Name & Surname: _____ Class: _____ Date: _____

Round and Round the Sun

How Earth and the planets orbit

About 35 minutes Level ★★★☆☆

Task A

/5

Answer about the Sun and its planets.

1. What is at the **centre** of our solar system?

2. What is an **orbit**?

3. Which **way** do all the planets travel round the Sun?

4. How **long** does Earth take to finish one orbit?

5. Why does Neptune take **longer** than Earth to orbit the Sun?

   Neptune takes longer because...

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The Long Year Mystery

Use clues to explain Neptune's very long year.

Key words

solar system: the Sun and everything that moves round it

star: a huge ball that makes its own light

planet: a large round object that orbits a star

orbit: the path taken round the Sun

gravity: a pull that holds planets near the Sun

year: the time to finish one orbit

Task B

/3

Sort the clues to explain Neptune's long orbit year.

Why does Neptune take 165 Earth years to orbit the Sun?

Cut out the cards.

Earth takes 365 1/4 days for one orbit.	Planets farther from the Sun take longer to go round.	Mercury is closest to the Sun and finishes an orbit quickly.
Neptune is the eighth and furthest planet from the Sun.	Its orbit path round the Sun is huge.	All planets travel anticlockwise round the Sun.
Neptune moves slowly along its giant path.	Neptune looks blue, so its colour makes its year long.	The Sun's gravity holds all planets in their orbits.

Your answer, using the clues:

.....

.....

.....

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What Matters Most?

Rank the ideas that best explain orbiting.

Task C

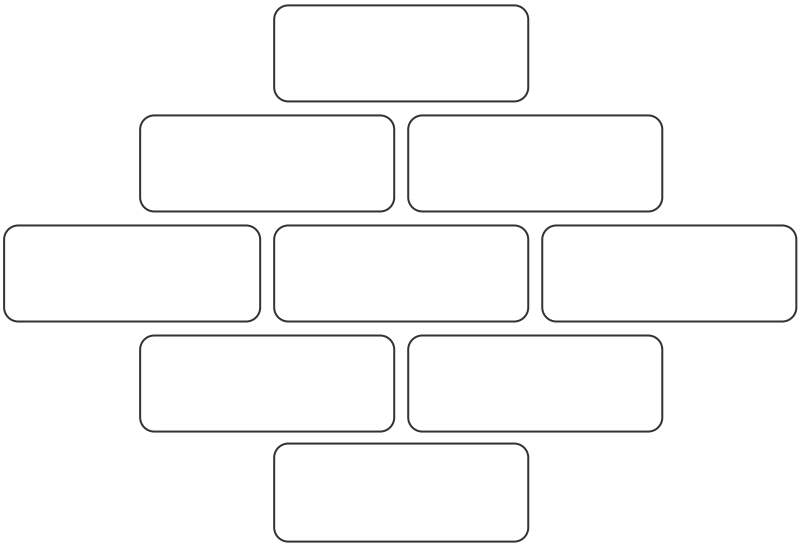
Cut out and rank ideas about planets orbiting.

which ideas best explain how planets move round the Sun

Cut out the cards.

The Sun is a star at the centre.	The Sun's gravity holds the planets.	All eight planets orbit the Sun.
Planets move anticlockwise.	Orbits are almost circular paths.	Farther planets have longer years.
Earth takes one year to orbit.	Your own idea	Your own idea

▲ Most important



▼ Least important

Why did you put your top card at the top?

.....

.....

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Check Your Knowledge

Tick the right answers and show what you know.

Task D

Example done for you

/3

Tick the best answer about orbits.

1. What is at the **centre** of our solar system?
   - [x] The Sun
   - [ ] Earth
   - [ ] The Moon
2. Which **order** of planets starts closest to the Sun?
   - [ ] Earth, Mars, Jupiter, Saturn
   - [ ] Mercury, Venus, Earth, Mars
   - [ ] Mars, Earth, Venus, Mercury
3. How **long** does Earth take to orbit the Sun?
   - [ ] 24 hours
   - [ ] 365 1/4 days, or one year
   - [ ] 30 days
4. Why do planets farther from the **Sun** take longer to orbit?
   - [ ] They spin faster
   - [ ] They are warmer
   - [ ] They have much bigger orbit paths

Task E

Show what you know about orbiting.

Draw the Sun in the middle with Earth and two other planets orbiting it. Add arrows to show the anticlockwise direction. Label the Sun. Write two sentences about what you drew.

Draw here

Write here

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Ask and Order

Help others and put space discoveries in order.

Task F /3

Help Student A, B and C with Sun and orbit ideas.



Student A

Which planets orbit the Sun?

.....

.....

Which way do planets go round the Sun?



Student B

.....

.....



Student C

Why do the planets not fly away?

.....

.....

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Round and Round the Sun

Task G

/2

Put these space finds in time order.

A Neptune is discovered

B Pluto is made a dwarf planet, leaving eight planets

1781 Uranus is added as a planet

1846 ☐ _____

1930 Pluto is discovered

2006 ☐ _____

How did I do?

Circle a face for each line.

I can name the star at the centre and the eight planets. ☹ 😐 🙂

I can describe how planets orbit the Sun. ☹ 😐 🙂

I can explain why farther planets take longer. ☹ 😐 🙂

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Answer sheet: Round and Round the Sun

Task A

1. The Sun, which is a star.
2. The path a planet takes round the Sun.
3. Anticlockwise.
4. 365 1/4 days, or one year.
5. It is much farther from the Sun, so its orbit path is much bigger.

Task B

Neptune is farthest from the Sun, so its orbit is huge and takes 165 Earth years. Closer planets have smaller orbits and shorter years.

Red herring: Neptune looks blue, so its colour makes its year long.

Task C

Answers will vary.

Task D

1. a) The Sun
2. b) Mercury, Venus, Earth, Mars
3. b) 365 1/4 days, or one year
4. c) They have much bigger orbit paths

Task E

Answers will vary.

Task F

1. Student A: All eight: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
2. Student B: Anticlockwise, on almost circular paths.
3. Student C: The Sun's gravity pulls them and holds them in orbit.

Task G

A: 1846 – Neptune is discovered

B: 2006 – Pluto is made a dwarf planet, leaving eight planets

Pictures: Characters: Open Peeps by Pablo Stanley (CC0)