

First Grade – Structure, Function and Information Processing

From Molecules to Organisms: Structure and Processes (NGSS:1-LS1-1,
CCCSS:W.1.7 & W.1.8)

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Structure and Function: (1-LS1-2, 1-LS3-1 & 1-LS1-1)

- Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.
- The shape and stability of structures of natural and designed objects are related to their functions.

Connections to Engineering Technology, and applications of science.

- Every human-made products is designed by applying some knowledge of the natural world and is built using materials derived from the natural world (1-LS1-1)

What do we (humans) need to live?

Let's think what we do everyday.



We (humans) need...

- Air



- Water



- Food



- Shelter



- Sleep (Rest)



What do animals need to live?



Animals also need...

- Air



- Water



- Food



- Shelter



- Sleep (Rest)



How about plants?

What do they need to live?



Plants also need...

- Air



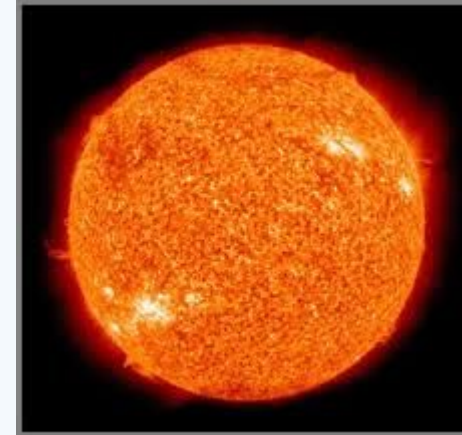
- Water



- Nutrient



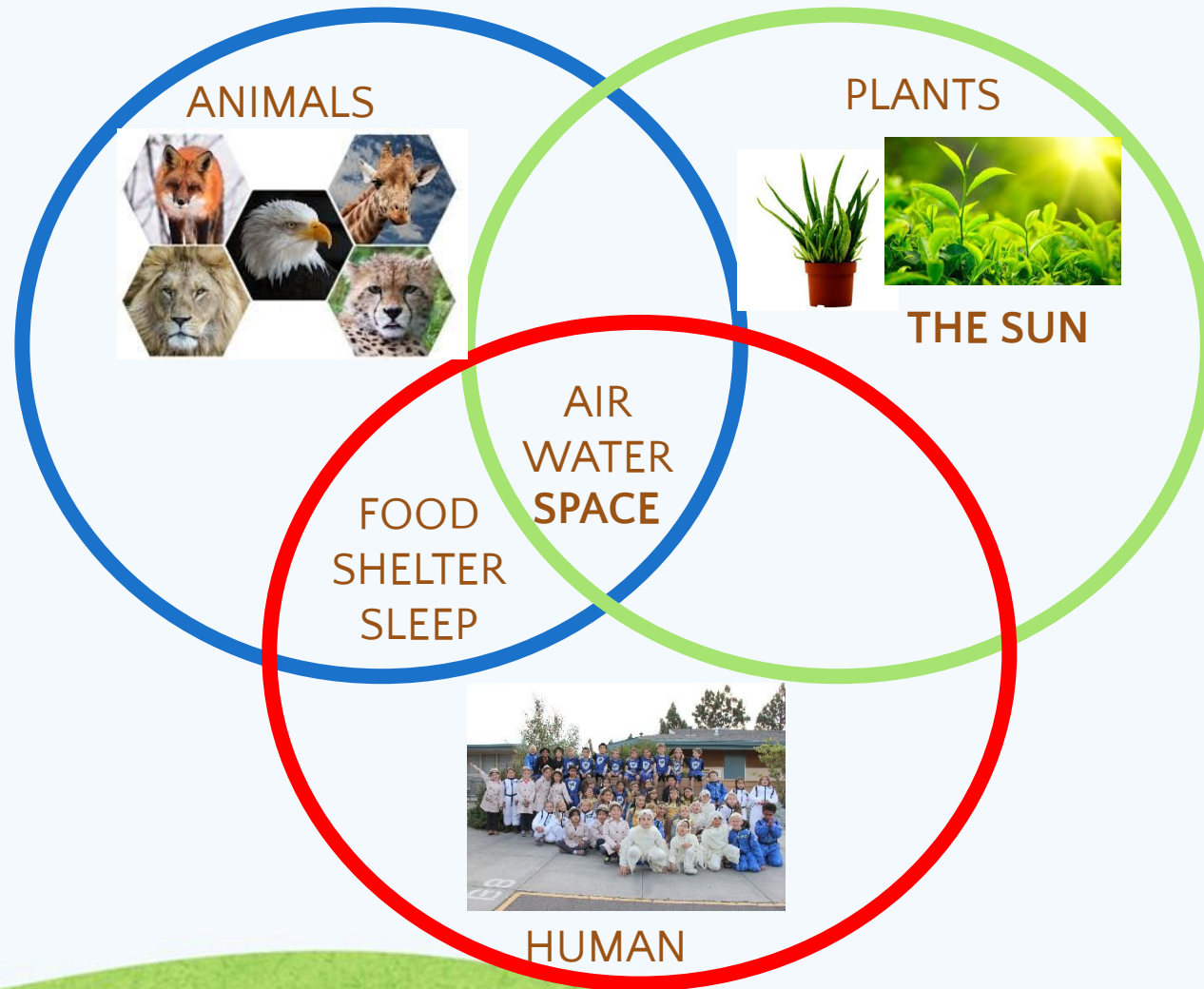
- SUN



- Space



What do we (humans), animals and plants have in common?



Question 1: What do you do when it rains ?



We often use....



UMBRELLA!

How about animals??? Have you seen animals use umbrella?



Animals find...shelters when it rains.



Some animals use leaves to protect them from the rain just like we use umbrella.



Who do you think came up with this idea first???

How about this? “A straw to drink, where did an idea come from?”



Did you know?
A Straw existed 3000 BC and gold and precious blues stones were used to make one. In 1800s Rye Grass straw was used as it is soft and cheap.

Which animal / plant do you think the design of these helmets come from?



These helmets are designed based on...



Acorn



Turtle



How about water pipes? Where do you think this idea comes from?



Roots are natural water pipes for plants!



ROOTS



How about something that we protect ourselves from (intruders) ? Where are these ideas come from?



Let's look at stems of some plants...



Idea of barb wire & pointy fence come from thorns of the plants.

Rules for visiting Garden



1. Use our quiet voice
2. Keep our hands and body to ourselves
3. Ears and eyes open
4. Wear gloves
5. Return the garden tools back after use

Let's visit our garden to find something that we humans use but ideas may have come from plants or animals?

List what you see in the garden

Can you see something that plant has that would be useful for us humans?

Sketch the plant you find the ideas from!