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Earth: One Amazing Day

By Frank Cottrell Boyce

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[man narrating] For as long as humans
have existed on Earth,
we have looked to the heavens in wonder.
Fascinated by the countless stars
in the night sky.

But in all the unimaginable
vastness of space,
we found only one place like this.

It's a small blue planet,
with a rocky moon.

Travelling around a star.

It's just close enough
to be fed by its sun's energy,
but not blasted by its heat.

It spins on its axis,
so that for half a day
its surface basks in light,
then for half it cools in shade.

You might say, it's the lucky planet.
Because its rhythm of light and shade,
turns out to be a vital ingredient,
for life itself.

[birds squawking]

Earth, our home.

As far as we know, our planet is unique.

As far as we know,
one day spent here is the most
amazing thing in the whole universe.

[bird chirping]

[birdsong]

[bird chirping]

The magical dance of Earth and Sun,
has created millions of different kinds
of plants and animals,
alive on our Earth today.

Some, you see every day.

Others, are very rare.

But, we all have one thing in common.

Our lives are driven

by the rhythm of night and day.

- One hint of morning sunlight...

-[squawking]

and we respond in so many different ways.

-[birds squawking]

-[wings flapping]

[birds calling]

[plants rustling]

Some animals need it.

Others, hide from it.

Most of us, love it.

Some, even greet it with song.

[birds calling]

[koala calling]

[penguin chatter]

[sting rays boom into water]

Whatever way we choose to meet it,

sunrise is the power

that brings our world to life.

[zebras snorting]

Africa.

Here, the first hours of the day belong

not just to those who rise early,

but to those who stayed up late.

[swooshing]

This serval has been hunting

during the night.

[rustling]

But now he's pushing his luck.

He's out late,

trying for a final mouthful.

His high jumping technique is perfect,

for hunting amongst the long grass

of the African savanna.

He's looking for prey,

but mostly listening for it.

His enormous radar ears

can hear a pin drop.

Or a careless step

from a southern vlei rat.

[whooshing]

[screeching and mechanical whine sound]

Now the sunlight's growing stronger,

maybe it's time for bed.

On the other side of the world,

on an isolated group of Pacific islands,

there are animals who can't even think

about running around so early in the day.

They can't do anything until they've
been warmed up by the Sun's power.
The Galapagos Islands are home for some
of the most unusual animals on Earth.
Marine iguana.
Their morning ritual is always the same.
As the sun comes up on their island home,
they simply sprawl on the rocks,
lapping it up.
[insect buzzing]
Reptiles are pretty much solar-powered.
They need the sun's heat,
before they can move a muscle.
[crunching noise]
[snorts]
And they're not the only creatures
soaking up the sun.
Galapagos racer snakes aren't big enough
to trouble an adult iguana.
But, something smaller?
Away from the rocks where grown-ups live,
buried in the sand,
baby iguanas have been incubating
underground...
for over three months.
[rocks shifting]
Today when the Sun has warmed the sand,
they will emerge.
[ding]
It's time for this one,
to crawl out into the rest of life.
If she starts too early,
before she's warm enough,
she won't have the energy
to run very fast.
If she leaves too late,
then her enemies may be supercharged.
It's the biggest decision
she'll ever make.
[intense drumbeat]
She made it.
The snakes missed their chance.
But more babies are hatching.
And now the snakes are on alert.

It's the best opportunity
they will get to eat all year.
[dramatic music playing]
On flat ground a baby iguana
can outrun a racer snake.
But, others are waiting in ambush.
Another hatchling has his first glimpse
of a dangerous world.
[music fades]
-[rocks shifting]
-[dramatic music playing]
[dramatic music intensifies]
The snake's eyes aren't very good,
but they can detect movement.
So, if the hatchling keeps its nerve,
it may just be okay.
An amazing escape.
The biggest achievement
of any young animal's life.
Powered by our local star.
[animals calling]
Mid-morning.
As the Sun climbs higher,
its rays reach further.
Bringing magic wherever they touch.
[light twinkling]
Plants turn the light into life.
They take thin air and the Sun's energy
and with photosynthesis make new growth.
Conjuring up tangled forest worlds,
leaf by leaf.
[plants crackling and rustling]
It's the alchemy upon which
everything else on Earth depends.
A matter of life,
and death.
[insect squeaking]
[loud crush]
One plant can weave
its particular spell in a single clay.
This is bamboo.
It can grow almost a millimetre a minute.
The fastest growing plant in the world.
It's still only mid-morning.

Most of this has grown since dawn.
[loud crunching]
And since dawn,
this giant panda has been eating it.
The trouble with bamboo,
is that it's not very nutritious.
The trouble with pandas,
is that they're very fussy.
Bamboo is almost
the only thing they'll eat.
To get enough energy to feed herself,
this panda will need
to eat up to 14 hours today.
Longer probably, because she's nursing.
But for her cub, it's different.
She lives mostly on her mother's milk,
so chewing is only really her hobby.
Not yet a full-time job.
This morning, she has something
rare in the natural world.
Time to spare.
And, to explore.
[panda softly grunting]
Because of their specialised way of life,
giant pandas are amongst
the rarest animals in the world.
Cubs like her are more precious still.
There are only a few hundred alive.
A rare animal with the rarest luxury.
Time.
As the morning sun grows in strength,
it begins to brew a spell
of a different kind.
The Sun is pouring energy
into our atmosphere, heating it up.
It evaporates water from land and sea,
and builds clouds.
Across Africa, clouds and weather
are constantly on the move,
bringing rain and fresh grass
to different places at different times.
For millions of animals,
the job of every morning is to move
to where the rain

will make the grass grow next.
Whatever stands in their way.
This morning,
the need to keep moving will present a
particular challenge for one young zebra.
This foal could walk
less than an hour after birth.
She can handle almost anything.
But she's never faced
an obstacle like this.
Swollen by highland rain,
the river is fast and furious.
And full of dangers.
The young zebra is going to need
every bit of her mother's help,
if she's going to make it.
[zebras whinnying]
It turns out the biggest threat
isn't attack by other animals,
it's the river itself.
Her mother tries to lead the foal
to the shallowest waters,
but she's just too small.
And the current's just too strong.
The foal is on the verge of exhaustion,
but her mother will not give up.
[zebra whining]
While others are escaping,
she calls for her foal to keep going.
And finally, a way out.
There is a saying in Africa,
"if you wanna go quickly, go alone.
If you wanna go far, go together."
After this,
the zebra foal and her mother can surely
handle anything the day throws at them.
The Sun is approaching
its highest and most powerful.
In the far north, in the Arctic,
ice has held land and ocean
in its grip for months.
The Sun near the poles is always lower
and weaker than anywhere else.
[ice rumbling]

But still, its energy will transform.
Narwhal.
One of the most mysterious
animals on the planet.
For the moment they can't travel far,
only small openings in the ice
allow them to surface and breathe.
But the power of the Sun
is coming to their rescue.
For many days
the Sun's heat has been gnawing away
at the ice's hold on sea and land.
Now, approaching its highest
and strongest, the Sun begins to triumph.
[ice crackling]
And the battle of heat against cold,
becomes a rout.
On land, rivers flow again.
In the oceans, where the ice is now weak,
the Sun's warmth, opens cracks.
And the cracks become channels.
Roadways along, which the narwhal
can traverse their icy kingdom.
In Inuit legend, the first narwhal
was a brave female hunter.
Caught up in a deadly embrace
with a whale she hunted,
Her braided hair flung out,
becoming the twisted tusk.
For these narwhal, what an amazing day.
They are free again,
to roam their ocean home.
The strength of the Sun becomes greater
and greater, the further south you go.
[animal calling]
In the mountains of North America,
the sunlight of a spring day,
brings the freshly thawed world to life.
-[distance grumbling]
-[insect buzzing]
[bear grumbles]
[bear growls]
[bird calling]
If you're still wearing your winter coat,

the heat during the middle-of-the-day
can get a bit uncomfortable.
You need to find a tree
and give yourself a good scratch.
[playful dance music playing]
Rubbing against the bark
not only gets to the itch,
it helps a hot bear shed its winter fur.
It's also a chance to mark the territory
with your personal scent.
So everyone knows exactly who's in town.
[bear grumbles]
[bear grumbles]
[bear farts]
[bear growls]
It's now midday,
and the world feels the full force
of our friendly neighbourhood star.
The sun is now at its highest in the sky.
Its light penetrates even
the deep hidden folds of the Earth.
[wind whispering]
In Africa, near the equator,
its energy creates a furnace.
This zebra foal and her herd
still need to move on.
But every step is tough in heat like this.
[zebra snorts]
Any scrap of shade...
is an oasis.
[insects buzzing]
In full sunlight,
the herd are easy for hunters to see.
But there is one blessing
about the midday sun.
It's simply too hot for lions to hunt.
[lion farts]
[lion snoring]
There is something, however,
that doesn't take a break,
even in the heat of the day.
The struggle for power.
[low grumbling]
Rivalry between males for territory

and for the attentions of females
is so overpowering, it drives even
the most placid of creatures to combat.
At high noon in the desert heat,
a young male giraffe is challenging
the resident bull for prime territory
and the females that go with it.
At first they just push and shove,
trying to intimidate each other.
Normally, this would be an end to it,
but the young rival seems to think
he has a chance and attacks.
Neither will back down.
The old bull is down.
He knows the final blow is coming.
So, he ducks...
and hits back.
It is over.
The day still belongs to the old master.
For the loser, it's exile in the desert.
The land and the creatures that live
on it, toast under the noonday sun.
But one habitat remains cool, even now.
Over the course of a single day,
even the enormous power of the Sun,
isn't strong enough to warm
the great oceans by much.
Here, some of the largest
creatures on Earth,
live lives as long,
and perhaps as complex, as our own.
This is a family of sperm whales.
[whales clicking]
And at its heart, a rare sight.
A calf.
Already 15ft long, she's about a year old,
and very inquisitive.
For two or three years,
she will feed on her mother's milk.
It's so rich in fat,
it has the consistency of cottage cheese.
So it doesn't dissolve in the sea
water as it's being gulped down.
The great whales are the biggest

predators that have ever existed,
yet, they make
the most protective parents.
And very talkative ones,
chatting in a language of clicks.
They're the loudest
creatures on the planet,
capable of sounds,
far louder than a jet engine.
[clicking continues]
But right now, it's time for silence.
Hanging vertically,
the giants of the sea...
take an afternoon nap.
These whales have brains larger
than any other animal.
Who can guess with what richness
they dream away the day.
In the tropics, the oppressive heat
of midday lingers well into the afternoon.
On a tiny island, off the coast of Panama,
in Central America,
everything takes life slowly.
[birdsong]
[animal snoring]
A pygmy three-toed sloth.
At his best, he is slothful.
At this time of day,
he's pretty much comatose.
[snoring continues]
Only one thing might rouse him.
And it's this...
[sloth calling]
The call of the female sloth,
out there somewhere.
[water splash]
And since it's high tide,
why not take the short cut.
The only problem is from down here,
it's not easy to tell where
the potential mate is calling from.
[female sloth calling]
[female sloth calling]
Could this be her?

Sadly for him,
this female is not looking for a date.
While she's nursing her cub,
she's quite happy to stay single.
As they say, mafiana.
There's always tomorrow.
[snoring]
Though island life here moves slowly,
the pace of the afternoon is very
different in other parts of the world.
[water rumbling]
This is Zavodovski Island in Antarctica,
home for 1.5 million chinstrap penguins.
It's an extraordinary place.
An outcrop of rock,
spewed out by the volcano at its heart.
The oceans beat against it night and day.
And the penguins
are caught in the crossfire.
All day, the adult penguins
struggle against the waves
as they journey between home
and their hunting grounds, offshore.
[penguins chattering]
It's an ordeal they can't avoid.
Their families depend on them.
Chinstrap penguin chicks
are completely helpless,
without the support
of both mother and father.
[chicks chirping]
They need fresh food every day.
And their parents take turns to fetch it.
It means an awful lot of hunting...
[penguins chattering]
...for an awful lot of moms and dads.
This mother has no food
left to feed her chicks.
They now need their father to return,
and soon.
[waves crashing violently]
At mid-afternoon,
the first wave of hunters,
who left early this morning, return.

Amongst them is the chick's father.
He's been fishing 50 miles offshore,
but now he's not far away.
If getting safely into the water
was difficult, getting out is even harder.
[penguins chatter]
Tiny claws help them to get whatever
grip he can on the rough water.
The father now has
a two mile walk to his family.
And a stomach loaded
with food, doesn't help.
[mass penguin chatter]
This is the largest
penguin colony on Earth.
But, as he makes the same
journey every other day,
he should be able
to do it with his eyes closed.
[penguin grunts]
At least, most of the time.
Like any commute,
it can get a little congested.
And sometimes, it can be hard
to remember where you parked your kids.
The mother is still waiting,
the chicks are now desperate.
In the midst of all this deafening chorus,
he can recognise her particular cry.
[penguin calling]
She is, literally, one in a million.
[Penguins greeting]
A head bob, is the penguin's way
of saying, "Welcome home."
Both chicks will get a meal.
A happy end to the toughest
commute on Earth.
[birdsong]
Mid-afternoon
in the rainforests of Ecuador.
The air steams in the heat.
Here, the Sun and plants conspire
to create their own unique weather.
And is the same practically every day.

This afternoon,
that's going to help one of its smallest
and most beautiful inhabitants
in a surprising way.
The racket-tailed hummingbird
is about the size of your thumb.
It takes a lot of energy
to look this graceful.
[wings fluttering]
That means it's living
in a perpetual state of near starvation.
In fact, its metabolism is so fast,
it needs to fuel up on nectar,
over a thousand times a day.
It can't stop feeding for a moment.
All day is a race against time.
The racket-tail isn't the only one
hunting for nectar in the forest flowers.
[buzzing]
Bees are too,
and they don't like to share.
[loud buzzing]
A single bee sting,
close to the bird's heart, could be fatal.
[buzzing continues]
[wings fluttering]
But time, is on the racket-tail's side.
[rumbling]
Rain is about to intervene.
[PODDNG]
The heat of the afternoon sun,
has built massive thunder clouds.
And when they can no longer
hold their burden, they break.
[thunder rumbling]
[exaggerated splash]
Above the canopy, the rain is torrential.
Under the shelter of layers of leaves,
the deluge is reduced to drips.
A raindrop as big as its head,
may not be much fun for a hummingbird.
[buzzing]
But it's altogether too much, for a bee.
-[water whistles, thuds]

-[buzzing slows, dies]
The race to eat, continues.
All over the world, tiny creatures
are on a mission to stock up before night.
In a European meadow, there's a great
deal of food hidden in the plants.
For those who can reach it.
[squeaking]
[sniffing]
As the day begins to fade,
this tiny harvest mouse,
must gather as much fuel as possible.
[mouse tale whipping]
Her best chance for a good dinner,
are the seeds and fruit,
at the tips of the tallest stalks.
[stalk creaking]
But, it's the most dangerous part,
of her tiny world.
[stalk creaking]
[whooshing]
A barn owl, is a night-time hunter.
[stalk creaking]
[stalk whooshing]
But this one has woken early.
And hungry.
[whistling, thud]
[wings fluttering]
The world at ground-level is bewildering
for a mouse used to the high life.
But she can read the pattern
of the stems overhead, like a map.
Which is just as well,
because back home...
she's needed.
[squeaking]
The light is dying.
[bird trilling]
But new life is being born.
[water splashes softly]
A mayfly emerges.
It will live for just this day.
Or less, if it doesn't move fast enough.
[thud, water splashes]

-[wings flapping]

-[thud]

When life is as perilous as this...

nature finds safety in numbers.

This hatch, on the Tisza River in Hungary,

is one of the world's

great wildlife spectacles.

[wings fluttering softly]

Having spent three years

as nymphs in the river,

up to five million of these

remarkable insects emerge together,

on just this stretch of water alone.

They'll never feed.

They don't even have mouths.

Instead, as soon as they hatch,

they begin a vast glittering mating dance.

Every day on Earth is amazing.

But surely the mayfly's day,

is one of the most amazing of all.

By nightfall, they will have met,

mated, laid their eggs, and died.

The future entrusted

to the next generation.

Their entire adult life will be spent

in just a few hours of a single day.

Day, is now spinning swiftly,

towards night.

[low grumble]

The Sun slips, ever lower in the sky.

It is a time of great beauty...

and grave danger.

[bird chattering]

In the cool evening shadows,

is the best time to be a predator,

and the worst time to be prey.

[zebras whinnying]

For a zebra and her foal, this

is the most dangerous time of the day.

A cheetah has his eye on the foal.

[dramatic music playing]

[zebra calling]

[zebras whining]

[dramatic music continues]

[foal whinnying]
- Sometimes a mother's love...
-[Zebra whinnies]
can be a match for almost anything.
[zebra snorts]
As the day fades,
the shadow world is taking over.
[animals calling]
In the Changzhou mountains,
in Southwest China,
the world is turning its face
away from its nurturing star,
towards the chilly emptiness of space.
Here, white-headed langurs
are taking their last meal of the day.
They're amongst
the rarest creatures on Earth.
Rarer, even than the giant panda.
But when daylight disappears,
this is no place to linger.
-[ominous rumbling]
-[langur calling]
-[langur calling]
-[branches rustling]
They are obeying an ancient
and overpowering instinct.
[langurs squeaking]
With the lengthening of the shadows,
they scramble for height and refuge.
The route is precarious.
It's not unknown for a langur to fall,
or baby be dropped.
Yet, despite the risks,
the langurs never stay out after dark.
[langurs whining]
[baby langur crying]
Even the babies feel it,
and know to fear it.
Night is coming.
The world no longer belongs to them.
[soft rumbling]
It belongs to another set of players.
The creatures of darkness.
[thunder rumbles]

-[bat wings flapping]
-[thunder rumbles]
[owls hooting softly]
[low growl]
[low, distant howl]
The night can turn a friend
into a deadly foe.
During the day,
whitetip sharks are content
to cruise gently around the reef alone.
But when night comes,
they're transformed
into hunters working in packs.
In the gloom,
the shark's eyesight is poor.
But they can smell
potential prey from far off.
And they have another advantage.
A sixth sense, that can pick up
the tiny electrical signals
from the heartbeat of a frightened fish.
And track it down.
Even the deepest shadow,
is no hiding place.
[rocks shifting]
[fins flapping]
Darkness is not just
a time for nightmares.
But also for dreams and wonders.
[insect pattering]
[plants creaking]
Energy stored
from the sunlight is recycled.
And the world lights up again.
Some creatures use their lights for love.
For this male click beetle,
his glowing spots are designed
to impress and attract a mate.
And seeing the glow from this fungus,
he thinks he's found one...
hidden inside.
But the fungus is playing a trick on him.
The glow comes from the fungus itself.
[beetle pattering]

Puzzled, he searches everywhere.
And gets covered in fungal spores.
He'll spread them wherever he goes next.
Not reproducing himself,
but helping reproduce the fungus instead.
A light in the dark,
can also be a deadly trap.
In New Zealand,
glow-worms cling to the roof of a cave.
They shine out their strange lights
from within circles of hanging silk,
sticky with mucus.
Tiny flies are drawn
to the beautiful lights.
[fly buzzing]
Only to become glued
to the dangling strands and trapped.
Later, they'll be reeled in for supper.
And the night brings magic,
on a much grander scale.
The sky seems to come alive.
Even when the sun is out of sight,
it makes its presence felt.
Its electrical energy powers a firework
display that lights up the planet.
The Aurora.
And there is another light show on Earth.
One powered by us.
[talking over radio static, indistinct]
We no longer have to wait for sunrise.
We no longer
need to be afraid of the dark.
In our cities, we've created
an endless electrical daylight of our own.
We've broken away
from the rhythm of night and day.
As more and more of us live this way,
it's easy for us to forget
our connexion to the natural world.
[sirens in distance]
Even, when it's on our doorstep.
[Animal chittering]
[dog barking]
These raccoons in Toronto

seem just as home in the city, as we are.

[chittering continues]

'[Chittering]

[crickets chirping]

Not all creatures can adapt

so easily to our world.

But we humans can do something to help.

We have the ability to appreciate
what no other animal on Earth can.

If we open our eyes,

we can see the magic all around us.

The extraordinary in the everyday.

[insect wings humming]

We can see the fragile web

that connects us with all living things.

And understand that the future

of all life...

lies in our hands.

We have searched

the far reaches of space for wonders.

But instead, we found the most wonderful
things of all, back home.

Here, on our lucky planet.

Small and blue,

spinning in an ocean of stars.

In the whole universe, as far as we know,
there's nowhere else with life.

Nothing more extraordinary...

than planet Earth.

Nothing more important to protect

than our one and only home.

And nothing more amazing

than what happens here, day after day.

[chittering]

[penguins chattering]