

## **1.1. Origin of the earth and the solar system**

### **Members of a solar system : Asteroids and Meteoroids**

#### **I. Asteroids**

Apart from the stars and planets, there are numerous tiny bodies which also move around the sun. An asteroid is a relatively small rocky body that orbits the sun. Most asteroids in our solar system are found in the main asteroid belt. They are found between the orbits of Mars and Jupiter.

#### **II. Meteoroids**

Physical Characteristics of the Earth. Asteroids belt Sometimes one asteroid can crush into another. This can cause small pieces of the asteroid to break off. The broken pieces of asteroid are called meteoroids. When a meteoroid enters the earth's

atmosphere, it vaporizes and turns into a meteor: a streak of light in the sky. Because of their appearance, these streaks of light are sometimes called “shooting stars”. Sometimes meteoroids don’t vaporize completely in the atmosphere. In fact, sometimes they survive their trip through earth’s atmosphere and land on the earth’s surface. When they land on earth, they are called meteorites.

### **Interesting Fact!**

While watching the night sky, you may observe various patterns formed by different groups of stars, these are called constellations. Today there are a total of 88 constellations that cover the entire night sky including the Andromeda (Princess of Ethiopia), Cassiopeia (Queen of Ethiopia) and Cepheus (King of Ethiopia).

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### **Worksheet Three**

#### **1. What is an asteroid?**

- |                                           |                       |
|-------------------------------------------|-----------------------|
| a) A type of comet                        | b) A large star       |
| c) A small rocky body that orbits the Sun | d) A frozen gas cloud |

#### **2. Where is the main asteroid belt located?**

- |                              |                               |
|------------------------------|-------------------------------|
| a) Between Earth and Venus   | b) Between Mars and Jupiter   |
| c) Between Saturn and Uranus | d) Between the Moon and Earth |

#### **3. What are meteoroids?**

- |                                 |                            |
|---------------------------------|----------------------------|
| a) Stars that fall from the sky | b) Broken pieces of comets |
| c) Broken pieces of asteroids   | d) Pieces of the Moon      |

**4. What is a meteor?**

- a) A star that explodes
- b) A planet on fire
- c) A meteoroid that enters Earth's atmosphere
- d) A moving asteroid

**5. What happens when a meteoroid reaches Earth's surface?**

- a) It becomes an asteroid
- b) It turns into dust
- c) It forms a crater
- d) It is called a meteorite

**6. Why do meteors glow brightly in the sky?**

- a) Because they reflect sunlight
- b) Due to electrical charge
- c) Due to vaporization caused by friction
- d) They are made of fire

**7. What are "shooting stars" actually?**

- a) Real stars falling
- b) Planets moving fast
- c) Meteors
- d) Comets

**8. Which of the following is the correct sequence of transformation?**

- a) Asteroid → Meteorite → Meteoroid → Meteor
- b) Meteorite → Meteor → Meteoroid → Asteroid
- c) Asteroid → Meteoroid → Meteor → Meteorite
- d) Meteoroid → Asteroid → Meteorite → Meteor

**9. What is a constellation?**

- a) A group of planets
- b) A pattern formed by stars
- c) A star with a tail
- d) A black hole

**10. How many constellations are officially recognized today?**

- a) 12
- b) 24
- c) 60
- d) 88

**11. Which of the following is a constellation named after an Ethiopian queen?**

- a) Orion
- b) Cassiopeia
- c) Ursa Major
- d) Hydra

**12. What is the name of the Ethiopian princess constellation?**

- a) Pegasus
- b) Andromeda
- c) Virgo
- d) Lyra

**13. What is the constellation Cepheus named after?**

- a) A lion
- b) A hunter
- c) The King of Ethiopia
- d) The moon god

**14. Which of the following bodies causes meteor showers?**

- a) Comets and their debris
- b) Dwarf planets
- c) Giant gas planets
- d) The Sun

**15. Why are most asteroids found in the belt between Mars and Jupiter?**

- a) Because of magnetic pull from Earth
- b) Due to leftover material from solar system formation
- c) Because they escaped the sun's gravity
- d) Because it's the coldest part of the solar system