STOP THE SPREAD

A COVID-19 VIRUS GAME

ACEMS
AUSTRALIAN RESEARCH COUNCIL CENTRE OF EXCELLENCE FOR
MATHEMATICAL AND STATISTICAL FRONTIERS

QUT

1-6 Players || 30 Mins || Age 8+
PERFECT FOR STAY AT HOME SCHOOLING

For more info and games visit
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STOP THE SPREAD PRINT & PLAY GAME RULE SHEET

Introduction

As elite data scientists of the Global Health Authority, your job is to track the infection, anticipate future Outbreaks in COVID19 infections, and travel around the world to deploy interventions and preventions to reduce the spread.

Set Up

1) Print all pages double sided.
2) Cut all pages and pieces into their individual cards.
   You should have: This Rulesheet
         6 Continents
         24 COVID Spread cards
         24 Global Response cards
         1 Global Infection Datafeed page
3) Place the 6 Continent cards in the centre of the table.
4) Place the COVID SPREAD and GLOBAL RESPONSE cards in separate shuffled decks, face down.
5) Grab a pen, and a calculator/phone for calculating.
   You are now ready to play!

How to Play: Rounds

Follow these steps until you have completed 12 full rounds:

1. Draw Global Response cards so that each player has three.
   i.   *If you're playing solo, you can draw 6 cards per turn and use 2 per turn.*
2. Discuss your options with your team, and choose one card to play each, following the directions on the card.
   i.   *If your chosen card alters any of the numbers of Infected, enter the new total for that Continent into the Intervention Impact section for that turn on your Global Infection Datafeed sheet.*
3. Once your team has played this turn's card and recorded any changes, draw COVID Spread cards equal to the number of players, and place them on the Continents they affect.
   i.   *If you have placed a Lockdown card that negates the spread, discard both that card and the COVID card.*
   ii.   *If you're playing solo, you can draw 6 GR cards per turn and use two of them.*
4. Write any affected numbers in the COVID Impact section of that month and continent on your Global Infection Datafeed sheet.
5. Add the new totals for that month together, and colour in the appropriate boxes for that month on the Global Infected Population by Month graph on your Global Infection Datafeed sheet.
   i.   *You can also write in the previous months unchanged totals into the COVID Impact section for the other Continents that were not affected during this turn.*
6. Repeat these steps until you reach the end of Month 12.

Example:

CONTINENTAL INFECTION LEVEL BY MONTH

	NORTH AMERICA	SOUTH AMERICA	ASIA	AUSTRALASIA	AFRICA	EUROPE
1	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact
	100,000	**10,000**	**50,000**	**5,000**	**20,000**	**20,000**
2	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact
	100,000	**200,000**	**50,000**	**5,000**	**20,000**	**20,000**
3	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact	Intervention Impact
	100,000	**200,000**	**50,000**	**5,000**	**20,000**	**200,000**

How to Win

Single Player/Team Mode: Reach the end of the 12th month with global infections under 12,800,000.

Competitive Mode: The player with the lowest overall number of global infected at the end of month 12 wins.

Special Thanks to James Elliot, Miranda Flood, Kerrie Mengersen, Adrian Barnett and Cheryle Blair for their feedback.
*For more information and more fun science-based games visit **acems.org.au/games***

/////NORTHERN AMERICA/////

STARTING INFECTIONS: 10,000

/////SOUTHERN AMERICA/////

STARTING INFECTIONS: 10,000

/////EUROPE/////

/////AFRICA/////

STARTING INFECTIONS: 20,000

STARTING INFECTIONS: 20,000

/////ASIA/////

STARTING INFECTIONS: 50,000
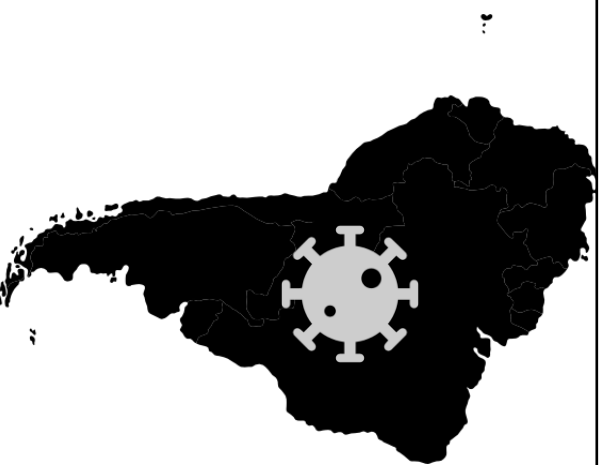
/////AUSTRALASIA/////

STARTING INFECTIONS: 5,000

CONTINENT CARD

CONTINENT CARD

CONTINENT CARD

CONTINENT CARD

CONTINENT CARD

CONTINENT CARD

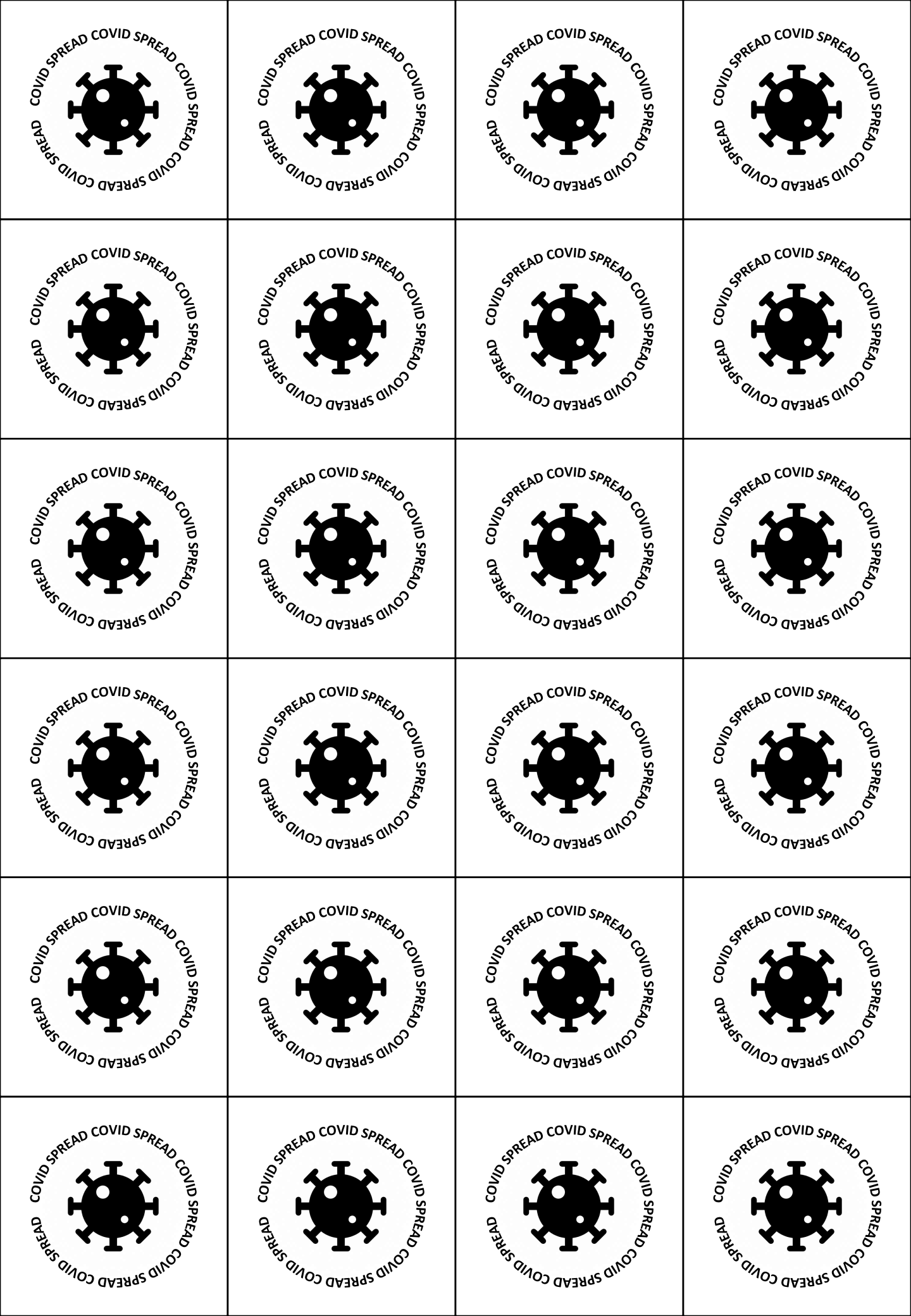| EUROPE x2 Infections	EUROPE x5 Infections	EUROPE x10 Infections	EUROPE x20 Infections
ASIA x2 Infections	ASIA x5 Infections	ASIA x10 Infections	ASIA x20 Infections
NORTH AMERICA x2 Infections	NORTH AMERICA x5 Infections	NORTH AMERICA x10 Infections	NORTH AMERICA x20 Infections
SOUTH AMERICA x2 Infections	SOUTH AMERICA x5 Infections	SOUTH AMERICA x10 Infections	SOUTH AMERICA x20 Infections
AFRICA x2 Infections	AFRICA x5 Infections	AFRICA x10 Infections	AFRICA x20 Infections
AUSTRALASIA x2 Infections	AUSTRALASIA x5 Infections	AUSTRALASIA X10 Infections	AUSTRALASIA x20 Infections

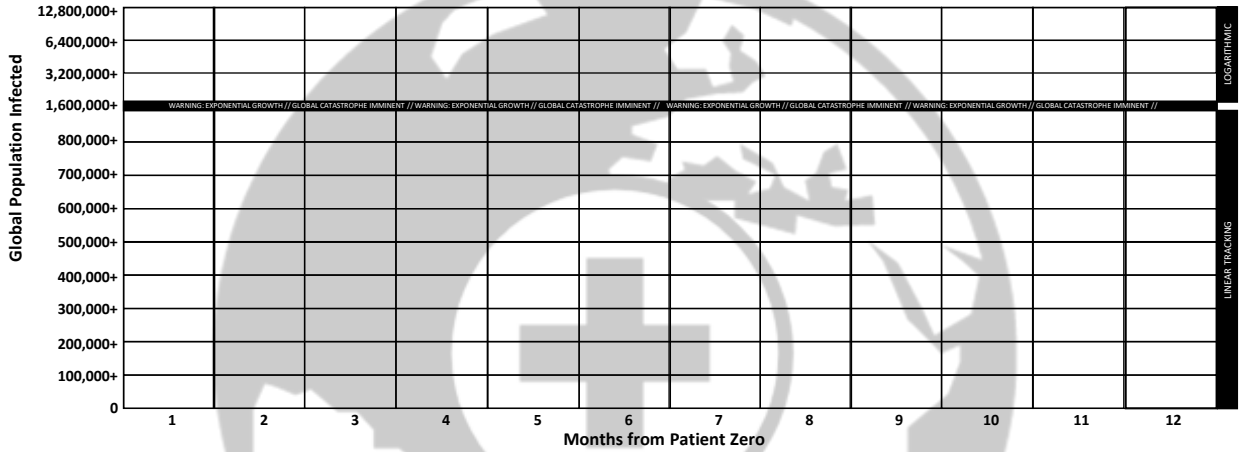| PEOPLE	PEOPLE	PEOPLE	PEOPLE
Social Distancing	**Self-Isolation**	**Self-Quarantine**	**Minimise Travel**
Place on a Continent to negate the next Outbreak	Place on a Continent to negate the next Outbreak	Place on a Continent to negate the next Outbreak	Place on a Continent to negate the next Outbreak
BUSINESSES	BUSINESSES	BUSINESSES	BUSINESSES
Work From Home Arrangements	**Online Meetings**	**Digital Alternatives**	**Home Delivery**
Place on a Continent to negate the next Outbreak	Place on a Continent to negate the next Outbreak	Place on a Continent to negate the next Outbreak	Place on a Continent to negate the next Outbreak
GOVERNMENTS	GOVERNMENTS	GOVERNMENTS	GOVERNMENTS
Close Borders	**Launch Contact Tracing App**	**Mass Quarantines**	**Enforce Lockdowns**
Place on a Continent to negate the next Outbreak	Place on a Continent to negate the next Outbreak	Reduce Infected for one Continent by 20%	Reduce Infected for one Continent by 20%
GLOBAL HEALTH AUTHORITY	GLOBAL HEALTH AUTHORITY	GLOBAL HEALTH AUTHORITY	GLOBAL HEALTH AUTHORITY
Deploy Global Health Experts	**Global Legislation Coordination**	**Information Campaign**	**Global Medical Supply Coordination**
Reduce Infected for one Continent by 50%	Reduce Infected for all Continents by 20%	Reduce Infected for one Continent by 50%	Reduce Infected for all Continents by 20%
HEALTH CARE SYSTEMS	HEALTH CARE SYSTEMS	HEALTH CARE SYSTEMS	HEALTH CARE SYSTEMS
Personal Protective Equipment	**Drive-Thru Screening Centres**	**Build Temporary Hospitals**	**Share Medical Stockpiles**
Reduce Infected for one Continent by 10%	Reduce Infected for one Continent by 10%	Reduce Infected for one Continent by 10%	Reduce Infected for one Continent by 10%
DATA SCIENTISTS	DATA SCIENTISTS	DATA SCIENTISTS	DATA SCIENTISTS
Bayesian Statistics	**Research Viral Trajectories**	**Global Information Sharing**	**Data Analysis**
Peek at the top three cards of the COVID Spread deck	Peek at the top three cards of the COVID Spread deck	Peek at the top three cards of the COVID Spread deck	Peek at the top three cards of the COVID Spread deck

GLOBAL INFECTION DATAFEED

As elite data scientists of the Global Health Authority, your job is to track the infection, anticipate future Outbreaks in COVID19 infections, and deploy interventions and preventions to reduce the spread.
Use this sheet to track whether your preventions and treatments are working on a global scale.

GLOBAL INFECTED POPULATION BY MONTH

(Update by colouring in the appropriate rectangle to form a vertical bar, at the end of every month/round)

Global Population Infected (y-axis):
- 12,800,000+
- 6,400,000+
- 3,200,000+
- 1,600,000+ *WARNING: EXPONENTIAL GROWTH // GLOBAL CATASTROPHE IMMINENT // WARNING: EXPONENTIAL GROWTH // GLOBAL CATASTROPHE IMMINENT // WARNING: EXPONENTIAL GROWTH // GLOBAL CATASTROPHE IMMINENT // WARNING: EXPONENTIAL GROWTH // GLOBAL CATASTROPHE IMMINENT //*
- 800,000+
- 700,000+
- 600,000+
- 500,000+
- 400,000+
- 300,000+
- 200,000+
- 100,000+
- 0

LOGARITHMIC / LINEAR TRACKING

Months from Patient Zero (x-axis): 1 2 3 4 5 6 7 8 9 10 11 12

CONTINENTAL INFECTION LEVEL BY MONTH

MONTH	NORTH AMERICA	SOUTH AMERICA	ASIA	AUSTRALASIA	AFRICA	EUROPE	GLOBAL TOTAL
1	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
2	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
3	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
4	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
5	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
6	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
7	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
8	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
9	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
10	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
11	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact
12	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact	Intervention Impact / COVID Impact

CROSS OFF PREVENTIONS/INTERVENTIONS USED TO GATHER DATA ON WHAT RESOURCES THE WORLD HAS LEFT

Social Distancing	Self-Isolation	Self-Quarantine	Minimise Travel
Work From Home Arrangements	Online Meetings	Digital Alternatives	Home Delivery
Close Borders	Launch Contact Tracing App	Mass Quarantines	Enforce Lockdowns
Deploy Global Health Experts	Global Legislation Coordination	Information Campaign	Global Medical Supply Coordination
Personal Protective Equipment	Drive-Thru Screening Centres	Build Temporary Hospitals	Share Medical Stockpiles
Bayesian Statistics	Research Viral Trajectories	Global Information Sharing	Data Analysis

CROSS OUT CONTINENTAL INFECTION OUTBREAKS TO GAIN THE DATA ON WHICH ONES REMAIN TO APPEAR

EUROPE x2 Infections	EUROPE x5 Infections	EUROPE x10 Infections	EUROPE x20 Infections
ASIA x2 Infections	ASIA x5 Infections	ASIA x10 Infections	ASIA x20 Infections
NORTHERN AMERICA x2 Infections	NORTHERN AMERICA x5 Infections	NORTHERN AMERICA x10 Infections	NORTHERN AMERICA x20 Infections
SOUTHERN AMERICA x2 Infections	SOUTHERN AMERICA x5 Infections	SOUTHERN AMERICA x10 Infections	SOUTHERN AMERICA x20 Infections
AFRICA x2 Infections	AFRICA x5 Infections	AFRICA x10 Infections	AFRICA x20 Infections
AUSTRALASIA x2 Infections	AUSTRALASIA x5 Infections	AUSTRALASIA X10 Infections	AUSTRALASIA x20 Infections

COVID SPREAD COVID SPREAD COVID SPREAD COVID SPREAD COVID SPREAD COVID SPREAD COVID SPREAD