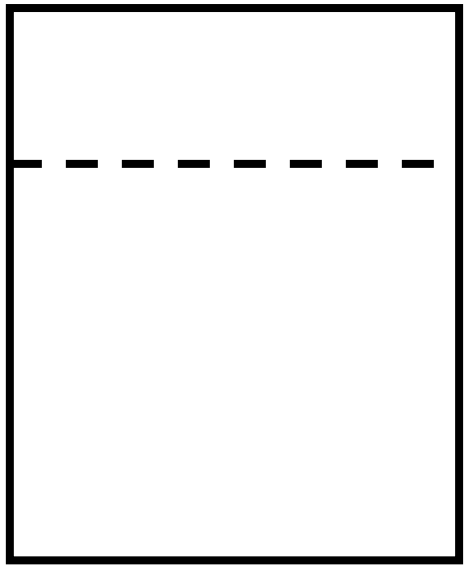
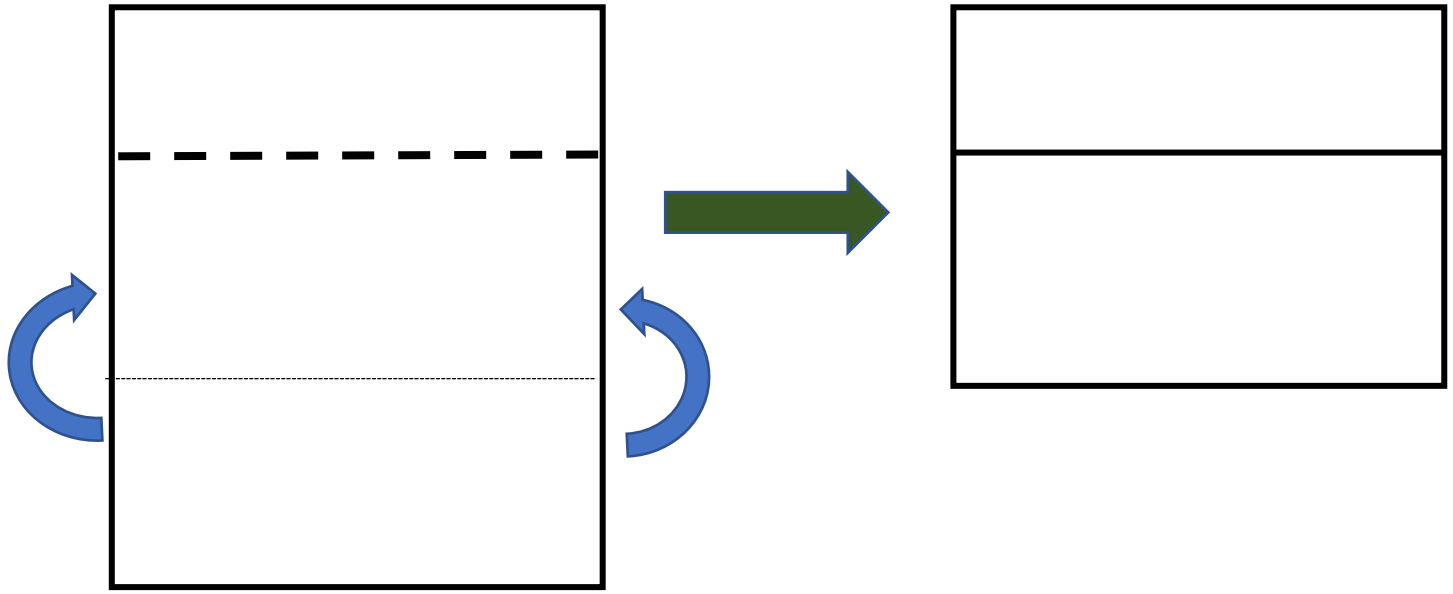
Electromagnetic Spectrum Foldable

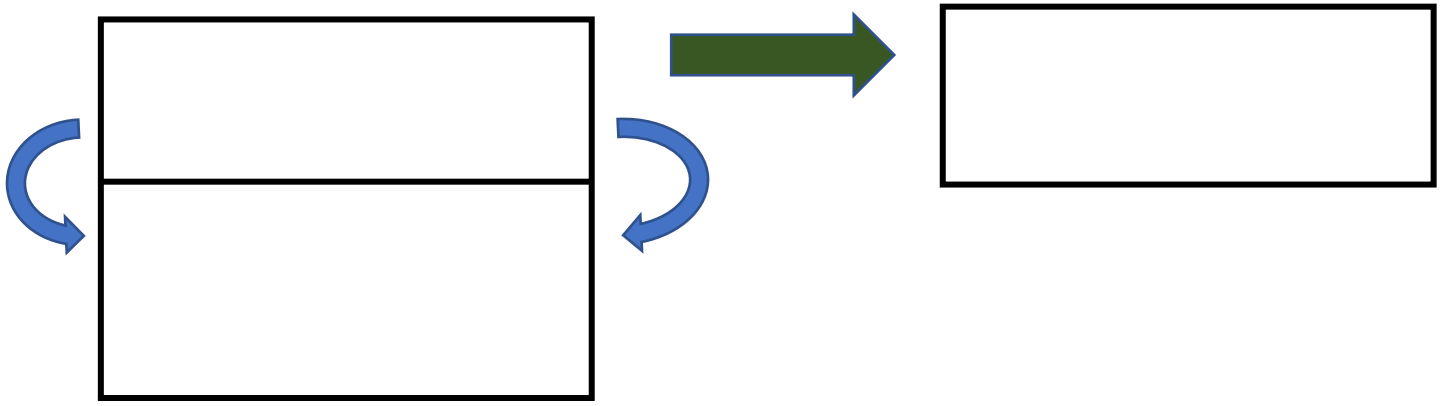
- Use a ruler to measure the length, in centimeters, of a large of piece of paper and divide the number by 3.
- From the top of the paper, measure to the length obtained earlier and draw a faint line.



1.

- **Fold the bottom of the paper to the faint line and smooth out the crease.**

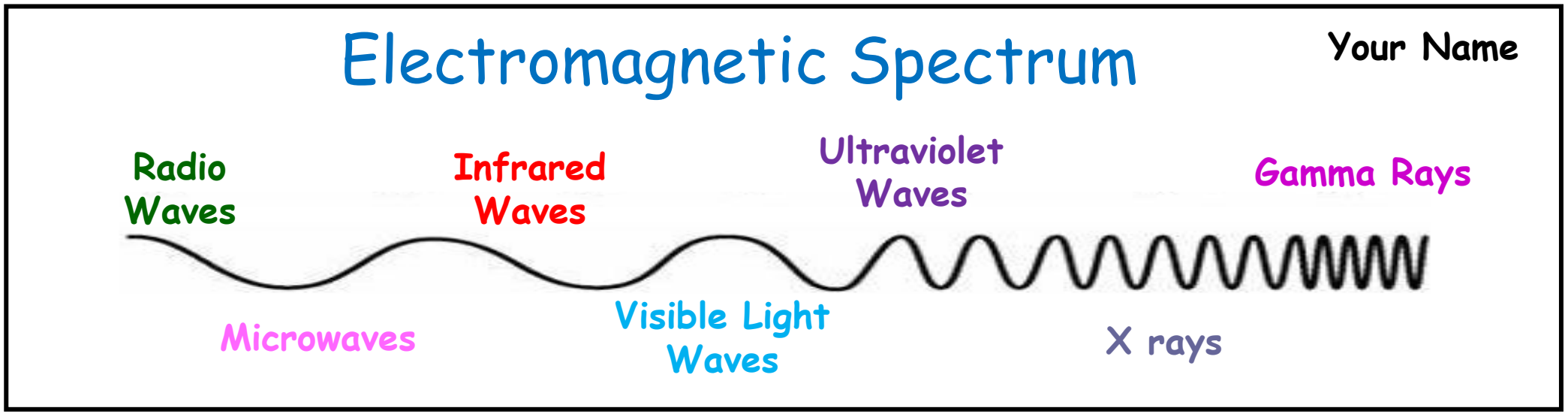




- **Fold over the top of the paper until it reaches the bottom of the paper.**

2.

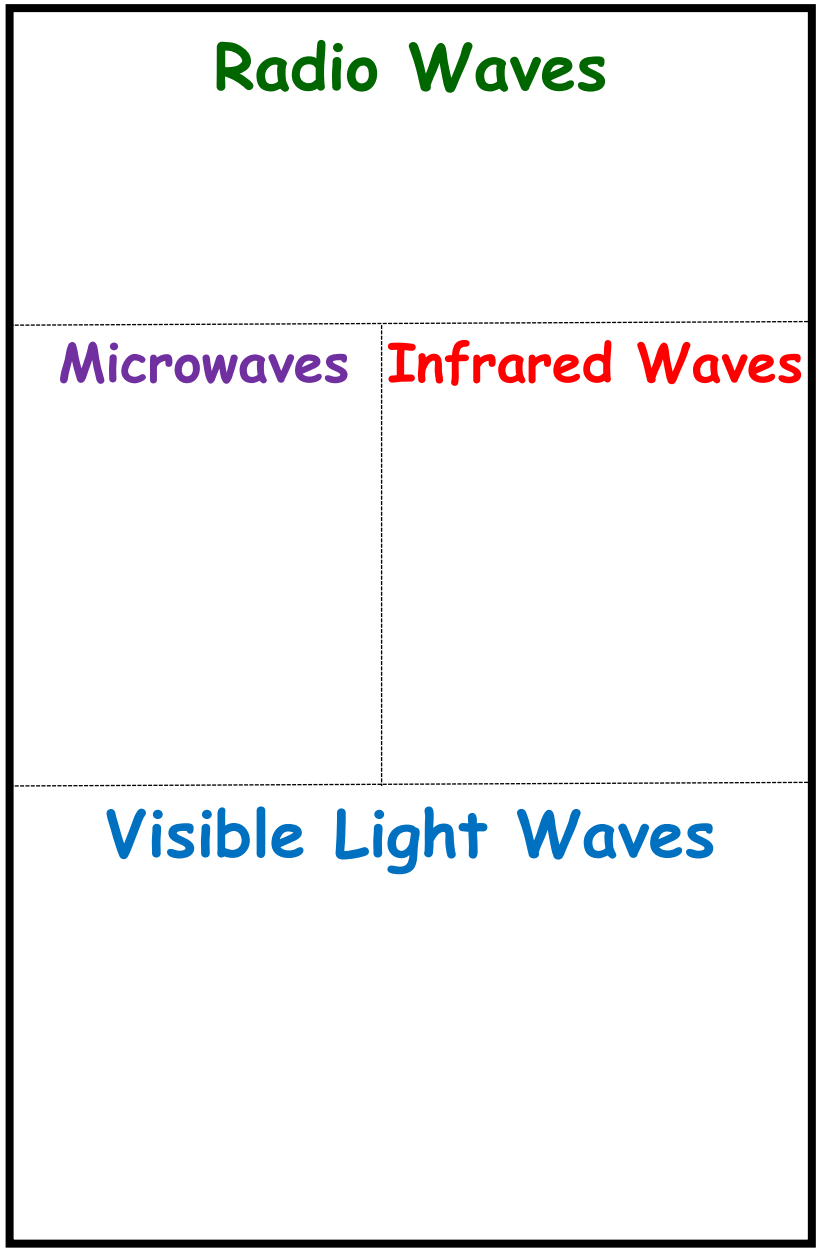
- **On the front, write ‘Electromagnetic Spectrum’, near the top. Near the bottom, write your name.**



- **Draw and label the electromagnetic spectrum, making sure to decrease the wavelength across the spectrum, while keeping the height the same.**

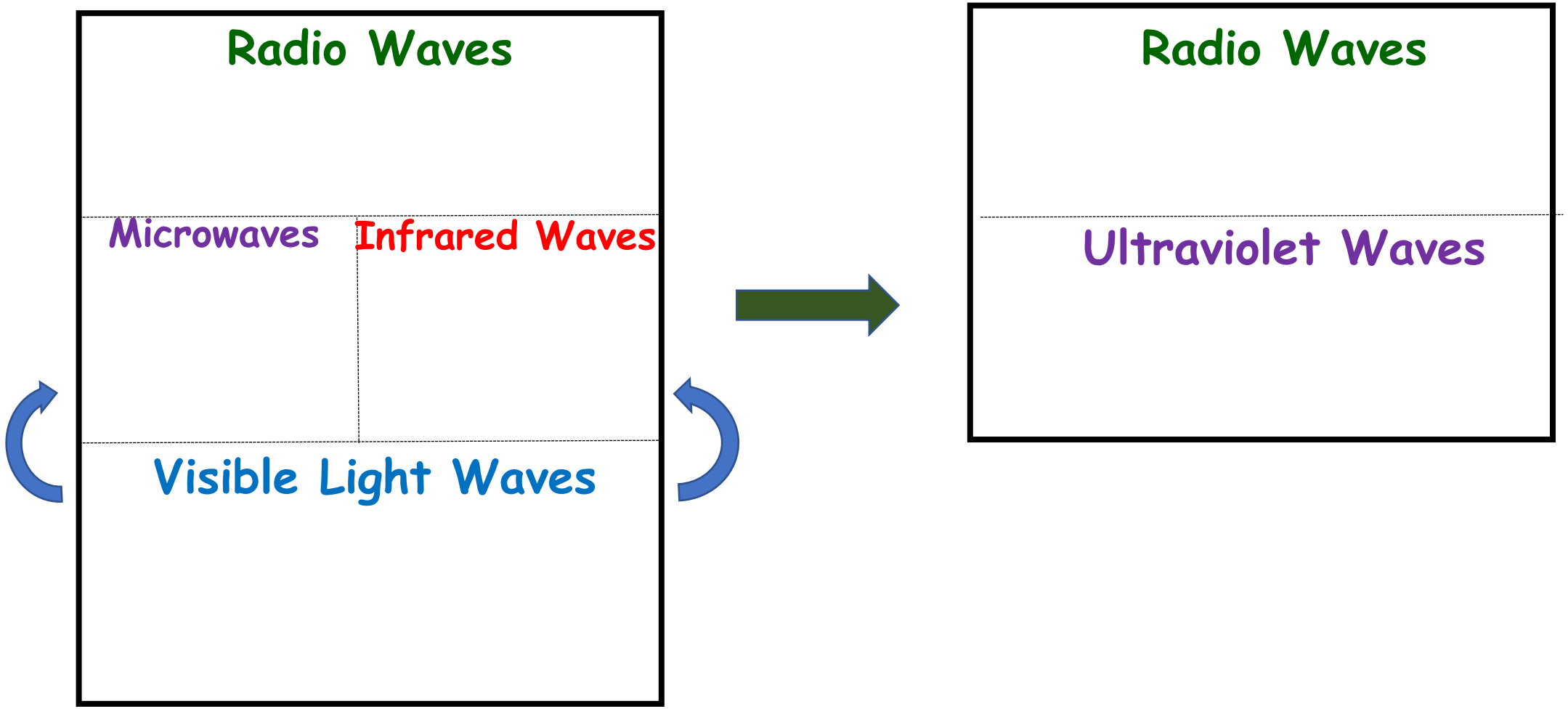
3.

- Open the foldable all the way.
- On the top portion, write ‘Radio Waves’.
- Divide the middle portion in two. Label one side ‘Microwaves’ and the other side ‘Infrared Waves’.
- On the bottom portion, write ‘Visible Light Waves’.



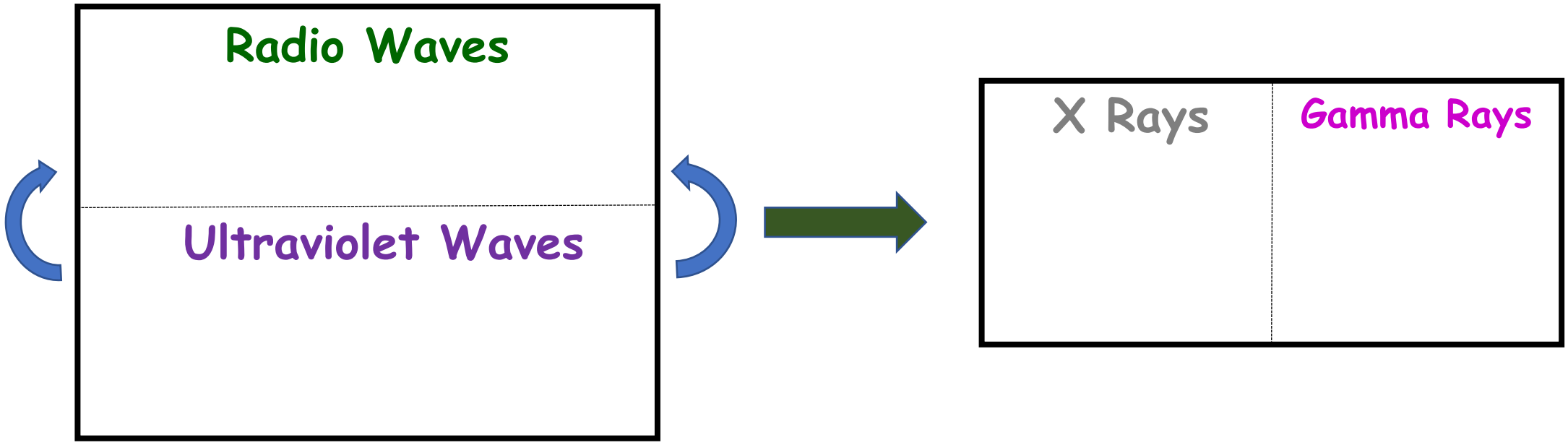
4.

- **Fold up the bottom potion of the foldable.**
- **Label this section as Ultraviolet Waves.**



5.

- Close the foldable
- On the back, divide the space into two equal portions.
- Label one side as ‘X Rays’ and the other side as ‘Gamma Rays’.



6.

Radio Waves

- Write ‘Longest Wavelength, Lowest Frequency’.
- Draw and label an illustration for each of the most common uses of radio waves.

Microwaves

- Draw and label the most common use of microwaves.
- Briefly describe how microwaves work.

Infrared Waves

- Write ‘Responsible for heating Earth’s atmosphere by Radiation’
- Draw and label an illustration of the Greenhouse Effect.

7.

Visible Light Waves

- Write ‘Only part of spectrum humans can see’.
- Draw and label an illustration of white light entering a prism with the color spectrum leaving the prism (ROYGBIV).
- Draw and label an illustration an example of light being absorbed and reflected. (Color reflected is color of object)
- Draw and label an illustration of photosynthesis and the food chain. Note that sunlight energy is converted into chemical energy.

8.

Ultraviolet Waves

- Draw and label an illustration of some UV light being blocked by the Ozone Layer, with some UV light reaching Earth.
- Write ‘UVB’ and ‘Sunburns’.
- Write ‘UVA’ and ‘Wrinkles, moles, skin cancer’.

X Rays

- Write ‘Small enough to travel through soft tissue, used to take pictures of internal structures’.
- Draw an illustration of an X ray.
- Write ‘Blocked by Earth’s Atmosphere’.

9.

Gamma Rays

- Write ‘Shortest Wavelength, Highest Frequency’
- Write emitted during Nuclear Reactions.
- Write ‘Blocked by Earth’s Atmosphere’.
- Draw and label and illustration of a nuclear bomb explosion, a nuclear power plant, and a radioactive chain reaction emitting gamma rays.

10.

Rubric

Complete	25 Points
Accurate	25 Points
Neat, not Sloppy	25 Points
Colorful	25 Points