ARI

109

I'm home!

His father is feeding Miri.

110

MR. BAT

110

How was your field trip?

111

ARI

111

Oh wow, it was awesome. I saw the tallest trees in the WORLD.

112

MR. BAT

112

Wow. Taller than me?

113

ARI

113

SO much taller than you. But also, it was really wide.

114

MR. BAT

114

Hmm. Wider than me?

115

ARI

115

A little bit.

They <SFX: LAUGH>.

116	ARI (CONT'D)	116
	But that gave me an idea to build my block tower. Miri, wanna help me?	

7. INT ARI'S LIVING ROOM / KITCHEN

In a call back to the opening scene, we see Ari holding up Miri as she places the last block carefully. We pull out and see that Ari is also being held up by Mr. Bat. Miri places the block on a VERY TALL (~20 blocks) tower that is wider at the base.

117	ARI	117
	Just like the tree, if you want to be tall, it helps to be wide at the bottom.	

Miri <SFX: GIGGLES>.

118	ARI (CONT'D)	118
	Thank you, Miri!	

They stand back and admire the tower.

119	MR. BAT	119
	Nice job, Ari. But you know, the most fun thing about building a tall tower is...	

120	ARI	120
	Making it fall down!	

Miri knocks the tower over and they all <SFX: LAUGH>.

END