



Lesson Plan: Overview of the Solar System

Grade Level: 5

Subject: Earth Science

Duration: 45–60

NGSS ESS1.B: Earth and the Solar System: The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns.

Learning Objectives

By the end of this lesson, students will be able to:

- **Identify** the eight planets of the solar system and their order from the Sun.
- **Describe** the differences between the inner rocky planets and the outer gas giants.



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Materials Needed: (all links are included in this PDF)

- Printed copies of the Study Guide (<https://newpathworksheets.com/api/guide/study-guide-science-grade-5-the-solar-system-2.pdf>)
- Worksheet 0 (Inner Planets & Planet Properties) (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-0.pdf>)



- Worksheet 1 (Outer Planets & Orbits)
(<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-1.pdf>)
- Worksheet 2 (Asteroids, Comets & Galaxies)
(<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-2.pdf>)
- Vocabulary matching worksheet
(<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-5-the-solar-system-2-1.pdf>)

Lesson Procedure

Step 1: Introduction (5 minutes)

- Hook students by asking: 'What planet do we live on, and what other objects share our



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reinforce key terms. (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-5-the-solar-system-2-1.pdf>)

- Discuss the difference between meteors (shooting stars in the atmosphere) and meteoroids (small asteroids in space).

Step 4: Independent Practice (15 minutes)

- Have students complete Worksheet 1 independently, focusing on identifying outer planets, moons, and planetary orbits. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-1.pdf>)



- Assign Worksheet 2 to early finishers to reinforce knowledge of asteroids, comets, and the Milky Way galaxy. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-2.pdf>)

Step 5: Assessment (10 minutes)

- Conduct a quick quiz using Worksheet 0 to evaluate students' understanding of the definitions and properties of the inner planets. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-0.pdf>)
- Review the correct answers collectively to ensure comprehension.

💡 Differentiation Strategies

For advanced learners:



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- Research an upcoming meteor shower and write a short report on what causes it and when it will be visible.

📚 Complete List of Available Resources:

- NewPathWorksheets: Overview of the Solar System (<https://newpathworksheets.com/science/grade-5/the-solar-system-2>)



- Study Guide: The Solar System 2 (<https://newpathworksheets.com/api/guide/study-guide-science-grade-5-the-solar-system-2.pdf>)
- Worksheet 0: The Solar System 2 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-0.pdf>)
- Worksheet 1: The Solar System 2 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-1.pdf>)
- Worksheet 2: The Solar System 2 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-5-the-solar-system-2-2.pdf>)
- Vocabulary 1: The Solar System 2 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-5-the-solar-system-2-1.pdf>)
- Vocabulary 2: The Solar System 2



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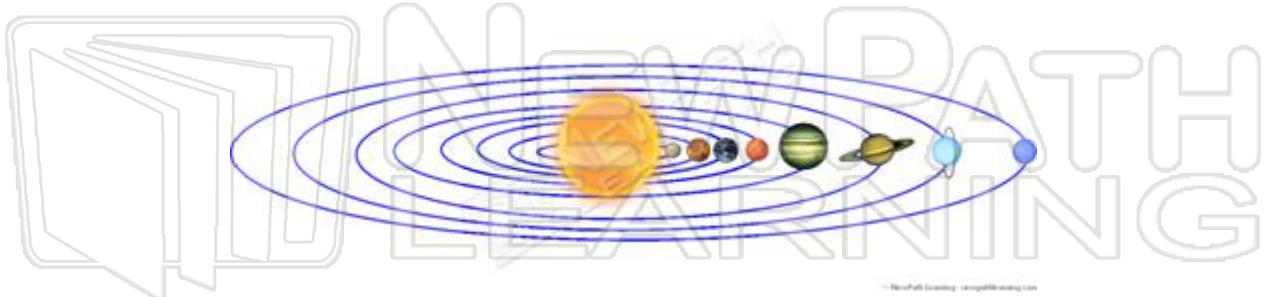
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THE SOLAR SYSTEM

Planets of our solar system

A **planet** is a large body that revolves around the Sun. All planets in our solar system rotate and they all revolve around the Sun.



Let's take a look at the **INNER** planets:



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The fifth planet from the Sun is **Jupiter**. Jupiter is the largest planet in the solar system and is made up of gases.

The sixth planet from the Sun is **Saturn**. Saturn is famous for its rings – and you might be amazed to discover that the rings are made of ice and rock!

The seventh planet from the Sun is **Uranus**. A cool fact about Uranus is that it has 26 moons.

The eighth planet from the Sun is **Neptune**. Neptune is also made up of several different types of gases.

What about Pluto?

Pluto was once considered a planet but is now classified as a dwarf planet.

Lesson Checkpoint: Name one fact about each of the 8 planets.

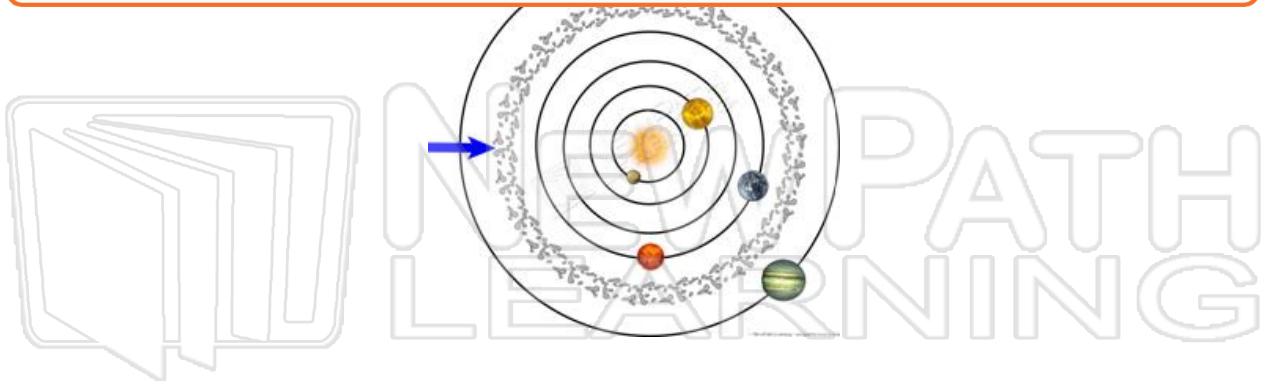
Orbits of the Planets

Each planet in the solar systems takes different amounts of time to orbit around the Sun. The farther away the planet is from the sun, the longer it takes them to revolve around the Sun than those closer to the Sun.



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Comets, Meteors, and Meteorites

Comets are made of ice and rock. They have four parts:

- a nucleus which is the solid portion of the comet and is made of dust and ice,
- a coma which is a cloud of dust and evaporated gases, and
- an ion tail and
- a dust tail.



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Name _____ Class _____ Date _____

1

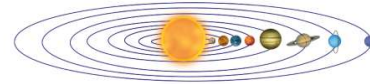
Which defines the word **planet**?



- A a large body that revolves around the Moon
- B a large body that is suitable for life
- C a large body that contains water and land
- D a large body that revolves around the Sun

2

What is true of **all planets**?

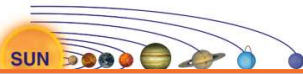


- A all rotate at the same speed
- B all rotate and revolve around the Sun
- C all have their own moons
- D all rotate and revolve around the Moon

3

This illustration shows the planets in their correct order from the Sun. Which planet is the **largest**?

- A Saturn
- B Uranus



4

This planet is the **closest** planet to the Sun. It is also the **smallest** planet in the solar system. Which planet is being described?

- A Mercury



5



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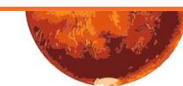
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- D Mars



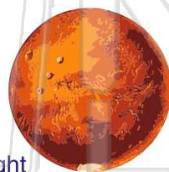
- C Mercury
- D Mars



9

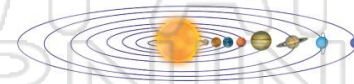
Mars is nicknamed the "**red planet**." What gives Mars its red appearance?

- A the reflection of sunlight
- B the iron in its surface
- C the reflection of its moon's light
- D the copper in its surface



10

Which of these are known as the **inner planets**?




- A Mercury, Venus, Earth, Mars
- B Jupiter, Saturn, Uranus, Neptune
- C Saturn, Uranus, Neptune, Pluto
- D Venus, Earth, Mars, and Jupiter



Name _____ Class _____ Date _____

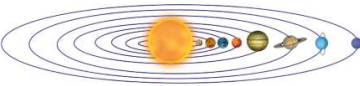
1 Which defines the word **planet**?



A a large body that revolves around the Moon
B a large body that is suitable for life
C a large body that contains water and land
D a large body that revolves around the Sun

D

2 What is true of **all planets**?



A all rotate at the same speed
B all rotate and revolve around the Sun
C all have their own moons
D all rotate and revolve around the Moon

B


3 This illustration shows the planets in their correct order from the Sun. Which planet is the **largest**?



A Saturn
B Uranus

C

4 This planet is the **closest** planet to the Sun. It is also the **smallest** planet in the solar system. Which planet is being described?



A Mercury

A



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D Mars



C Mercury
D Mars



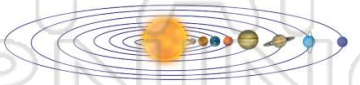
9 **Mars** is nicknamed the "**red planet**." What gives Mars its red appearance?



A the reflection of sunlight
B the iron in its surface
C the reflection of its moon's light
D the copper in its surface

B

10 Which of these are known as the **inner planets**?



A Mercury, Venus, Earth, Mars
B Jupiter, Saturn, Uranus, Neptune
C Saturn, Uranus, Neptune, Pluto
D Venus, Earth, Mars, and Jupiter

A



Name _____ Class _____ Date _____

1

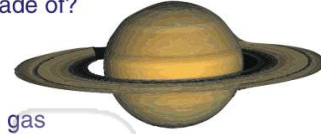
This planet is the **fifth planet** from the Sun, is the **largest planet** in the solar system, and is **made up of gas**.



- A Saturn
- B Uranus
- C Jupiter
- D Mercury

2

What are the **rings of Saturn** made of?



- A gas
- B minerals
- C ice and rock
- D fumes

3

How many **moons** does **Uranus** have?



- A 2
- B 7
- C 27
- D 55

4

Neptune is made up of several different types of _____.



- A gases
- B rocks
- C ice
- D fumes

5



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D Earth

D gravity of the moon

9

It takes **Earth** about _____ to complete **one revolution** around the Sun.



- A 52 days
- B 563 days
- C 1.5 years
- D 365.25 days

10

The **path that Earth follows** as it revolves around the Sun is called its _____.



- A revolution
- B orbit
- C rotation
- D gravity



Name _____ Class _____ Date _____

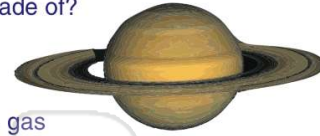
1 This planet is the **fifth planet** from the Sun, is the **largest planet** in the solar system, and is **made up of gas**.



- A Saturn
- B Uranus
- C Jupiter
- D Mercury

C

2 What are the **rings of Saturn** made of?



- A gas
- B minerals
- C ice and rock
- D fumes

C

3 How many **moons** does **Uranus** have?



- A 2
- B 7
- C 27
- D 56

C

4 **Neptune** is made up of several different types of _____.



- A gases
- B rocks
- C ice
- D fumes

A

5



D

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A

9

It takes **Earth** about _____ to complete **one revolution** around the Sun.



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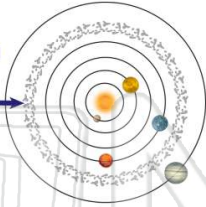
B



Name _____ Class _____ Date _____

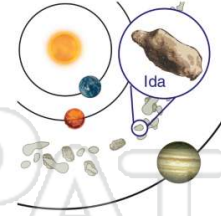
1 The **asteroid belt** is located **between** which two planets?

- A Jupiter and Saturn
- B Mars and Saturn
- C Earth and Mars
- D Mars and Jupiter



2 **Asteroids** are made of _____.

- A rock
- B stars
- C gas
- D ice



3 **Asteroids orbit** around _____.

- A the Moon
- B the Sun
- C planet Earth
- D planet Mars



4 A **celestial body** made of ice and rock is called _____. It has a **nucleus** which is solid dust and ice, a **coma** which is a cloud of dust and evaporated gases, and two tails.



5



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- C 18
- D 180



- B stops rotating
- C passes through a comet's orbit
- D is in the Sun's shadow

9

A(n) _____ is a **huge system** of dust, stars, and gas which are all held together by gravity.

- A asteroid belt
- B galaxy
- C planet
- D comet



10

What **shape** does the galaxy pictured below have?

- A cubed
- B spiral
- C diamond
- D hexagonal

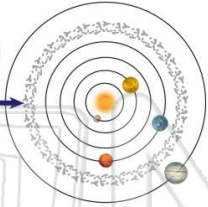




Name _____ Class _____ Date _____

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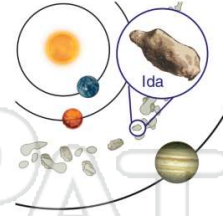
- A Jupiter and Saturn
- B Mars and Saturn
- C Earth and Mars
- D Mars and Jupiter



D

2 **Asteroids** are made of _____.

- A rock
- B stars
- C gas
- D ice



A

3 **Asteroids orbit** around _____.

- A the Moon
- B the Sun
- C planet Earth
- D planet Mars



B

4 A **celestial body** made of ice and rock is called _____. It has a **nucleus** which is solid dust and ice, a **coma** which is a cloud of dust and evaporated gases, and two tails.



B

5



A

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C

- C 18
- D 180



- B stops rotating
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A(n) _____ is a **huge system** of dust, stars, and gas which are all held together by gravity.

- A asteroid belt
- B galaxy
- C planet
- D comet



B

10

What **shape** does the galaxy pictured below have?

- A cubed
- B spiral
- C diamond
- D hexagonal



B



Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Comet

Galaxy

Gas giants

Accretion

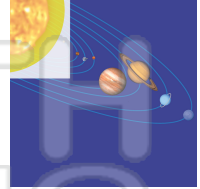
Convective zone

Corona

Astronomical unit

Planet

1. _____ - a large object that orbits around Sun



2. _____ - the process by which dust particles collide, stick together and form larger particles



3. approx



4. ice, th

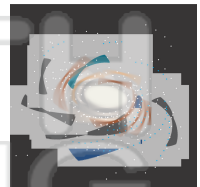
5. rise, c

6. million

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7. _____ - a system of dust, gas and millions of stars held together by gravity; an identifiable cluster of stars and planets



8. _____ - the four outer planets (Jupiter, Saturn, Uranus and Neptune) that are composed predominantly of hydrogen and helium





Name _____ Class _____ Date _____

Match each of the following terms to its definition:

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Accretion

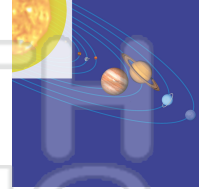
Convective zone

Corona

Astronomical unit

Planet

1. **planet** - a large object that orbits around Sun



2. **accretion** - the process by which dust particles collide, stick together and form larger particles



3. **astrophysics** - the study of the physical properties of celestial objects and the physical processes that govern their behavior



4. **convective zone** - the region of the Sun where energy is transported by convection

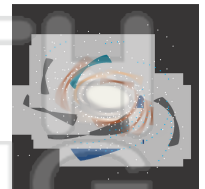
5. **convective zone** - the region of the Sun where energy is transported by convection

6. **convective zone** - the region of the Sun where energy is transported by convection

PREVIEW

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7. **galaxy** - a system of dust, gas and millions of stars held together by gravity; an identifiable cluster of stars and planets



8. **gas giants** - the four outer planets (Jupiter, Saturn, Uranus and Neptune) that are composed predominantly of hydrogen and helium

