

Our Solar System

Session 1

TIME

90 min.
including
break



Art of learning

THEME
19



TRIGGER: FILM ABOUT THE SOLAR SYSTEM

This will happen:	The students watch a film about the solar system.
Materials needed:	Golden Chest, T1901 Trigger: Film about Paxi – the Solar System, T1901 Paxi – and Solar System poster. Speakers and PC to play movie clips.
Preparations in advance:	Find T1901 Trigger: Film about Paxi – the Solar System. Print the T1901 Paxi and Solar System poster in colour, and name all the planets on it.
Preparations in the space:	Connect PC, monitor, and speakers to play the movie clip.
The space looks like this:	Classroom.

GUIDANCE:

Sit together next to the Golden Chest, near the screen.

1. Open the Golden Chest, remove the Paxi and the Solar System poster. Ask the students what they see. What do they know about what they see? Listen to their answers. Explain that during this topic – the Solar System – they will become astronauts and learn more about the planets in the Solar System and space.

2. Show the Film about Paxi – the Solar System (5 min) and ask the students to pay close attention. Tell them that Paxi is a small child from another planet and he knows a lot about space. Even so he is very young and still needs help from older children with important tasks.

WARM-UP: 'AYE, AYE SPACESHIP CAPTAIN' – MISSION TO MERCURY AND VENUS

This will happen:	The students embark on their first space mission visiting Mercury, Venus and Earth and follow orders from their captain.
Materials needed:	T19 Warm-up spaceship sound (resource bank). Use masking tape to create a spaceship outline on the floor. Photos and facts for the warm-ups (resource bank). Music player.
Preparations in advance:	Listen to the Warm-up spaceship sound. Make a spaceship on the floor with masking tape. Print photos and facts for the warm-ups (see resource bank). Use photos and fact sheets about Mercury, Venus and Earth.
Preparations in the space:	Check that the sound system works. Create a space rocket on the floor with masking tape (with room for the whole class to stand together with room to spread out).
The space looks like this:	Open space.

GUIDANCE:

The students are going on a space mission in their spaceship (marked area on the floor). The adult is the 'Spaceship Captain' and the students are astronauts. The adult is at the front of the spaceship so everyone can see and hear their commands.

1. The mission begins by practising following the Captain's instructions carefully. Explain that all instructions are in English and are completely real concepts from space flight. The Captain says different commands, and the students follow. When the Spaceship Captain says, "Astronauts," the students answer, "Aye, Aye Captain!" and do a salute (they take the back of their hand up to their forehead) and stand up straight. Practise this and other commands: "We are ready for take off" – students put on fictional helmets and get themselves in a starting position (find a starting position). "Take off" – hands on the safety harnesses (over both shoulders) and respond by saying "bump-bump-bump" and shaking up and down. "Lean right" – students repeat the command, then lean right. "Lean left" – repeat the command, then lean left. "Lean back" – repeat the command, then lean back. "Lean forward" – repeat the command, then lean forward. "Landing" – respond by saying "bump, bump, bump" and put their heads between their legs and arms above their heads.

"Briefing" – everyone sits down on the floor with their hands under their chin. Explain that they will now hear about their mission.

2. Begin the mission: Get their attention by saying, "Astronauts" and wait for the answer, "Aye, Aye Captain!" Explain that they are now on Earth. Show the pictures and fact sheet about Earth. Explain where the trip will go (in a voice that is very recognisable as the Captain's voice). They are going out into the Solar System. Explain that the mission will be in the direction of Mercury and Venus, the planets closest to the Sun, and that their spaceship is equipped with a special shield.

3. Tell them to be ready for take off. Play the T19 Warm-up spaceship music (resource bank). Start by counting down from 10 in English and then together say, "Lift off". Continue to do commands (as in Part 1 above) until they are in space (this should take approximately 1:30 minutes).

4. Arrive at Mercury. Explain that they will soon see Mercury. Show pictures and fact sheets about Mercury.

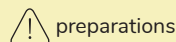
5. Do a few more commands before arriving at Venus. Finish with the last command, "Landing!" Explain that they have landed on the planet Venus. They should be grateful that they have a special shield that ensures they do not burn up otherwise they would have turned to ashes. Then open the Golden Chest and show the pictures and fact sheets about Venus.

6. Ask the students to leave the spaceship and divide them into table groups for the main activity (make an even number of groups).

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WARNINGS



preparations

TIME

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REFLECTION: OUR SOLAR SYSTEM QUIZ ENGLISH YES/NO

This will happen:	Students use yes/no reflection cards to show answers to statements about the solar system.
Materials needed:	T19 reflection card (resource bank) – one set for each student.
Preparations in advance:	T19 reflection cards are printed on thick paper (resource bank), cut out and put into a set in an envelope or with a ring binder through a hole in the corner, one set for each student. Print out 1 copy of the T19 Solar System quiz (resource bank).
Preparations in the space:	
The space looks like this:	Classroom.

GUIDANCE:	<p>Open the Golden Chest. Hand out a set of reflection cards to each student. Explain that some statements will be read out and that students need to listen carefully. If the statement is correct, they should choose the Yes card... if it is wrong, they should choose the No card. Count up to five. When it gets to five, the students should hold up the card they think is correct. Practise first with a simple statement, for example, We live on Earth – Yes/No. In the middle of the quiz is a philosophical question that should not be answered, only thought about.</p> <p>Do the Solar System Quiz:</p> <ol style="list-style-type: none"> 1. I want to go into space for real – Yes or no 2. A day on Mercury lasts almost two months – Yes or No 3. A day on Earth lasts for 24 minutes – Yes or No 4. The language of the International Space Station is Norwegian – Yes or No <p>Philosophical question: How big is space? (each student should think about this for a moment before the quiz continues but they do not answer it)</p> <ol style="list-style-type: none"> 5. Mercury is warmer than Earth – Yes or No 6. Mercury is hotter than Venus – Yes or No 7. I think the group work today has gone well – Yes or No 8. I think there is life on other planets – Yes or No 9. I know what to do when the spaceship Captain says “Astronauts” – Yes or No
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MAIN ACTIVITY: RESOLVE PAXI'S PLANETARY MESS

This will happen:	The students use critical thinking skills to match the planets with their facts and then put the planets in the correct order from the sun.
Materials needed:	T1901 Solar System fact sheet (resource bank) – one set for each group (resource bank), T1901 Solar System fact sheet answers (resource bank) – one copy of the answers, Solar System mini-models in a bag – one bag for each group (see what the bags should contain in the T1901 Solar System mini model (resource bank). If time T1901 Mini-model table (resource bank).
Preparations in advance:	Print and cut up the fact sheets, prepare the Solar System mini models for each group and put them in separate bags.
Preparations in the space:	
The space looks like this:	Classroom with tables for small groups.

GUIDANCE:	<ol style="list-style-type: none"> 1. Paxi knows a lot about space. Even though he is a very young child, he has made measurements of the planets and the sun. He wanted to share these facts with the students but when Paxi landed on Mercury, all the notes and all the models were mixed up in the bumpy landing. So all the models and the facts are here but they are all muddled up 2. Give each group one set of cut-out fact sheets. They read these together (helping each other). 3. They are then given a bag containing Paxi's scaled model of the sun and all the planets. Important: No one should look inside the bag! Each student in the group gets to close their eyes, feel inside the bag and compare the sizes of what is inside, using only their hands. 4. Once everyone has had a turn, they can open the bag and take out what's inside. 5. Explain the task. Each group should find out which model belongs to each fact sheet and which planet it is. Then the models and fact sheets must be assembled in the correct order from the sun outwards. Ask them how they will work in their groups? Remind them of the benefits of good cooperation and helping each other. 6. Let students work through the challenge on their own. Offer help only if absolutely necessary and then ask them questions that support critical thinking, rather than giving them correct answers. 7. If there is time, groups who have finished the T1901 Mini-model table (resource bank) can be asked to lay the planets at the correct distance from the Sun. 8. Pair groups up and ask them to share their results with each other.
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