



## Review



## Key questions

- What causes the: day, month, year, Seasons, and phases of the Moon?
- What is a star? A galaxy?
- What is a planet?
- What happened to Pluto?
- What is a light year?



## Key questions

- What is a meteor? Shooting star?
  - Why does it shine?
  - Where does it come from?
  - What is the typical size?
  - When is the best time to see them?
- What is a meteor shower?
  - What causes them?
- What is the difference between a meteor and a fireball?



## Key questions

- What is a meteorite?
  - What are the three types?
  - What are the differences in number?
  - How do we determine the age?
  - How do we know that they're from outer space?
- How do the planets orbit the Sun?
- What is the Oort cloud?
- What is the Kuiper belt?
- What is a meteoroid?
- What is the difference between a comet and asteroid?

## Key questions

- What is the asteroid belt?
  - How much mass? How dense?
- What are the properties of Near Earth Asteroids or Apollos?
  - Where do they come from?
  - How long do they last in near Earth orbit?
- What is the stuff between the stars?
- What is the solar nebula theory?

## Key questions

- What are molecular clouds made from?
- Where are stars born?
- How are stars born?
- Explain gravitational collapse?
- What is the effect of spin on a collapsing cloud?
- How does small interstellar space dust become planets?
- What is a protostellar jet or outflow?
- What causes the differences between the planets?

## Key questions

- What is terminal velocity and how does it affect impactors? Large ones, small ones?
- What is the temperature of small meteorites when they impact?
  - What does the surface look like?
  - Why do they hurt so?
  - What property plays main role in amount of energy that they have when they impact?

## Key questions

- How did the Moon form?
- Explain the conditions of the Earth during the first billion years with respect to impactors.
- What are typical speeds of objects entering our atmosphere?
- What does gravity do to dropped objects? How do they react?
- If you drop a hammer and a feather, what happens on the Earth or the Moon?

## Key questions

- What is a crater?
- What are the differences between the two main types?
- Why are craters mostly round?
- Why so few craters on the Earth?
- What happened 65 million years ago?
- What is the KT boundary?
- Proof of impactor?
- What happened in Siberia ~100 years ago?
  - How often do we expect such impacts?
  - Why not more deaths from such events in the past?

## Key questions

- What happened to Jupiter in 1994?
- What happened to the comet?
- What happened at the impact sites?
- Why does the impact of Jupiter serve as a wake-up call?
- What are the consequences of a large impact?
- So far, what has NASA done about 1 km sized asteroids?
- What is NASA going to do with ~100 meter asteroids?

## Key questions

- What is the Torino Scale?
- What is Apophis?
  - How close will it get in 2029?
  - What is a keyhole?
- What is 1950 DA?
  - Why is it currently the most dangerous rock?
- Even though there is little chance of impact, why is someone's lifetime chances of being killed by an impact, higher than you may think?

## Key questions

- Why is earlier detection better for impact mitigation?
- What are some problems with blowing up a large impactor?
- Explain the options for delaying an impactor.



## Key questions

- Explain why the Sun is stable over a human lifetime?
- Explain hydrostatic equilibrium.
- What powers the Sun?
- Why does fusion release energy?
- What is the nuclear strong force? Why is it important?