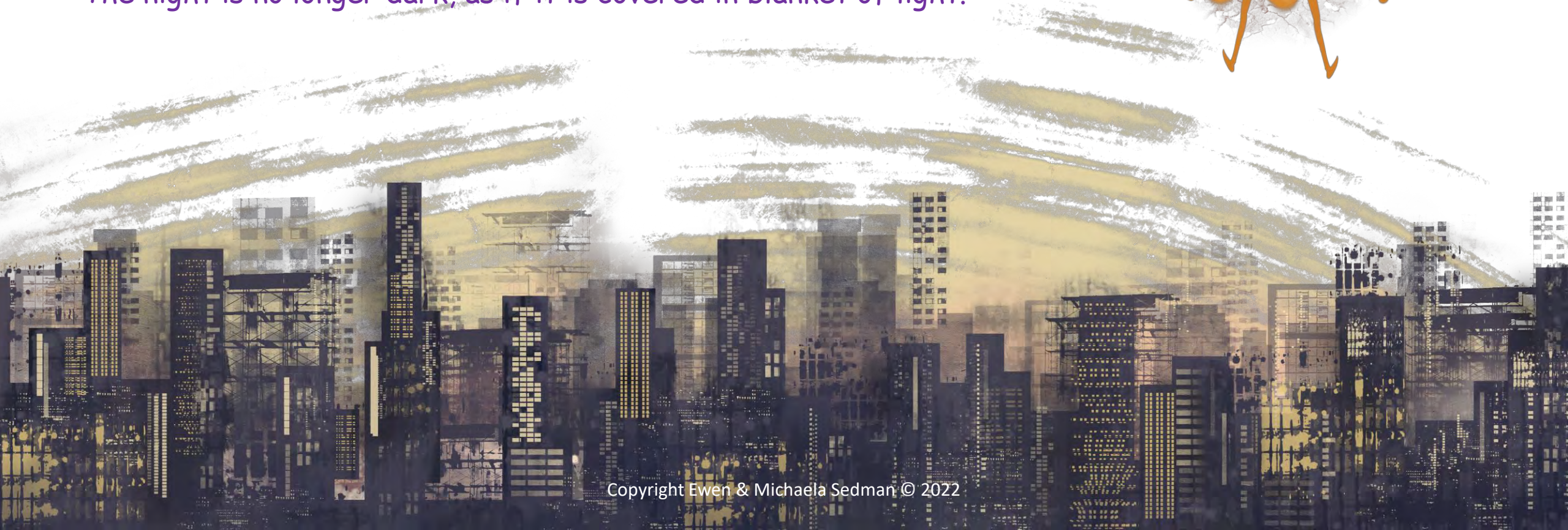
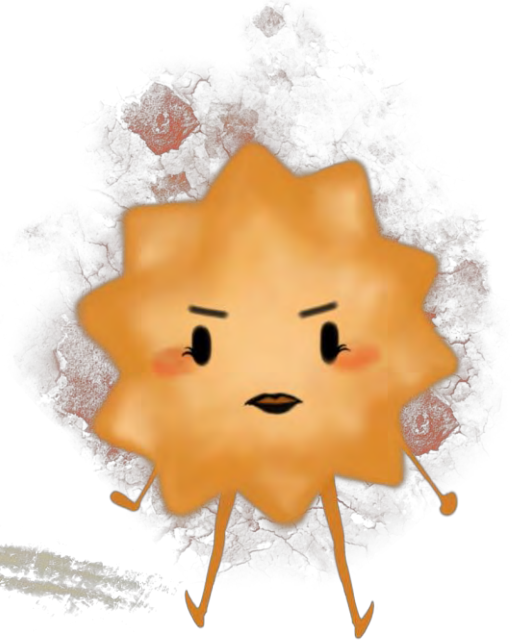


What is light pollution?

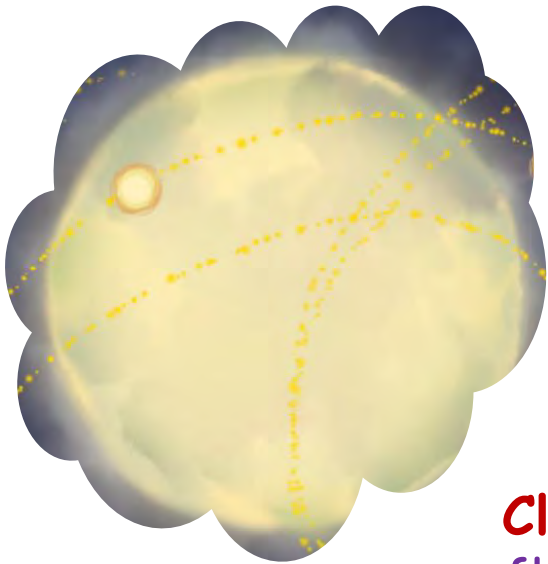
In the night, when you see too much **artificial light** such as from lamp posts, street lights, shop windows or lighting in houses and offices, this is light pollution.

Very often this light is there **for no reasons**

The night is no longer dark, as if it is covered in blanket of light.



Different types of light pollution



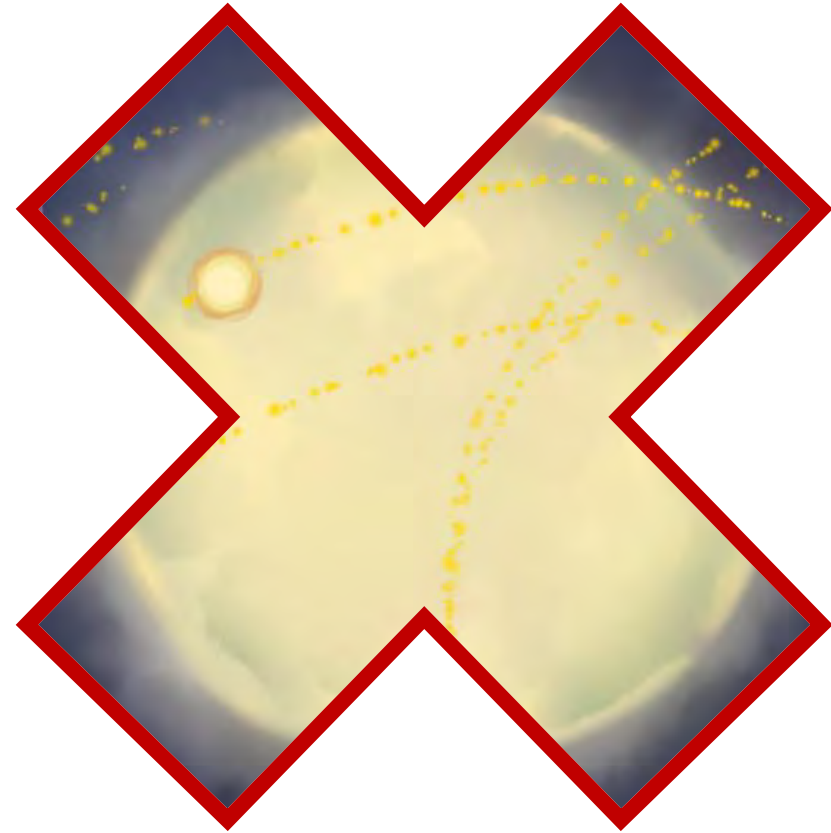
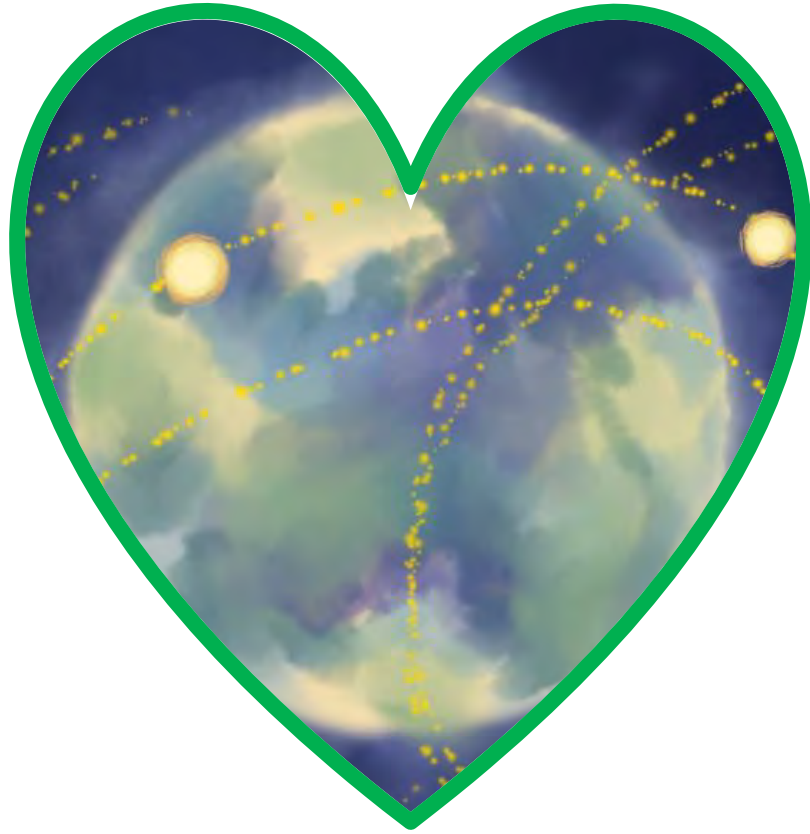
Sky glow: is like a halo, mainly over cities

Glare: is an excessively bright light that causes your eyes discomfort, for example when you are driving

Clutter: when you have many very bright lights such as neon and fluorescent signs, giant TV screens, marquee lights next to each other (like Times Square in New York, or in Tokyo...)

Light trespassing: when light falls from a source (like a street lamp) into an area where it is not wanted or needed (like in your bedroom)

So, light isn't good for us?



Light is really **important** for us, it facilitates a lot our life. However, **too much** light is dangerous for our planet and its inhabitants, particularly when it's **useless**

So, too much light is **dangerous** for us?

YES! Not only for many animals but
also for your own health.
Check it out ...



First your
health....



You are active during the day and sleep at night to give your body a rest and let it work - yes, it also works when you are asleep!

Too much artificial light such as television, lamps, phones ... prevents your body from recognizing that it is night

Therefore, you sleep less or not well enough

... your body doesn't rest properly

... you cannot concentrate well at school or run really fast with your friends

... neither your parents, teachers or friends are happy with you

That makes life much more difficult, right?

... and also for some animals that need the night



insects



birds



amphibians

mammals



... and now, what can **I** do?



CLICKETY CLICK **LIGHTS OUT** QUICK!



Can you explain...



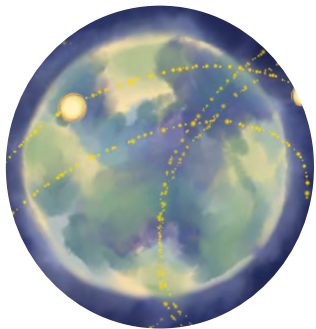
amphibiens?

Animals that can live on land as well as in the water



mammals?

Animals that feed their babies with milk (yes, we are mammalians too ...)



A planet?

A planet is a (nearly) round object that travels around a star - as the Earth travels around our Sun



A star?

It's a big round-ish object made of gas and producing **lots** of energy. The closest star to us is our sun

a constellation?

Its a bunch of stars which have an imaginary form, such as the Big Dipper or Centaurus ...see here



A shooting star?

Also called « meteor », it's a piece of roc or dust that burns when it enters our atmosphere, so when it comes towards Earth

Did you know that **bats** are the only nocturnal mammals that can fly?
Cool, right?



Being nocturnal animals, their eyes aren't adapted for bright light, that's why most bats **avoid light**. Instead of going out hunting in the early evening, they stay much longer in their "bat-cave" and have less and less "dark areas" to hunt.

Some species are however **attracted** to artificial light because of the **moths and insects nearby**. Instead of hunting, they just get a "served meal" therefore disturbing their hunting and feeding behaviour.

Bottom line: all light has a negative impact on bats!

Do we actually need bats? Oh YES!

Different bats have different meal preferences. From small fish to insects, fruits, nectar and pollen.

For example, when bats eat many insects, less pesticides are needed. That's good, right?

Also, without bats, many plants won't get pollinated or even seeded. What would our world be without all the flowers and plants?

No way!!

Bottom line: bats play a crucial role in our ecosystem



Did you know that **insects** have been present for about **350 million years**, and humans for only **300,000 years**?

That **IS** old!

About half of all the insect species are **nocturnal**

Their **remarkable visual capacities** allows them to control their flight, to land and to react to movements around them.

Very cleverly, insects also use very dim signals from the night sky **to find their way home**

As their tiny eyes capture light so well, bright, artificial sources are devastating for them

Light pollution is the second biggest “insect killer” after pesticides – that’s **REALLY bad**

Why do we need insects?

Because we all love fruits and vegetables! Insects are critical for pollination. They are also part of the ecosystem (as insects are on the menu for many other animals)



Did you know that the biggest frog, the Goliath frog, can weigh up to **33 kg** and the smallest frog, the little grass frog, is **smaller than a housefly?**

Amphibians, such as salamanders, are coming out by night to **avoid predators**.

So, if it never gets dark enough, they won't come out to **get food** or to **find a partner**.

Some frogs are moving more in artificial light and calling much less for a partner.

Some amphibians are attracted by the light since they can find more insects there – they get however more frequently run over by cars



Why are **amphibians** important?

Do you like mosquitos? Not a lot, I presume.

Amphibians **LOVE** mosquitos, for breakfast, lunch and dinner. Handy for us, isn't it?

They act like a “pest control”

Some **birds are migrating** from one place to another to find more to eat or to be safer (for example, avoiding the cold).

Artificial light impacts many birds such as ducks, geese, songbirds, or seabirds, during migration, especially those which migrate at night as they are **using the moon and stars to guide their journey**

Many get disorientated or confused by the light and die of exhaustion. Others collide into buildings

Owls are fantastic hunters in nearly total darkness. This advantage over other predators, like mice, gets lost in brighter areas.



Did you know that a group of owls is called a parliament?

Did you know that hedgehogs have around **5000 to 7000 spines** on their back?



Artificial night **lighting** causes difficulty for nocturnal mammals to avoid **collisions with vehicles**

The food-dilemma:
Some animals are active in the night to **avoid predators**.

Artificial light makes it however easier for predators to see their prey.
Therefore, to avoid predators, herbivores just eat less food during bright nights and **don't come out as much**.

This makes it again much harder to find food...

You see the problem?

