

Science - Physics - Key Stage 3
Light and Space

Lesson 15 - Seasons

Miss Hindle



What is a year?

1. What is a 'year'?
2. How long is a 'year' on Earth?
3. Why would other planets have different year lengths?



Comets... are bodies of rock and ice found in the solar system

1. Look at the table and **describe** the pattern.
Use data to backup your points.
2. **Explain** why this happens.

Explain: 'because' or 'so'

Distance from Sun (million km)	Speed of comet (km/seconds)
500	4
400	8
300	14
200	22
100	32



Describe and explain the following data...

Planet	Distance from Sun (millions of km)	Orbital Velocity (km/s)	Period of Revolution
Mercury	58	48	88 days
Venus	108	35	225 days
Earth	150	30	1 year
Mars	228	24	2 years
Jupiter	778	13	12 years
Saturn	1429	10	29 years
Uranus	2875	7	84 years
Neptune	4504	6	165 years

Source: Miss Hindle



Exam Style Question...

Use the data you have to support your answer.

What is a year? (6 marks)

1. Define what a year is like on Earth
2. Describe , with examples, the different years of some of the planets of our solar system
3. Explain why the planets have these different year lengths
4. Use these keywords:
orbit, speed, distance, gravity



Exam Style Question...

1. **Describe** the differences in summer and winter for:
 - Length of the day
 - How high the sun is in the sky
 - Temperature differences

2. After you've done the description. **Explain** WHY this happens...



Questions to finish off...

1. How long does the Earth take to rotate once on its axis?
2. How long does it take for the earth to orbit the sun?
3. What TWO factors affects the length of a planet's year?
4. Why does the Earth have seasons?

