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Data comes from a variety of sources.

Individuals can collect data at a local level or one point in time and then combine those observations/data to show data over time or over a larger spatial area.

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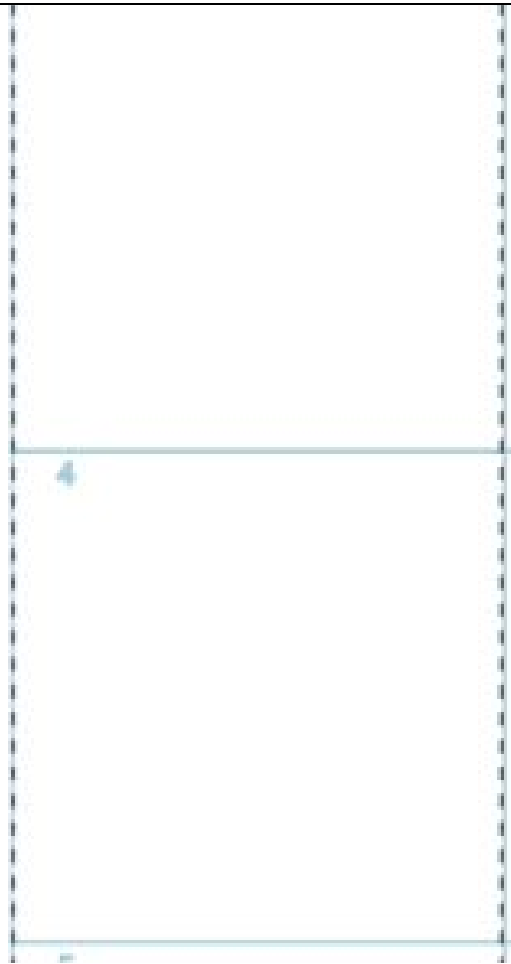


We can also collect data with satellites which provide large areas of remotely sensed observations and can even provide global pictures of data/science phenomena.

data/science phenomena.

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We are going to collect some data today

With the piece of paper I am giving you:

1. Write your name on one side (I don't care which side)

2. Fold your paper once in half. Then fold it again. You should have four squares now.

3. Then number each box: 1 2 3 4 (look at

2. Fold your paper once in half. Then fold it again. You should have four squares now.

3. Then number each box: 1. 2. 3. 4. (look at the image).

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to start, I have a question: This or that?

If you had to choose one of these, which would you choose and why?

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Go back to anytime into the past?  
Or 100 years into the future? (you are  
guaranteed safety in your time travels! you  
will survive and be able to come back!)

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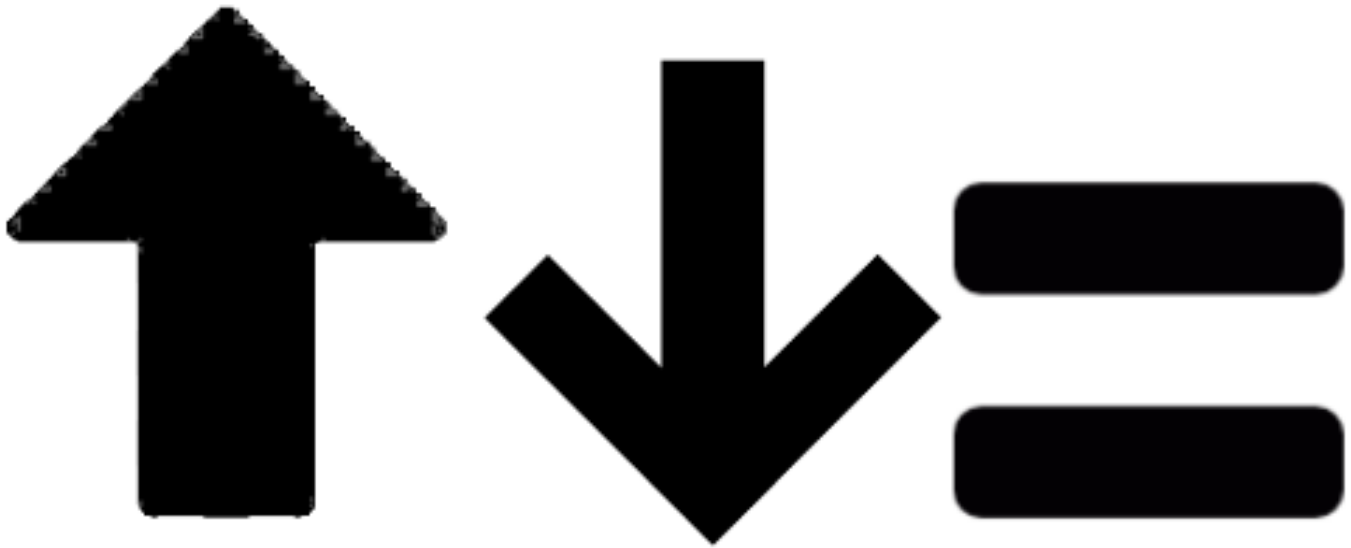
This, or that?

Go back anytime into the past

Go 100 years into the future



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Question 1: Do you think the world is getting better, getting worse, or staying the same?

Getting better

Getting worse

Overall the same

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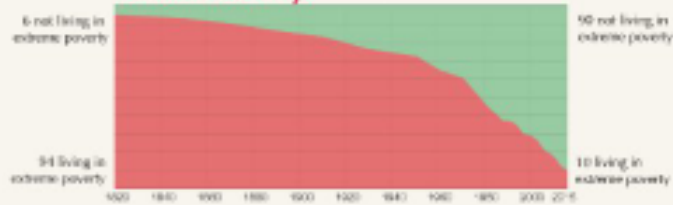
Let's look at some objective data  
about the state of our world.

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# The World as 100 People over the last two centuries

Our World in Data

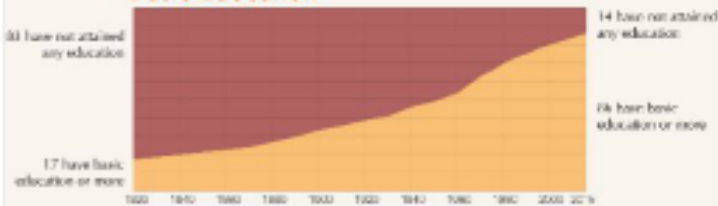
## Extreme Poverty



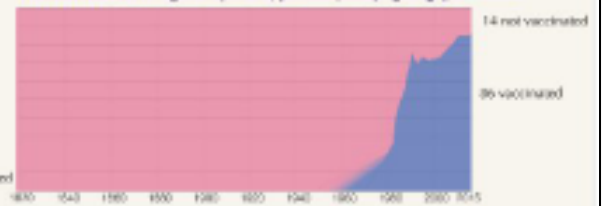
## Democracy



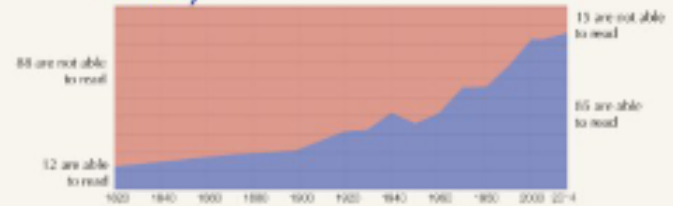
## Basic Education



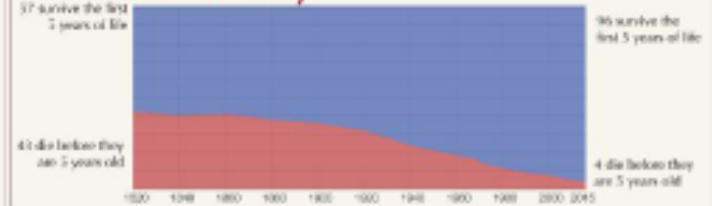
## Vaccination against diphtheria, pertussis (whooping cough), and tetanus



## Literacy



## Child Mortality



Data sources: Extreme Poverty: Heston, Summers & Aten (2002) up to 2000 - World Bank (2015) and later (2015 is a projection); Democracy: Polity IV index (from calculation of global population share); Education: UNESCO (2015) for the period 1820 to 1990, EASA for the time thereafter; Literacy: UNESCO (2015) for the period 1820 to 2010, UNESCO for 2010 and later; Child mortality: up to 1980 are calculations based on Geomodel; World Bank thereafter.

The world population increased 10-fold from 1820 to 2015.

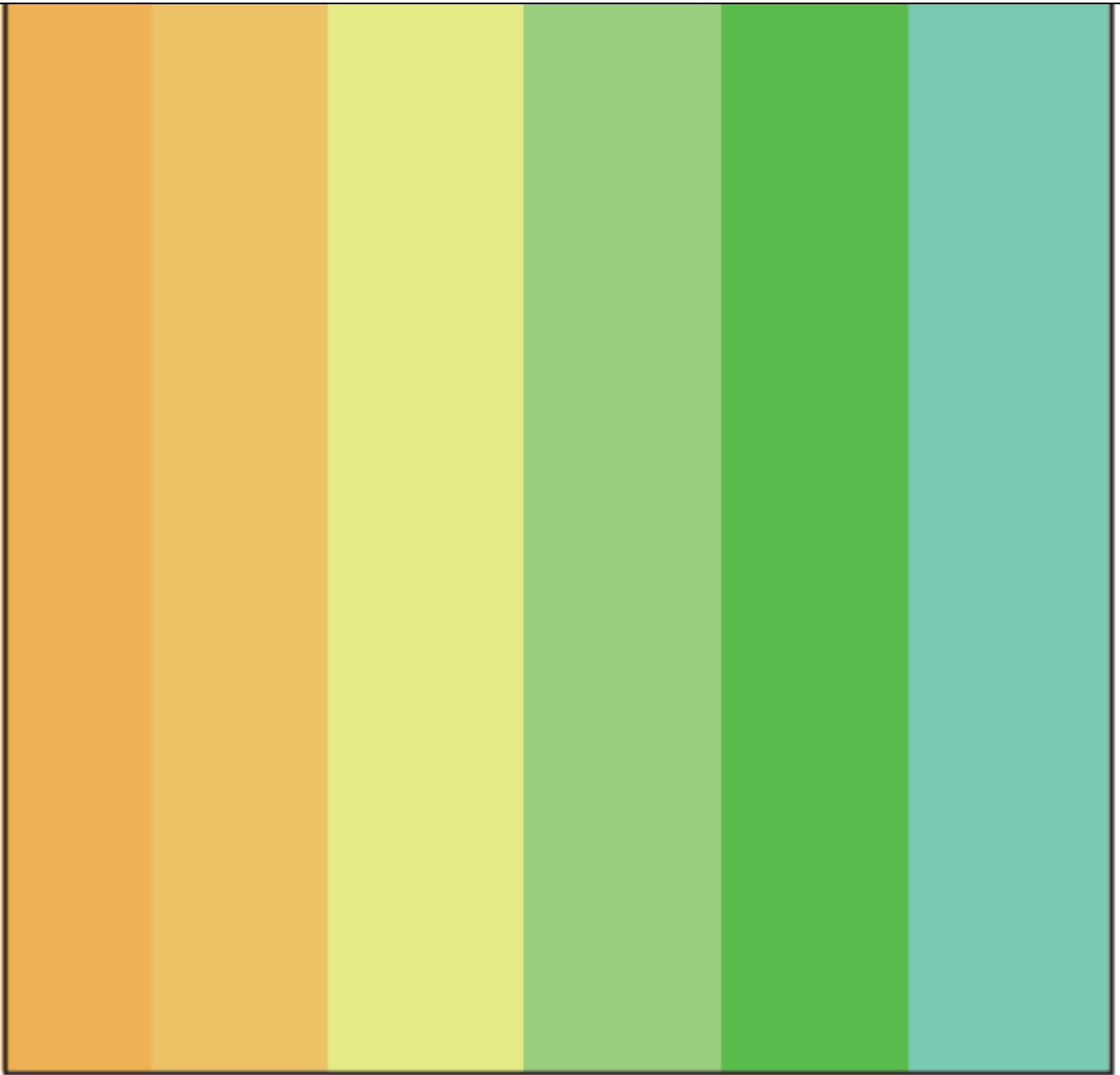
All these visualizations are from OurWorldInData.org an online publication that presents the empirical evidence on how the world is changing.

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# COLOR





Warm ——— Cool

Question 2: How do you get to school every day?

## QUESTION 2. How do you get to school every day?

By car - just your family - Orange

By car - carpooling together with other students - Yellow

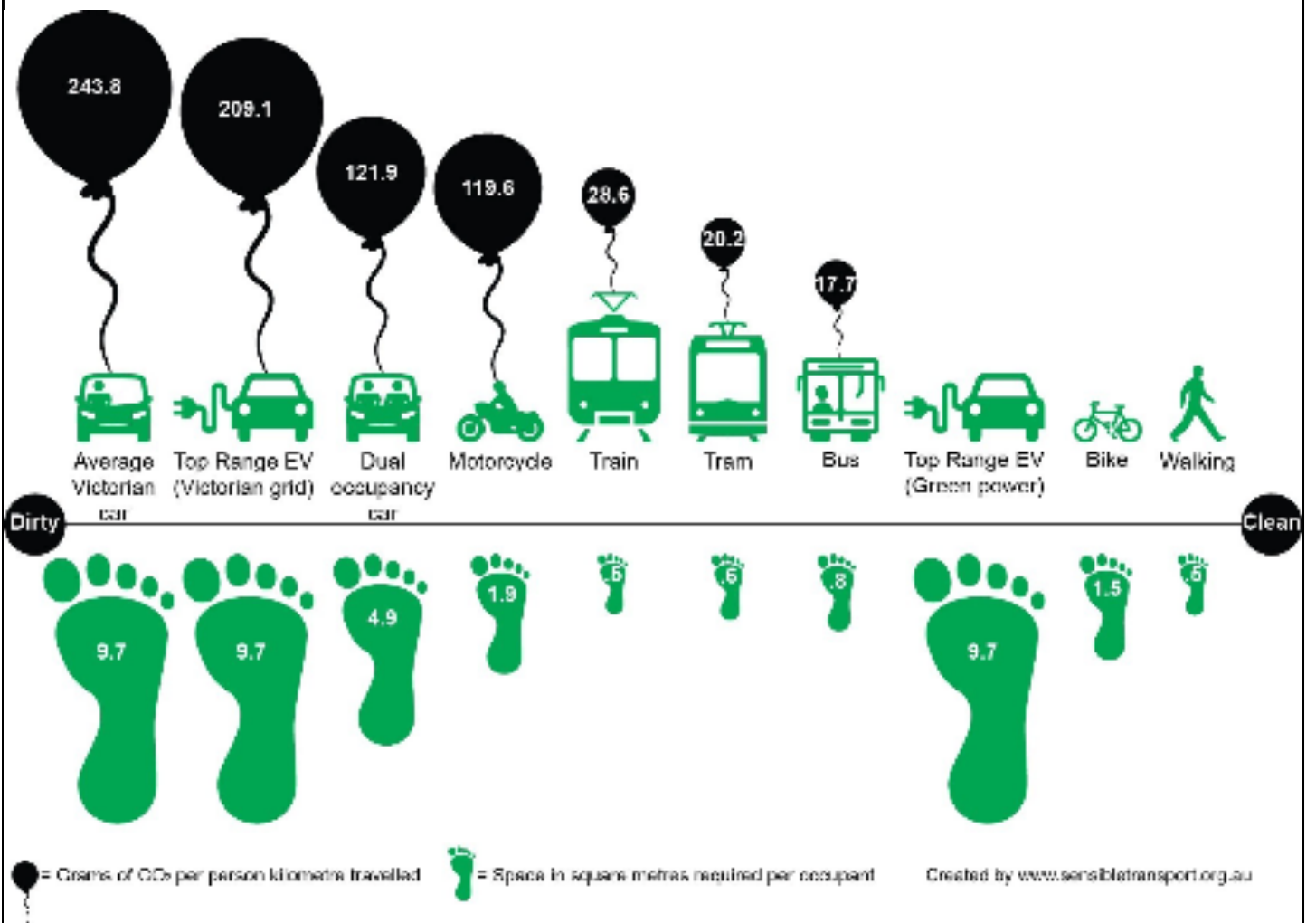
By school or city bus - Light Green

By bike - Dark green

Walking - Blue



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### MAP LEGEND

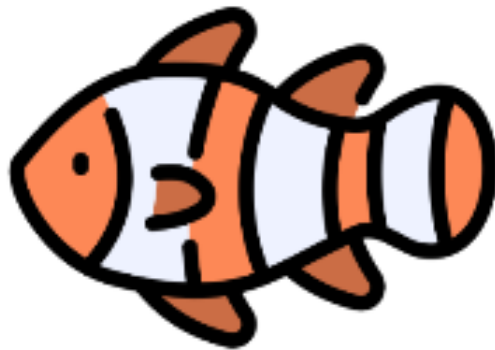




Symbols are an important part of maps and can represent a range of different types of data.

Symbols are described in a legend – a box or other place on the map where there is a key that says what each color of symbol means. Let's look at different ways we can represent data.

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Question 3: Which of these topics are you most interested in learning more about?

Deforestation

## Learning more about:

Deforestation

Coral reef destruction

Sea turtle species extinction

Overpopulation

World hunger

Plastic pollution

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Please join me in Day 138 of Science to see these symbols up close.

1. Google "skieslearn" to login today  
(Schoology link is not working)
2. Vote for This or That
3. Choose your symbol for Box #3

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Question 4: On a scale of tiny to  
**THE ENTIRE BOX:** How worried  
are you about the environment  
on a regular basis?

DO NOT DRAW YELLOW MARKER OVER  
BLACK MARKER

(leave blank) = I don't really worry about this!

(as tiny as you can draw) = I worry about this  
maybe once a month.

(medium-sized, about half of the size of the  
box) = I worry about this at least once per



(medium-sized, about half of the size of the box) = I worry about this at least once per week!

(take up the whole box!) = I worry about this at least every other day! Aaaaaah! Let's figure this out now!

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Each of your papers is one  
"post" of our fence.

When we put them all together we  
will get a data fence.

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Now, everyone in your row,  
group up and place your data  
"fenceposts" in a row all next to  
each other on the center table.

What "patterns" do you notice?

What do the patterns tell us about our  
collected data?

Do you think the patterns would be different  
in other locations/with other ages/more  
people?

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Now, everyone in your row,  
group up and place your data  
"fenceposts" in a row all next to  
each other on the center table.

1. "I notice that..."
2. "I think this data is telling us that..."
3. "I think the patterns would be different if..."

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Thank you for being brave,  
being willing to share, and for  
making this class fun for me.

Your reward is to watch this cute  
puppy for 20 seconds.