

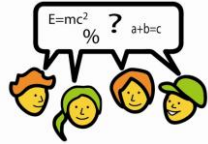



STARS & PLANETS

Age group	Secondary school, Grade 1			
Competency features	Common goal 	Flexible response 	Group atmosphere 	Feedback 
Aims	<ul style="list-style-type: none"> ▪ to gain experience with tackling a group task ▪ to develop communication skills ▪ to analyze the result of group work 			
Timing	45 minutes			
Location	indoors or outdoors			
Resources & materials	Classroom Stars Worksheet – Group Instructions, Classroom Stars Worksheet - Information Set, Planets Worksheet – Group Instructions, Planets Worksheet - Information Set; Inspiration Sheet – Solutions, scissors, stopwatch, blackboard / flipchart, felt-tip pens / chalk			
Description				
<ol style="list-style-type: none"> 1. This activity needs to be prepared in advance. Each group must be given copies of both the worksheets. The Information Set worksheet needs to be cut along the lines; individual slips will be later distributed evenly amongst the group members. 2. Teacher splits the pupils into roughly groups of five, and lets them gather so that they do not disturb one another. She leads in: <i>"This is going to be a competitive activity, with a common goal. Your task is to find the answers to five questions. It should not be too difficult as long as you work together on the task. Each group will be given a group instruction, plus each group member will receive his own set of instructions. You will read through everything, but the personal instruction must not be shown to anyone. It can only be passed on verbally. The winner shall be the group answering all questions correctly in the shortest time. You have up to 30 minutes to tackle the task before the time is up."</i> 3. Teacher gives the Group Instructions Worksheet to every group, just as she evenly distributes the Information Set slips to group members. She provides enough time for the instructions to be read through, and checks whether everyone is clear on what to do. On the flipchart / board, she puts the time to finish by. 4. Once the activity has started, teacher walks about, watching the groups at work 				

and making notes for the feedback to be given later. In no way does she interfere with the work until the time runs out. Answers are evaluated, and the right solution is announced. The winning team gets its dues.

5. The groups talk about how their cooperation worked, and let the others know about their experience. Teacher will enrich the findings by her observations and remarks. She rounds up discussing with the pupils their latest experience.

Risks & recommendations	<p>Some groups may need more time to finish the task; try and make an allowance for that.</p> <p>Initially, things may be rather messy. Despite that, do not interfere.</p> <p>It is good to have a chart ready in advance (on the flipchart / board) to record the results in.</p>
Feedback	<p><u>Questions for discussion:</u></p> <p>Was it clear to you straight from the beginning what you were supposed to do?</p> <p>Did you analyze the task before starting on it, and if so, how much?</p> <p>Was there any tension or disagreement whilst you were working?</p> <p>Did you assign individual roles in any way?</p> <p>How much did you participate in tackling the task?</p> <p>How did you share information? Did you have a system for it?</p> <p>What was the most difficult part of the task?</p> <p>What made your work easier, and what hindered it?</p> <p>Next time, what would you do the same?</p> <p>And what would you do differently the next time round? How would you proceed?</p> <p>Why were the winners the fastest group?</p> <p>Why did some other groups fail?</p>
Application in classes	<p>There are two variants of this activity. Firstly, Classroom Stars; this is suited for arithmetic, citizenship lessons (communication, working with information), or for school outings, etc. Secondly, Planets would be suitable for physics and/or geography.</p>
Notes	

Inspiration Sheet – Solutions



Classroom Stars

1. In the class of Miss Sharp there is a pupil badly lagging behind in a subject. Which subject is it?	chemistry
2. Does the future minister of finance have a preference for charlotte?	no
3. Who wants to be a teacher?	athlete, Roman, charlotte eater, pupil struggling with physics, pupil whose class teacher is Mr. Novak
4. In all the 9's, how many boys and how many girls are ranked as classroom stars?	3 boys, 1 girl
5. Does any of the classroom stars have a parrot?	impossible to determine

	9A	9C	9D	9B
Classroom Star	athlete	dancer	mathe matician	jester
Star's name	Roman	Adele	Borek	Bohdan
Star's favourite dish	charlotte	spaghetti	goulash	pan cakes
Struggling in	physics	physics	English	chemistry
Dream job	teacher	actress	minister of finance	pilot
Star's teacher	Mr. Novak (biology)	Miss Jarova (P.E.)	Miss Dudkova (history)	Miss Sharp (chemistry)



Planets

1	List all the planets that have a ring around them.	Jupiter, Saturn, Uranus, Neptune
2	What is the name of the planet with 13 moons?	Neptune
3	What is the climate like on Venus?	atmosphere thick with sulphur, strong volcanic activity, greenhouse effect, up to 500°C on surface
4	Which planet was called by our ancestors <i>Goodlord</i> ?	Mercury
5	Which is the second largest planet?	Saturn
6	Our ancestors called one of the planets <i>Deathbringer</i> . Which one was it, and where it ranks counted from the Sun?	Mars, 4 th planet away from the Sun
7	The Old Czech name of Uranus was <i>Hungerflight</i> . Is it true?	No, Uranus is Celestienne. Hungerflight is Saturn
8	How many moons orbit all the planets in our solar system?	at least 155

1	2	3	4	5	6	7	8
Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
Goodlord	Beautilady	Earth	Deathbringer	Kingmight	Hungerflight	Celestienne	Waterlord
	atmosphere thick with sulphur, strong volcanic activity		reddish	gas giant	atmosphere of light gases mostly, gradually thickens into a mantle		surface covered with ice
	reverse rotation		name based on its colour	the biggest moon in the solar system	the only planet with density lower than that of water		discovered in 1846, existence calculated before that
	0	1 (not in text)	2	at least 63 rings	at least 49 rings	27 rings	13 rings
	dimension wise similar to Earth		the second smallest	the biggest	the second biggest		the fourth biggest

Worksheet **CLASSROOM STARS****Group Instructions**

It may be the same at every school, but this one may be a little special since it is on Stellar Street. Indeed, there is a star in every classroom there – you see, someone in the class is very special.

We will have a look at the fourth floor of the building. There are four classrooms accessible from the hallway there, and each has its own class teacher. The A, B, C and D, all have their "classroom star"!

Your task is to use the information you have, and answer all the questions. Information may be passed on verbally, but not shown in writing.

Your group has to answer the following questions:

1. In the class of Miss Sharp there is a pupil badly lagging behind in a subject. Which subject is it?
2. Does the future minister of finance have a preference for charlotte?
3. Who wants to be a teacher?
4. In all the 9's, how many boys and how many girls are ranked as classroom stars?
5. Does any of the classroom stars have a parrot?

Worksheet **CLASSROOM STARS****Information Set**

This worksheet needs to be cut into slips that will be evenly distributed among the group members. Once they have them, they must not show their slips to anyone.

 Class 9A, which is at the end of the hallway on the left, does not adjoin either 9D or 9B.

 Class 9B is at the end of the hallway on the right.

 The name of the classroom jester is not Roman.

 Bohdan attends the class right at the end on the right.

 Miss Jarova, P. E. teacher, is the class teacher of 9C. She really roots for her classroom star Adele. So it is that in her youth she did the same, and it makes her happy to think about it even now.

 Spaghetti is the favourite dish of a dancer.

 Adele is mad about spaghetti. She could eat it every day.

 The spaghetti lover has a dream: She wants to be an actress and win an Oscar.

 Borek cannot stand English. He is close to failing in it.

 Miss Jarova's class has the classes of Mr Novak and Miss Dudkova for neighbours.

 Roman may not grumble over pancakes, the favourite dish of one of the stars, but he definitely is not keen on them.

 The boy who is an excellent athlete and, deservedly so, a classroom star, would like to become a teacher.

 The athlete loves eating charlotte.

 The classroom star of 9B has little trouble with physics, yet is struggling in another science.

 Borek keeps on saying that his extraordinarily mathematical brain needs loads of proteins. As much as he can, he gorges on goulash. It is open to question whether it helps him reach the wonderful results in mathematical competitions. Although mathematics does make him the classroom star, his English is circling a black hole.

Adele from the adjoining class gives Borek English lessons. In exchange, he helps her out with physics, which is not one of her strong points. Her parents nearly banned her from dancing because of that.

9C adjoins 9D. Neither of these classes is at the end of the hallway.

Roman attends the A, where biology is being taught by their class teacher, Mr Novak.

Bohdan from the B would love to be a pilot.

The mathematics champion wants to study economics and become minister of finance.

Two classroom stars struggle badly with physics.

Mr Novak's class is at an end of the hallway.

One of the subjects the classroom stars are no good at is chemistry.

The near-fail-English star attends 9D.

One of the classroom stars dreams about becoming a teacher.

Bohdan has Miss Sharp for class teacher.

Miss Sharp, the geography teacher, goes soft on two of the four classroom stars in the 9's. She let the athlete crib during a test, and she let the dancer know in advance what she would examine her on next.

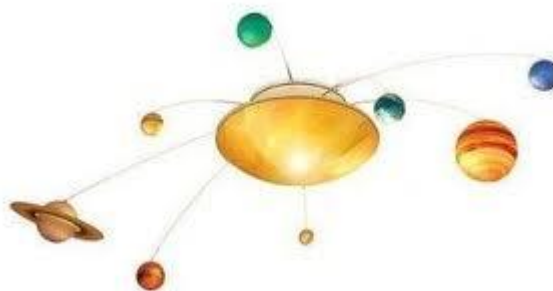
One of the stars amongst the 9's is a classroom jester. He has had some sharp exchanges with his class teacher, Miss Sharp.

Miss Dudkova is the class teacher of D.

Both the classroom jester and the mathematical genius have an eye for Adele. But she is keen on someone else. To draw the attention of her idol, the classroom star of A, she would even have the distasteful charlotte for lunch at the canteen.

Worksheet **PLANETS****Group instructions**

In our solar system, there are eight planets. They differ very much from one another, be it by their distance from the Sun, size, conditions prevailing on them, or the number of moons orbiting them. Nowadays, we know them by their widely international names derived from the names of the gods of classical antiquity. In the past, however, they were called very differently.

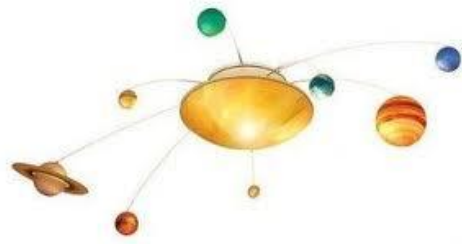


The task of your group is to answer the questions:

1	List all the planets that have a ring around them.	
2	What is the name of the planet with 13 moons?	
3	What is the climate like on Venus?	
4	Which planet was called by our ancestors <i>Goodlord</i> ?	
5	Which is the second largest planet?	
6	Our ancestors called one of the planets <i>Deathbringer</i> . Which one was it, and where it ranks counted from the Sun?	
7	The Old Czech name of Uranus was <i>Hungerflight</i> . Is it true?	
8	How many moons orbit all the planets in our solar system?	

Worksheet **PLANETS****Information Set**

This worksheet needs to be cut into slips that will be evenly distributed among the group members. Once they have them, they must not show their slips to anyone.



At the time of the Czech National Revival, Karel Hynek Thom came up with the poetic name *Hungerflight* for the 6th planet of the solar system.

Each planet has its own peculiarity.

The planet Neptune was discovered as late as 1846. Thus, unlike with other planets, its name *Waterlord* could not have come from the medieval Old Czech.

Jupiter is the biggest planet in our solar system.

The second largest planet of the solar system is similar to Jupiter. Its much lower density makes the biggest difference. With slight exaggeration one could say it is the only planet that would float on water.

Waterlord is the 8th planet away from the Sun. Its ring is invisible from Earth; it also sports 13 moons.

The 6th planet away from the Sun has no solid surface, only very thick atmosphere that gradually thickens into a mantle. The atmosphere consists of light gases mostly.

Venus is the warmest planet of the solar system despite not being the closest to the Sun (it comes second). Its surface temperature may rise up to 500°C due to the strong hothouse effect caused by thick atmosphere saturated with sulphur.

The planet called *Kingmight* abounds in moons. There are at least 63 of them; the largest is called Ganymede, and it is also the largest moon in the solar system.

The planet called rather morbidly *Deathbringer* in Old Czech, has two moons: Phobos and Deimos.

There is a planet with 13 moons that is not very well visible from Earth. Its existence had been calculated by astronomers before it was discovered.

Our ancestors called the second largest planet in the solar system, *Hungerflight*.

Earth is the third planet away from the Sun. It is flanked by Venus, closer to the sun, and Mars, further away from the Sun.

Waterlord is not next to *Deathbringer*.

During the Czech National Revival, our ancestors chose the name of *Beautilady* for the planet that is closest to Earth not only by distance but also by its type and size.

Every planet that has been mentioned here has a record of moons orbiting it, with the exception of Mercury and Venus. Those two have no natural satellites.

Mars got its name from the Roman god of war due to its reddish colour, red being the symbol of blood, fire and war. No doubt that was also why our ancestors assigned a rather gloomy name to it, too.

Venus was not called by our ancestors, *Waterlord*.

The last four planets of the solar system are called the gas giants. Counting away from the Sun, they are: *Kingmight*, *Hungerflight*, *Celestienne*, and *Hungerflight*. There is some misconception involved here, though, since the planets are made up mainly of liquids, not so much gases.

The second largest planet in the solar system sports at least 49 moons. It also has clearly visible rings.

Mars is the second smallest planet in the solar system.

Neptune with its 13 moons may belong to the gas giants, while in fact, its surface is more likely to be covered with ice. As far as its size is concerned, it only ranks 4th amongst the planets.

All gas giants have a ring.

Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.

Jupiter is the biggest planet of the solar system. It has at least 63 moons, of which one is also the biggest moon in the solar system.

The winsomely named planet *Beautilady* is not so attractive in human terms. It is very hot, with plenty of volcanic activity, and its atmosphere is saturated with sulphur.

Uranus has 27 moons.

Venus is the only planet with reverse rotation. Unlike all the other planets, it turns from east to west.

Earth was called by our ancestors – Earth.
