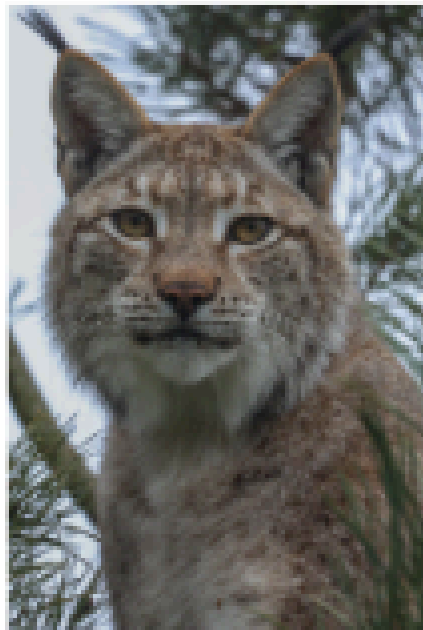


Population Ecology Data Graphing Bundle Middle School

THREE Graphing Activities

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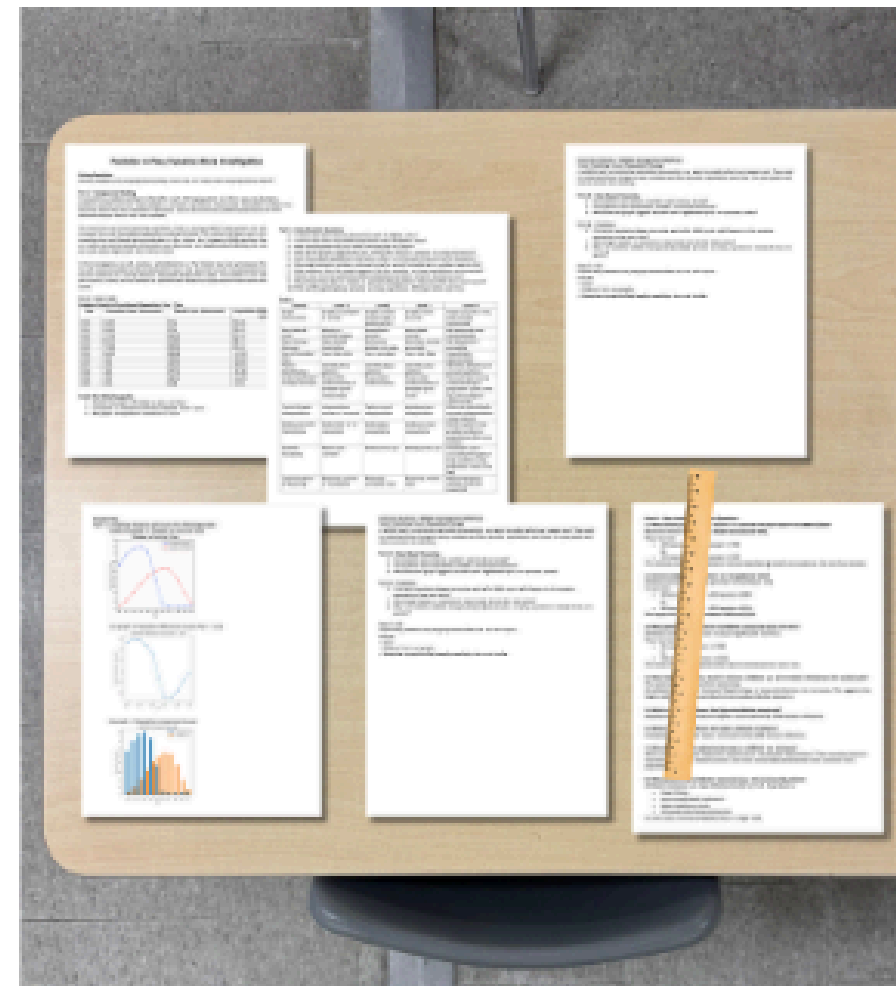
Students use Real
World Data to create
different graphs and
answer **Population
Ecology** questions.

SCROLL
to take a look inside!

HOW THESE ACTIVITIES HELP YOU

- **Saves Prep Time** - Everything is pre-made, ready to go, and fully editable.
- **Provides Built-In Assessments** - The rubric let you quickly check for understanding.
- **Encourages evidence-based reasoning** by having students use graphs to explain how and why trends and changes occur

PREDATOR VS PREY DYNAMICS

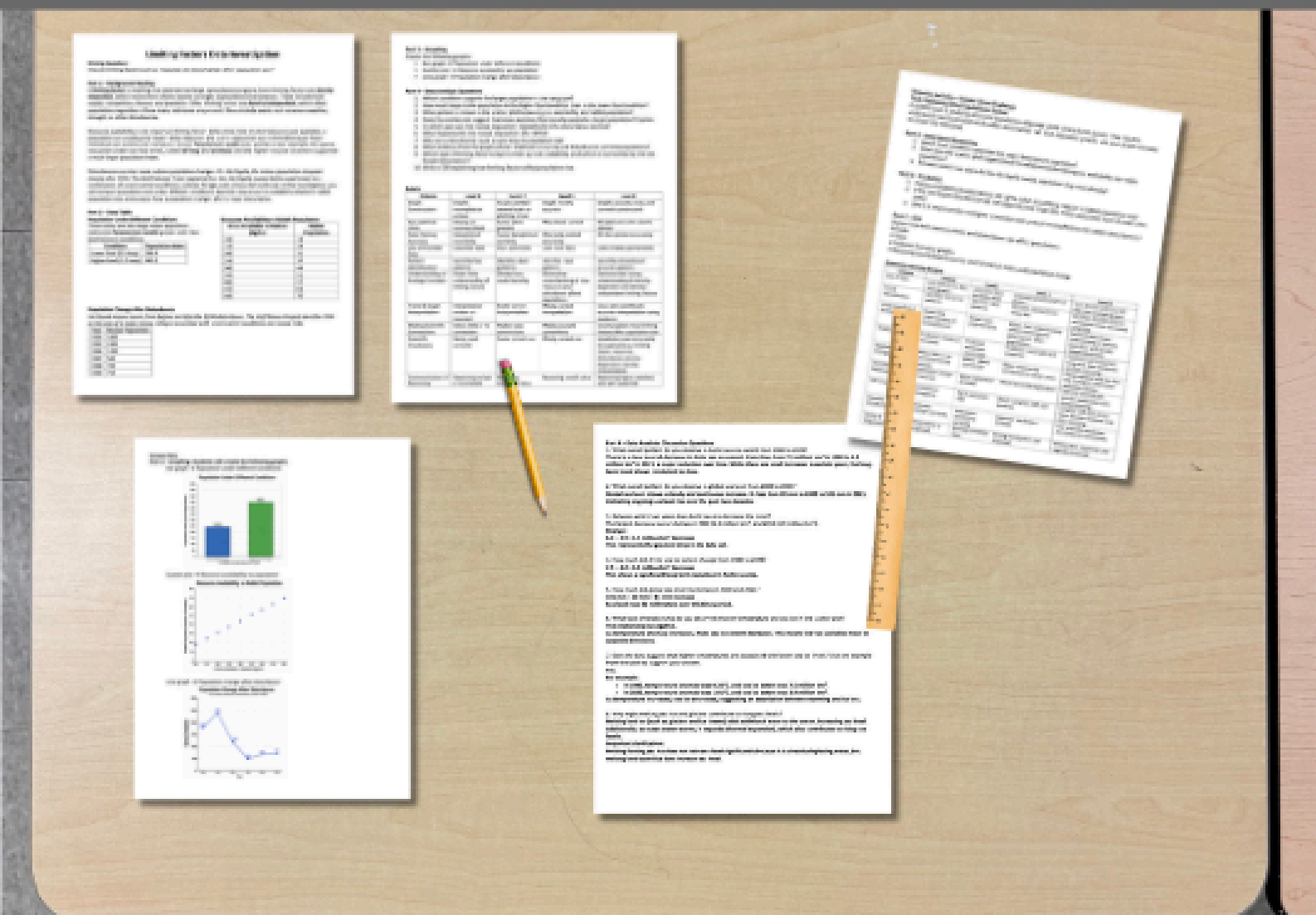


- Background Reading
- Data Tables
- Students Create Different Graph Types
- Extension Activity
- Full Marking Rubric

NO PREP or Materials

What Will Your Students Learn?

LIMITING FACTORS

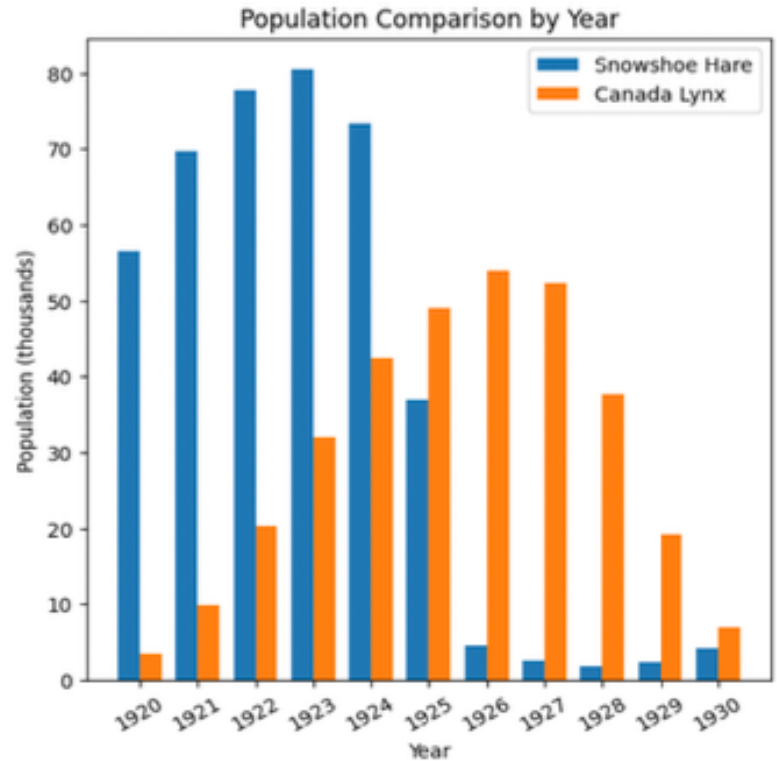


Students Use Their Graphs to Answer Questions and Draw a Conclusion

- ✓ Predator and prey population cycles
- Population differences over time
- ✓ Population comparison by year
- ✓ Logistic growth
- ✓ Carrying capacity
- ✓ Population stabilization
- ✓ Resource levels and mean population size
- ✓ Limiting factors in ecosystems
- ✓ Density-dependent factors
- ✓ Density-independent factors
- ✓ Population change after disturbance
- ✓ Real-world applications of population ecology

- Three population ecology graphing investigations that use real-world style data for students to graph and analyze
- Multiple graphing tasks (line graphs, bar graphs, and scatter plots) with data tables and analysis questions
- Complete teacher supports including answer keys, discussion questions, extension activities, and grading rubrics

What You Get



Part 2 – Data Table
Population Under Different Conditions
These values are late-stage mean population indices for *Paramecium aurelia* grown under two food-resource conditions.

Condition	Population Index
Lower food (0.5 loop)	246.4
Higher food (1.0 loop)	449.1

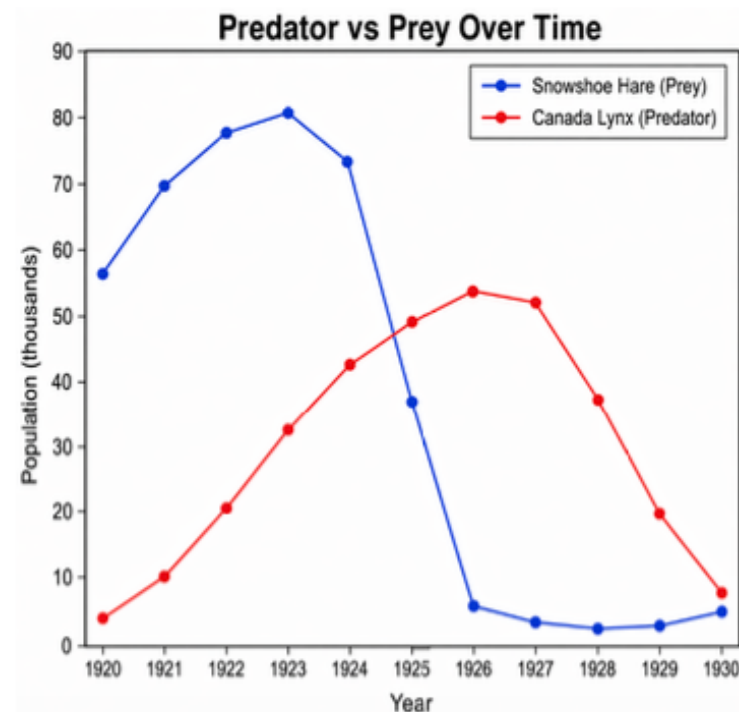
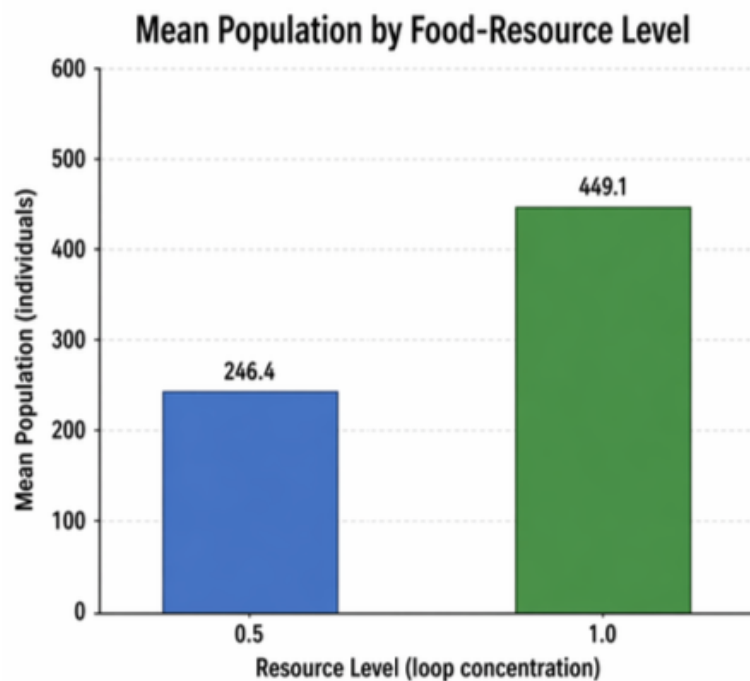
Resource Availability vs Rabbit

Grass Available in Habitat (kg/ha)

Grass Available in Habitat (kg/ha)	
100	18
150	24
200	31
250	37
300	44
350	51
400	57
450	63
500	70

Criteria	Level 1 (Limited)	Level 2 (Some)	Level 3 (Considerable)	Level 4 (Thorough)
Graph Construction	Graphs incomplete or unclear	Graphs contain scale errors	Graphs mostly accurate	Graphs accurate and well-constructed
Axis Labels & Units	Missing labels	Some labels	Most labels correct	All labels and units correct
Data Plotting Accuracy	Data incorrect	Some correct	Most correct	All accurate
Use of Provided Data	Uses little data	Uses some data	Uses most data	Uses all data appropriately
Pattern Identification	Few patterns identified	Basic patterns	Clear patterns	Detailed accurate patterns
Resource Trend Understanding	Limited understanding	Basic understanding	Clear understanding of trends	Strong understanding using data evidence
Connection to Depletion	Weak connection	Basic connection	Accurate connection	Clear explanation of how trends relate to depletion
Scientific Vocabulary	Rare use	Some correct use	Mostly correct use	Accurate throughout
Communication of Reasoning	Unclear	Somewhat clear	Mostly clear	Logical and well supported

What Will Your Students Learn?



- ✓ Helps students build graphing and data analysis skills using population ecology data
- ✓ Supports NGSS Science & Engineering Practices through analyzing patterns and relationships in predator and prey populations, carrying capacity, resource availability, population stabilization, and limiting factors
- ✓ Connects life science concepts like predator-prey dynamics, logistic growth, carrying capacity, density-dependent factors, and disturbance to real-world data analysis
- ✓ Encourages evidence-based reasoning by having students use graphs to explain how resources, population interactions, and environmental changes affect population size over time

Predator (Lynx) vs Prey (Hare) Population Over Time

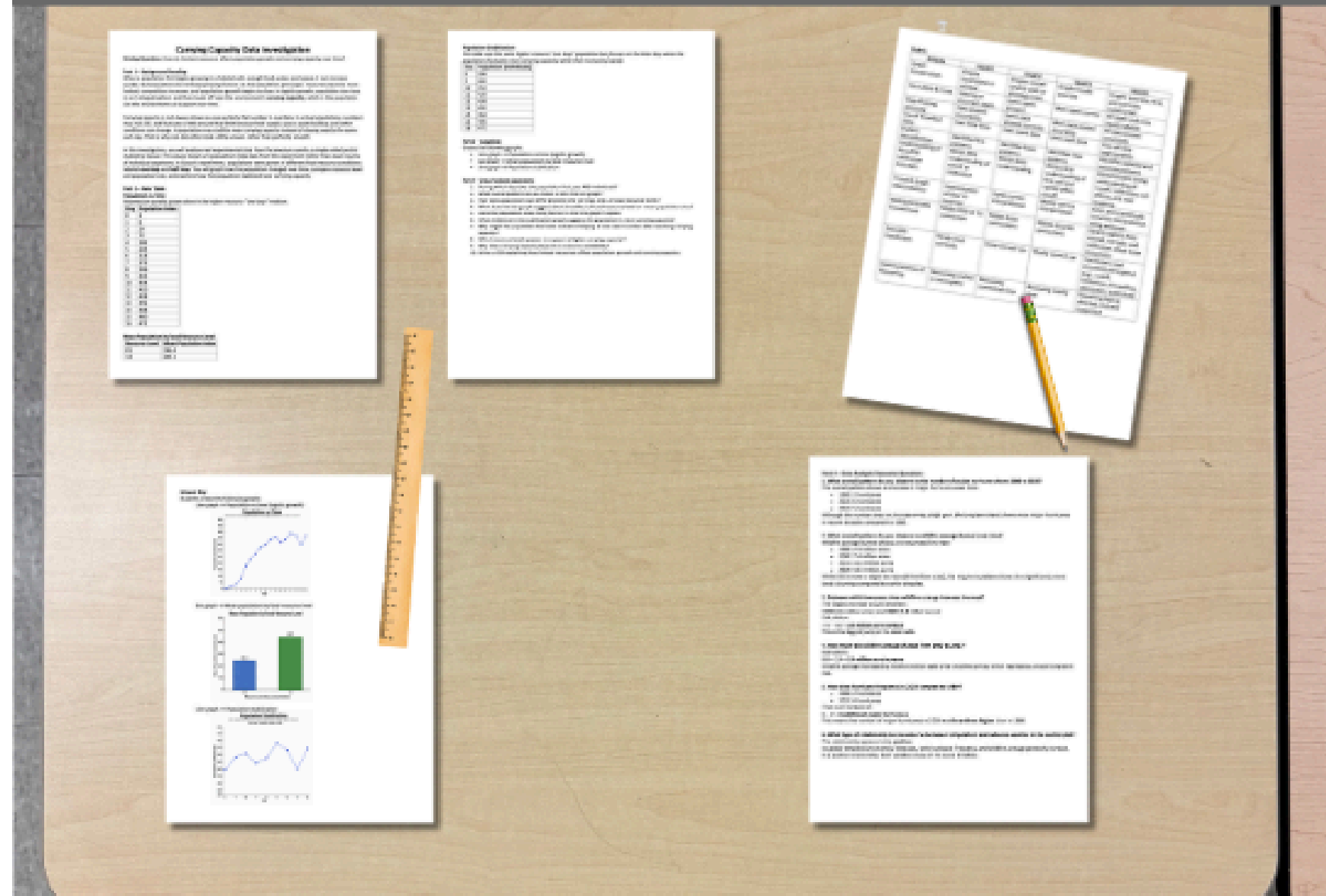
Year	Snowshoe Hare (thousands)	Canada Lynx (thousands)	Population Difference (Hare – Lynx)
1920	56.60	3.52	53.08
1921	69.63	9.94	59.69
1922	77.74	20.30	57.44
1923	80.53	31.99	48.54
1924	73.38	42.36	31.02
1925	36.93	49.08	-12.15
1926	4.64	53.99	-49.35
1927	2.54	52.25	-49.71
1928	1.80	37.70	-35.90
1929	2.39	19.14	-16.75
1930	4.23	6.98	-2.75

Your Activities

- Include a background reading for student understanding
- **DIGITAL** and **PRINT** ready
- **FULLY EDITABLE**
- Extension activities for early finishers
- Complete Answer Key



CARRYING CAPACITY



Students Create Different Types of Graphs Based on Real World Data

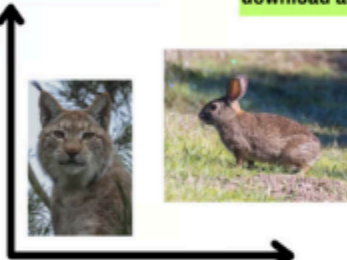
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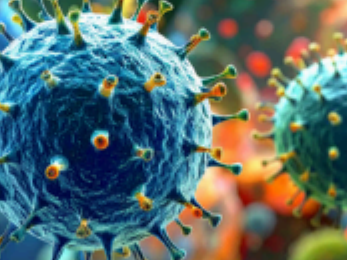


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Disease Spread & Public Health Data Bundle Middle School

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Space Data Investigation Bundle: Planet Motion, Moon Phases, and Stars - Middle School

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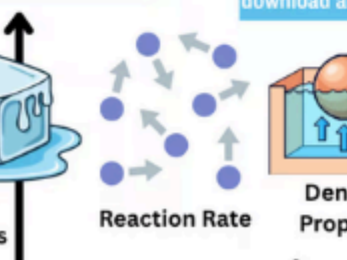


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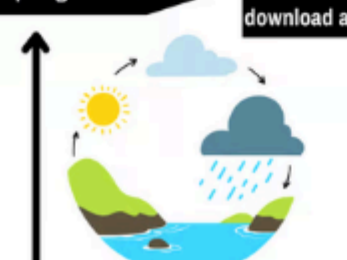


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THREE Graphing Activities about the Climate Change

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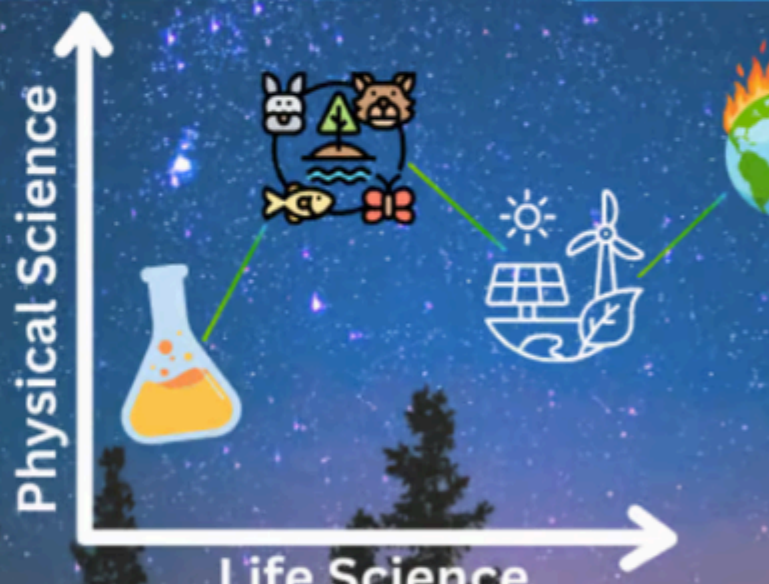


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