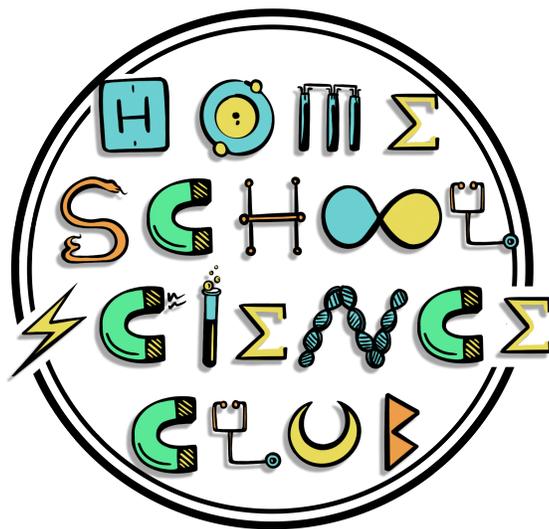


The free worksheets in this 5-pack correspond to videos on the Homeschool Science Club's YouTube channel.



If you receive any benefit from these worksheets or the associated videos for your homeschooling, please consider subscribing to the YouTube channel as it is updated more frequently than our website and other social media outlets.

Table of Contents:	Corresponding YouTube Video
Worksheet #1: 5 Minute Ice Cream_____	Season 2, Episode 3
Worksheet #2: Air Resistance _____	Season1, Episode 16
Worksheet #3: Anti Gravity Poles_____	Season 1, Episode 49
Worksheet #4: Bacteria Part 1_____	Season 1, Episode 37
Worksheet #5: Bacteria Part 2_____	Season 1, Episode 40

[YouTube.com/homeschoolscienceclub](https://www.youtube.com/homeschoolscienceclub)

[www.homeschoolscienceclub.com](http://www.homeschoolscienceclub.com)

Name \_\_\_\_\_

Date \_\_\_\_\_

## 5-minute Ice Cream

- Matter changing from one state to another is called a \_\_\_\_\_?
  - static change.
  - phase change.
  - revolution.
  - resolution.
- True or False: Heat energy is required for a phase change to occur. \_\_\_\_\_
- The freezing point of water is \_\_\_\_\_ Fahrenheit and \_\_\_\_\_ Celsius.
  - 0° 32°
  - 32° 0°
  - 32° 32°
  - 32° 0°
- True or False: A solid can not phase change to a gas without first melting to form a liquid.  
\_\_\_\_\_
- Draw a line connecting the phase change to its appropriate name.

Solid → Liquid

Solid → Gas

Liquid → Gas

Liquid → Solid

Gas → Liquid

Gas → Solid

Freezing

Melting

Vaporization

Sublimation

Deposition

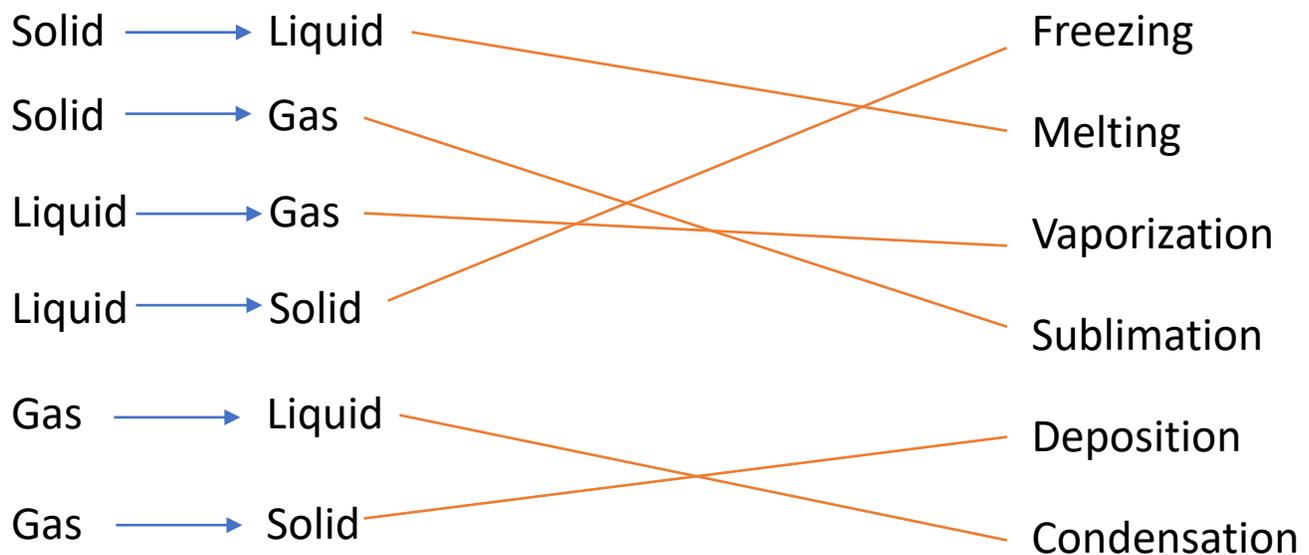
Condensation

Name \_\_\_\_\_

Date \_\_\_\_\_

## 5-minute Ice Cream

- Matter changing from one state to another is called a \_\_\_\_\_?  
A. static change.  
B. phase change.  
C. revolution.  
D. resolution.
- True or False: Heat energy is required for a phase change to occur. True  
For advanced learners, a change in pressure can also cause a phase change.
- The freezing point of water is \_\_\_\_\_ Fahrenheit and \_\_\_\_\_ Celsius.  
A. 0° 32°  
B. -32° 0°  
C. 32° 32°  
D. 32° 0°
- True or False: A solid can not phase change to a gas without first melting to form a liquid.  
False: a solid can change to a gas directly: Sublimation
- Draw a line connecting the phase change to its appropriate name.



Name \_\_\_\_\_

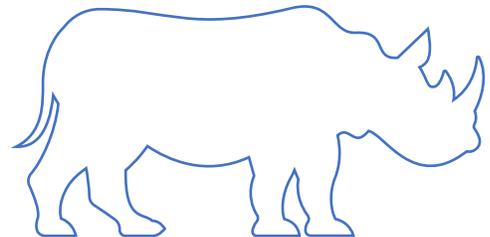
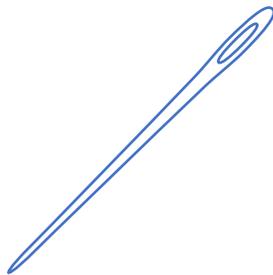
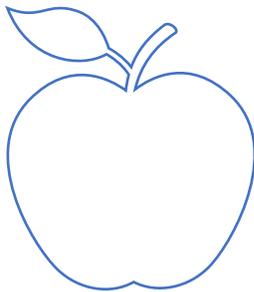
Date \_\_\_\_\_

## Air Resistance

1. Air resistance is a force. That force depends on two factors (circle the correct answers)

- A. Mass
- B. Color
- C. Speed
- D. Shape

2. True or False: The faster an object moves through air, the larger the force of air resistance it will feel. \_\_\_\_\_



3. Put the above objects in order from least amount of air resistance to most air resistance it would feel falling from the sky.

(Least) \_\_\_\_\_

\_\_\_\_\_

(Most) \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

## Air Resistance: Answer Key

1. Air resistance is a force. That force depends on two factors (circle the correct answers)

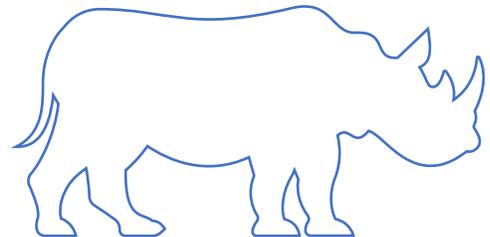
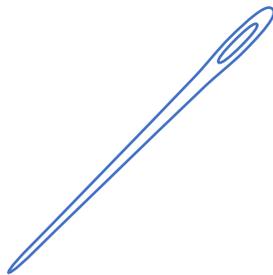
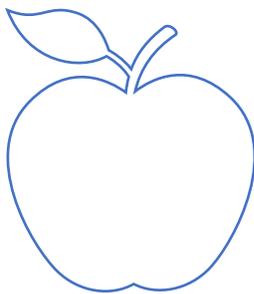
A. Mass

B. Color

C. Speed

D. Shape

2. True or False: The faster an object moves through air, the larger the force of air resistance it will feel. True



3. Put the above objects in order from least amount of air resistance to most air resistance it would feel falling from the sky.

(Least) Needle

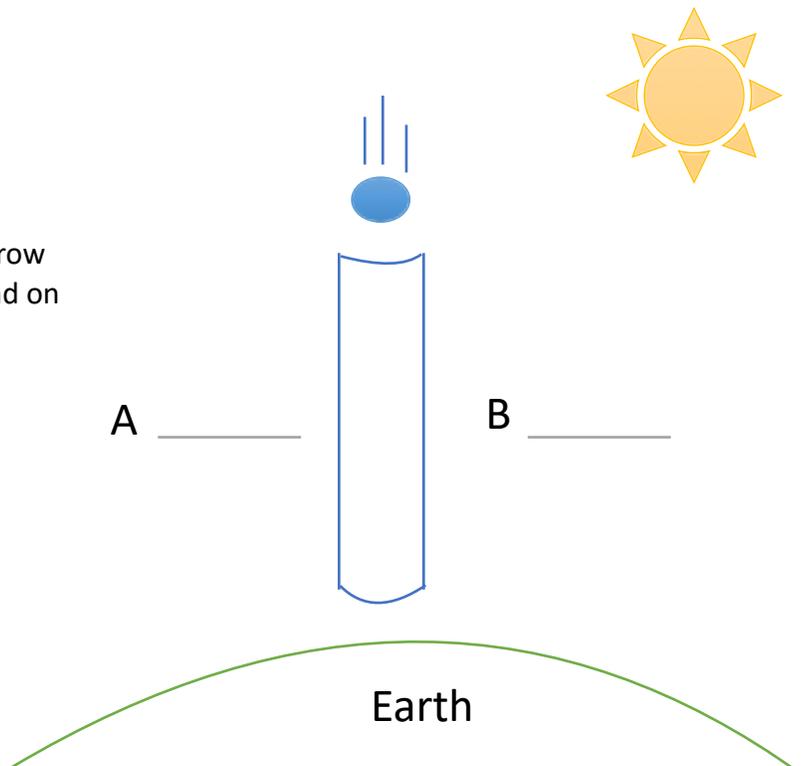
Apple

(Most) Rhinoceros

## Anti-Gravity Poles

1. A magnet that falls through a metal tube such as copper will
  - A. Speed up
  - B. Slow down
  - C. Come to a stop
  - D. Reverse its magnetic field
2. True or False: Copper is a metal and therefore magnetic. \_\_\_\_\_
3. Which scientist is credited for the discovery that an electromagnetic force created by moving electrons will oppose the magnetic field that is creating it?
  - A. Nicoli Tesla
  - B. Albert Einstein
  - C. Heinrich Emil Lenz
  - D. Eddie Current
4. When a magnet falls through a conductor such as a copper tube, electromagnetic fields are created. These electromagnetic fields are called
  - A. Eddie currents
  - B. Static electricity
  - C. Friction fields
  - D. Attractive forces

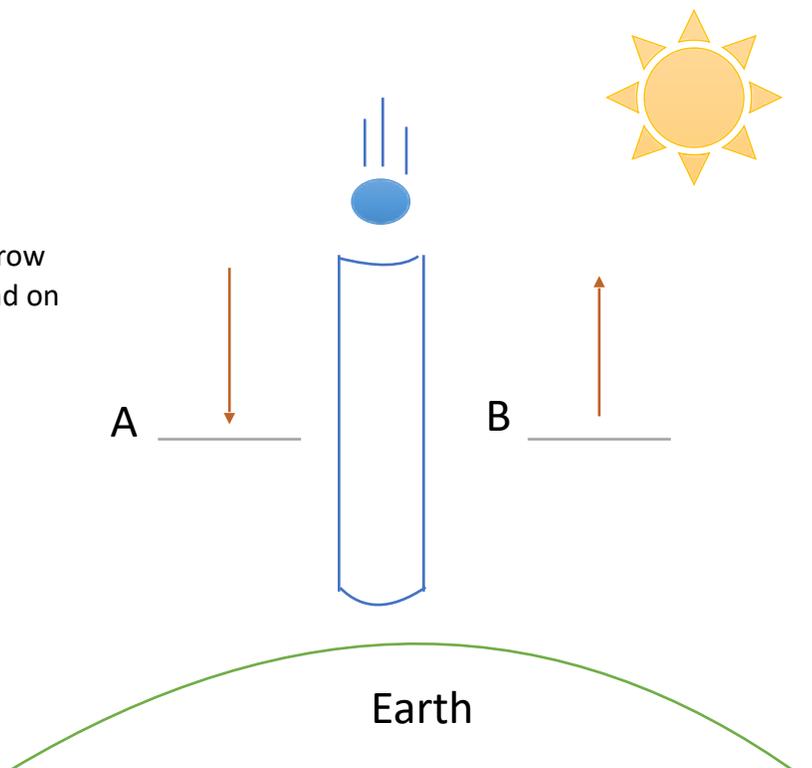
5. In the picture, a magnet is falling through a copper tube. On the line labeled A, draw an arrow showing the direction of the force of gravity, and on the line labeled B, draw an arrow showing the direction of the force produced by the Eddie currents.



## Anti-Gravity Poles- Answer Key

1. A magnet that falls through a metal tube such as copper will
  - A. Speed up
  - B. Slow down**
  - C. Come to a stop
  - D. Reverse its magnetic field
2. True or False: Copper is a metal and therefore magnetic. False- Copper is not magnetic
3. Which scientist is credited for the discovery that an electromagnetic force created by moving electrons will oppose the magnetic field that is creating it?
  - A. Nicoli Tesla
  - B. Albert Einstein
  - C. Heinrich Emil Lenz**
  - D. Eddie Current
4. When a magnet falls through a conductor such as a copper tube, electromagnetic fields are created. These electromagnetic fields are called
  - A. Eddie currents**
  - B. Static electricity
  - C. Friction fields
  - D. Attractive forces

5. In the picture, a magnet is falling through a copper tube. On the line labeled A, draw an arrow showing the direction of the force of gravity, and on the line labeled B, draw an arrow showing the direction of the force produced by the Eddie current.



Name \_\_\_\_\_

Date \_\_\_\_\_

## Bacteria

- The scientific name for germs is called:
  - Bacteria
  - Viruses
  - Pathogens
  - Cooties
- In the 1600s, a scientist named \_\_\_\_\_ discovered the cell for the first time by using a microscope.
  - Sir Isaac Newton
  - Robert Hooke
  - Albert Einstein
  - Antonie VAN LEEUWENHoek
- True or False: Antonie Van peewonhoek discovered viruses in a drop of water using a microscope.
- True or False: Bacteria are considered to all be the same shape and size while viruses have many different forms and come in all shapes and sizes.

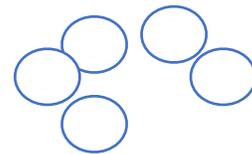
5. Match the type of bacteria with its correct shape:

1. Cocci

2. Bacilli

3. Sprilli

4. Virbio



Name \_\_\_\_\_

Date \_\_\_\_\_

1. The scientific name for germs is called:

- A. Bacteria
- B. Viruses
- C. Pathogens**
- D. Cooties

## Bacteria-Answer Key

2. In the 1600s, a scientist named \_\_\_\_\_ discovered the cell for the first time by using a microscope.

- A. Sir Isaac Newton
- B. Robert Hooke
- C. Albert Einstein
- D. Antonie Van Leewonhoek**

3. True or False: Antonie Van peewonhoek discovered viruses in a drop of water using a microscope.

False- he discovered bacteria

4. True or False: Bacteria are considered to all be the same shape and size while viruses have many different forms and come in all shapes and sizes.

False: Both bacteria and viruses have different shapes and sizes

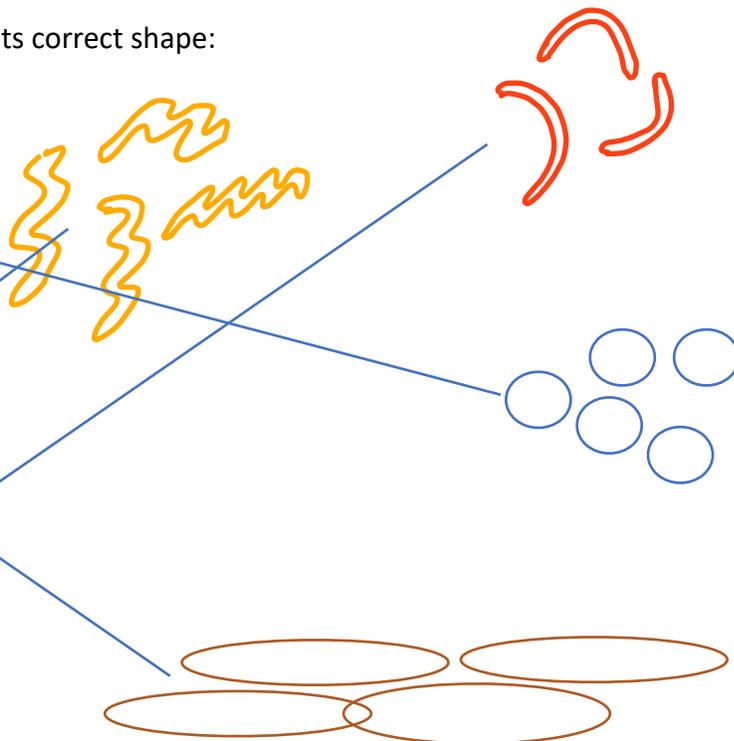
5. Match the type of bacteria with its correct shape:

1. Cocci

2. Bacilli

3. Sprilli

4. Virbio



Name \_\_\_\_\_

Date \_\_\_\_\_

## Bacteria-Part 2

1. Streptococcus bacteria secret \_\_\_\_\_ when exposed to sugar increasing the likelihood of dental cavities.
  - A. Acid
  - B. E. coli
  - C. Pathogens
  - D. Mitochondria
2. According to the National Sanitation Foundation's study in 2011, the \_\_\_\_\_ is the germiest place in the house.
  - A. Bathroom
  - B. Kitchen
  - C. Garage
  - D. Ceiling
3. True or False: Salmonella and E. coli are in a class of bacteria called coliforms.
4. True or False: Money and remote controls were found to be dirtier than items in the kitchen according to the National Sanitation Foundation study in 2011. .
5. Draw an object in your house that you think likely has the most germs!

Name \_\_\_\_\_

Date \_\_\_\_\_

## Bacteria-Part 2 Answer Key

1. Streptococcus bacteria secrete \_\_\_\_\_ when exposed to sugar increasing the likelihood of dental cavities.
  - A. Acid
  - B. E. coli
  - C. Pathogens
  - D. Mitochondria
2. According to the National Sanitation Foundation's study in 2011, the \_\_\_\_\_ is the germiest place in the house.
  - A. Bathroom
  - B. Kitchen
  - C. Garage
  - D. Ceiling
3. True or False: Salmonella and E. coli are in a class of bacteria called coliforms.
4. True or False: Money and remote controls were found to be dirtier than items in the kitchen according to the National Sanitation Foundation study in 2011. Money and remote controls because of their cool and smooth surfaces don't harbor as many germs as items in the kitchen.
5. Draw an object in your house that you think likely has the most germs!  
Anything could really suffice, but bonus points if the object drawn is something from the kitchen.