

WALT DISNEY
PERSONAL COMPUTER SOFTWARE

MICKEY'S SPACE ADVENTURE

An adventure game through our solar system for kids of all ages



COMMODORE 64/128

**Designed by Roberta Williams and the
Walt Disney Personal Computer Software Staff**

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Illustrations by Mark Crow

If you change your mind while you are in the process of saving or restoring a game, simply press **F1** (Commodore), before pressing **RETURN** for the final time.

How to Play



investigate situations which may not be clear to you. For example, if you're curious about what might be in a room, enter the command "LOOK ROOM".

As you explore, you will come across different

things that may help you. You should take them along on your journey.

To keep from getting lost, draw maps showing where you've been. Indicate objects found and

landmarks you see along the way. Try every direction, or you may miss an important clue or a necessary tool!

CAUTION! Watch the air supply. The computer will let you know when it's getting low. To replenish it, return to the spaceship and remove the spacesuits.

Now, blast off with Mickey and Pluto. Help them rescue the past of an entire planet and its people.



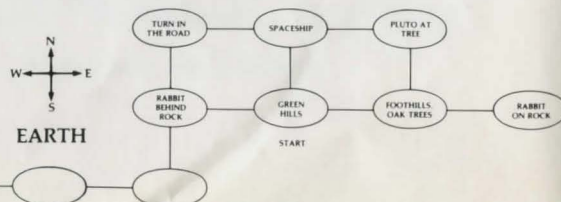
HOW TO MAKE A MAP

It is important to keep track of your progress by drawing maps. You should draw a separate map for each planet you visit, and each place you enter, like Mickey's house or the spaceship. Mark the compass

directions on each map – north, south, east and west. **Keep in mind that in the game, you will always be facing north.**

For each place you visit, think of a label that is somehow unique to that place. Mark that

place on your map with the label that you have chosen. Here is a sample of the kind of map you should draw. Some of the places on Earth have already been labelled for you.



The Mystery of the Lost Crystal

On Oron, a planet in the neighbouring Alpha Centauri stellar system, an arch-criminal crept into the Hall of Records. He stole only one thing: the precious memory crystal that recorded the entire history of the planet Oron.

He fled to the far edge of the stellar system, where he called back to the planet Oron to state his demands.

"I want to be proclaimed ruler of Oron," he said. "If you don't yield to my wishes, I will break the crystal up in small pieces and hurl it far into the galaxy!"

Oron's officials wanted the memory crystal back, but not at the price of their entire planet. So, they refused the criminal's demands.

"Then be forever more a planet without a past!" he cried, breaking the crystal into pieces. He ejected them from his spaceship, and fled into the far-beyond, where he was later captured.

Oronian scientists searched the heavens until their tracking devices picked up nine small objects moving steadily away from their stellar system – the crystal pieces! By plotting their course, the Oronians estimated that the crystals would come to rest in the neighbouring stellar system. They would look for them there.

The next stellar system in the galaxy was 75 years away, by even the most advanced space travel. The Oronian life span was too short for someone to make the trip there and back again, so engineers designed a computer-controlled ship for the journey.

Since the memory crystal was not merely a rock but a miniature library of amazing complexity, the pieces had to be found and put back together in a specific order. Scientists installed a special device in the ship, which tracked the crystal pieces in the right order, one crystal at a time.

Hope was high as all of Oron turned out to watch the launch of the new spaceship, but some were sceptical. They knew that the spaceship couldn't bring back the memory crystal unaided. Once the spaceship landed on Earth – the planet where the first crystal was to be found, an inhabitant of the planet would have to find the crystal and bring it back to the spaceship. Someone would then have to pilot the spaceship to the next planet, then the next, until all the crystal pieces were found, in the correct order, and the crystal was whole again.

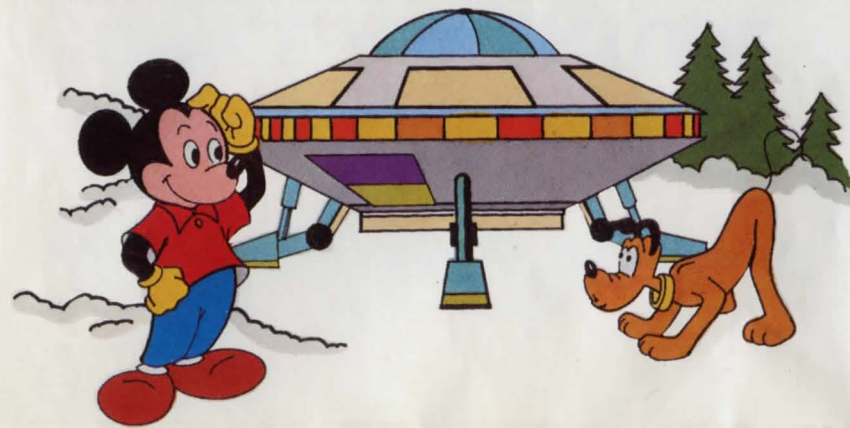
"What are the chances of finding intelligent life on the first planet?" they worried. "and even if the first crystal is found, who will be courageous enough to journey to the other planets? Will they be able to understand the computer's tracking system, and use the information to find the crystal pieces in the right order?"

Object of the Game

The spaceship from Oron has landed in the hills near Mickey's home. Exploring with Mickey

and Pluto, discover the ship. Find the first crystal, then fly the spaceship to other planets and

moons in our solar system, searching for the other crystals.



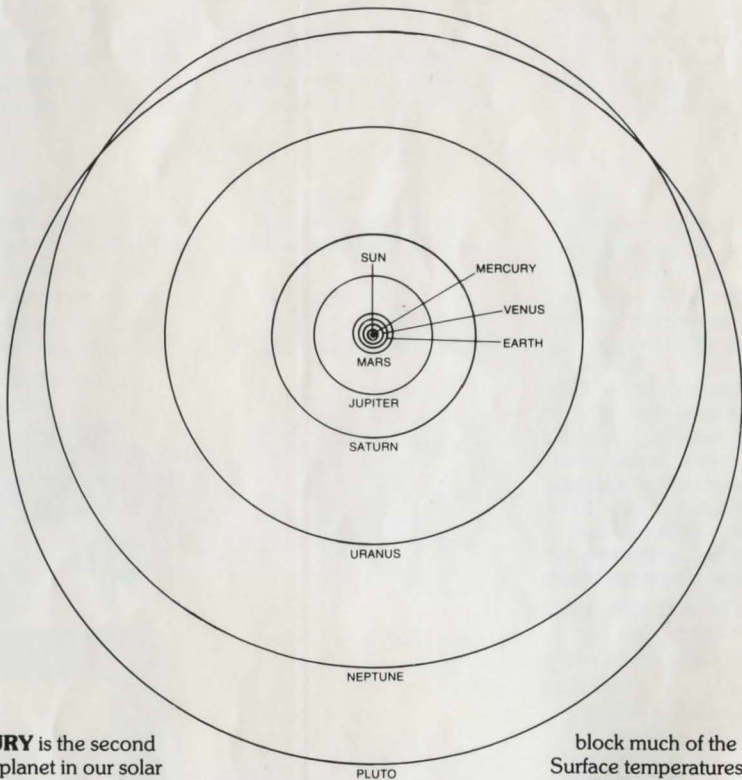
About our Solar System

We live in a solar system made up on one star (the sun), nine planets, more than fifty moons, and thousands of asteroids. The planets rotate

around the sun, and each of the moons rotates around one of the planets. Pluto, the planet which is usually farthest from the sun, is over $3\frac{1}{2}$ BILLION

miles away from it. You can see that our solar system is a very large place indeed. Let's look briefly at each of the nine planets.

THE ORBITS OF THE PLANETS



MERCURY is the second smallest planet in our solar system. Because it is closest to the sun, Mercury's year is very short, only 88 Earth days. This is the amount of time it takes for Mercury to go around the sun. But because Mercury rotates very slowly, its day is long. Mercury looks scorched and rugged, much like our Moon. Temperatures can go up to 800°F on the side of Mercury facing the sun. But since Mercury has no atmosphere, the heat is quickly lost on the

side facing away from the sun, where it is dark. Temperatures on the dark side can drop as low as -300°F!

VENUS is almost the same size as Earth. It is the second planet from the sun, and takes 225 Earth days to circle it. The planet's surface is dry and rocky. Venus is covered by a dense atmosphere, mostly made of carbon dioxide. Yellowish, sulphurous clouds

block much of the sun's light. Surface temperatures reach up to 900°F on the side facing the sun. Night time temperatures are only 20 - 30°F cooler, since the dense atmosphere holds in most of the heat.

EARTH is the third planet from the sun. As far as we know, it is the only planet with large bodies of water. In fact, oceans cover approximately $\frac{2}{3}$ of the surface of the planet. The other $\frac{1}{3}$ consists of dry land ranging from the icy polar caps to deserts, to tropical forests.

Temperatures on Earth range from far below freezing (32°F) to over 100°F, depending on the location.

Earth has one moon, which we see in the night sky. It doesn't give off any light of its own; it shines because it is reflecting light from the sun. Earth revolves around the sun once every 365 days. That's how we define a year.

MARS, the fourth planet from the sun, is smaller than Venus, but larger than Mercury. When you look up in the evening sky and see Mars, it looks red. That's why it is called "The Red Planet". Mars gets its red colour from iron minerals that have rusted in the ground. The planet's surface is very windy and dusty, except for ice caps at the north and south poles.

Mars revolves around the sun once every 687 Earth days, so its year is almost twice as long as Earth's. Since it has only a very thin atmosphere, Mars is very cold. The average temperature is -150°F. Mars has two very small moons, called Phobos and Deimos.

There is a large space between the orbits of Mars and the next major planet, Jupiter. In this space are thousands of miniature planets called asteroids. Some scientists believe that these asteroids came from the break-up of a large planet that used to orbit around the sun between Mars and Jupiter. Now, only the asteroids remain, circling the sun in its place.

JUPITER is the fifth planet from the sun. It is the largest planet in this solar system. It is almost 1,400 times the size of Earth! Since it is so much farther from the sun, Jupiter takes almost 12 Earth years to circle it. A child, 12 years old on Earth, would be only one Jupiter year old!

Instead of being solid, like the first four planets, Jupiter is made up of gases only. So are the next three planets beyond it. Temperatures in the clouds near the surface of Jupiter have been measured at lower than -200°F. The planet has a giant "red spot" caused by enormous hurricanes.

Jupiter has sixteen moons. The two largest, Callisto and Ganymede, are both larger than Mercury. Io and Europa, the next largest, are about the same size as our own Moon. Scientists have observed many active volcanos on Io.

SATURN, the sixth largest planet from the sun, like Jupiter, is also a gaseous planet. It is the 2nd largest planet in the solar system. Saturn takes almost 30 Earth years to circle around the sun. (If you know someone who is 30 years old, on Saturn, that person would have just celebrated his or her first birthday.) Like Jupiter, it is a giant planet, over 800 times as big as Earth. Temperatures on Saturn and its moons average -185°F. Winds just above the cloud tops have been measured at over 900 miles per hour.

Thousands of rings of ice and rock surround Saturn, giving it a very different appearance from those of the other planets.

Saturn has 21 moons. The largest, Titan, is the size of the planet Pluto.

URANUS is the seventh planet from the sun. It also is a gaseous planet. Uranus revolves around the sun once every 84 Earth years. It would be a very long time between birthdays on Uranus! Uranus is the third largest planet, over 60 times the size of Earth.

Like Saturn, Uranus is encircled by narrow rings. They are less obvious than Saturn's rings, and harder to see from Earth. Uranus rotates differently than all the other planets. Instead of spinning like a top, the way the other eight planets do, Uranus rolls around on its side like a ball, as it circles the sun.

Uranus has five moons. The three largest are called Oberon, Titania and Ariel. The average temperature on Uranus and its moons is a very cold -215°F.

PLUTO is now the eighth planet from the sun and will be until 1999. On the average, it is the planet furthest from the sun,



but in 1979, its long, skinny orbit carried it in closer to the sun than is Neptune. From Pluto, the sun looks like a bright star.

Pluto is the smallest planet in our solar system and is not like any of the others. It is just a huge block of ice. The average temperature is only about -230°F. Pluto and its moon Charon which is almost as big as Pluto, take 248 years to complete one orbit of the sun.

NEPTUNE, usually counted as the eighth planet from the sun, is now the planet farthest



from the sun, and counted as number nine. It is the fourth largest planet, about 64 times larger than Earth. It is almost a twin to Uranus; it too, is a gaseous planet without a solid surface. Neptune takes almost 165 Earth years to complete one trip (revolution) around the sun. If you lived on Neptune, you would never have a birthday!

Neptune has two frozen moons. The larger is Triton and the smaller is Nereid. Temperatures on these bodies, far from the sun, average -200°F.



What Next?

Here are some activities to try after playing MICKEY'S SPACE ADVENTURE

1. Activity: Weigh Out

Skill: Weight ratios
Materials: Bathroom scale, pencil, paper.

Mickey, a 100-pound mouse, changes weight with every planet he visits. Calculate your own weight on each of the planets, Mickey visits. You can do this simply by dividing Mickey's weight on each planet by 100, then multiplying by your own weight. You can also use this same method to calculate the weight of a friend or pet. Here is the equation to use:



Mickey's weight on Planet A

100

×

Your weight on Earth

=

Your weight on Planet A

2. Activity: How Old Would You Be...

Skill: Planetary science, ratios, multiplication and division.
Materials: Pencil, paper.

From the section in this guide about the solar system, you know about how long it takes each planet to make a full circle around the sun. That time period represents a year on that planet. Figure out your own age in years if you were living on each planet.

To do this, multiply your age on Earth times the number of days in Earth's year (365) to get your age in Earth days. Then divide by the number of Earth days in the other planet's year. For instance, if you are 12½ years old and trying to figure your age in Mercury years, the equation would look like this:

$$\begin{array}{r} 12\frac{1}{2} \text{ years} \times 365 \text{ days/year} \\ \hline 88 \text{ days/year} \\ = \\ \text{Your Age} \\ \text{on Mercury.} \end{array}$$

To calculate faster, try using a calculator or even your computer. The answer, 51.85, would be the number of times that Mercury has circled the sun since you were born. Just think, you would be getting ready for your 52nd birthday.

3. Activity: The Universe in Miniature

Skill: Planetary science, size and distance comparisons

Materials: Balls of different sizes, a yardstick

Take a walk to the nearest football field or school track field (any large open space will do). Bring with you nine balls, each of which represents a planet. Mercury is a large marble. Venus and Earth are squash balls (remember, they are almost the same size). Mars is a golf ball, Jupiter is a basketball. Saturn is a soccer ball (you can make your own rings if you like). Uranus and Neptune are tennis balls (these two planets are also nearly identical in size). Pluto is a small marble. The sun would be a ball 10 feet wide; you'll just have to imagine the sun!

Now "build" a miniature solar system. At one end of the field, decide on the placement of your imaginary sun. Place Mercury about 1 foot away. Venus should be a little over 2 feet from the sun. Earth will be 1 yard away from the sun. Mars should be 1½ yards from the sun, and Jupiter 5 yards from the sun. Place Saturn 10 yards from the sun, Uranus 19 yards from the sun, Neptune 30 yards from the sun and Pluto 40 yards from the sun. These distances are based on the **average** distances between each planet and the sun.

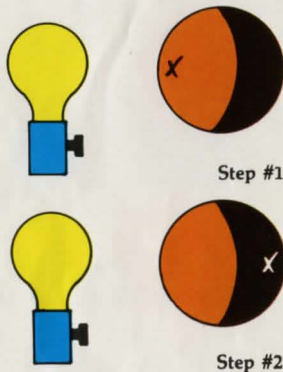
Note: This imaginary universe is not an exact scaled-down replica or our solar system; it is somewhat compressed in

order to fit on one field. In relation to the **sizes** of the "planets", an exact replica would have Mercury, the planet nearest to the sun, 134 yards away from it, and Pluto would be nearly 8 miles away.

4. Activity: As the World Turns

Skill: Understanding day and night

Materials: Light bulb, ball

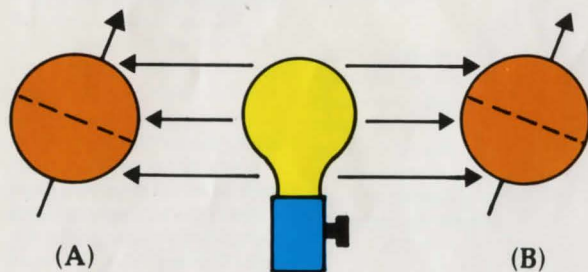


You can make a model of night and day with just a light bulb and a ball. Use a light bulb in an otherwise dark room to represent the sun. Hold the ball, which represents the Earth, near the light (Step #1). The side toward the light represents the day side of the planet. Pick a spot on the day side; you can imagine that this is your town represented on a globe. Then slowly rotate (turn) the ball until that spot is on the other side,

away from the light (Step #2). It is night there now. Rotate the ball again, in the same direction, until the spot is on the day side, where it began. You have demonstrated a 24-hour day.

5. Activity: The Reasons for Seasons

Skill: Understanding seasons
Materials: Skewer, orange, light bulb



You can use an orange, a skewer, and light bulb to see how Earth's seasons are caused. Stick the skewer through the centre of the orange where the stems are. It represents the Earth's axis, an imaginary line which passes from the North Pole, through Earth's centre to the South Pole. Hold the orange up to the light bulb (which represents the sun).

(A) Tilt the North Pole slightly toward the "sun". This is how Earth looks

when the northern hemisphere is experiencing summer and the southern hemisphere is experiencing winter. The north is warmer because the sun is shining more directly on it.

(B) Now walk in a circle halfway round the bulb, keeping the "North Pole" end of the skewer pointed ahead of you at the wall behind the bulb, not at the bulb. The northern hemisphere is now experiencing winter and the southern

6. Activity: Junior Explorers

Skill: Mapping, direction finding
Materials: Pencil, paper, compass

Make a map of the route to a friend's house. Label all the streets and indicate some of the landmarks along the way. Be sure to mark the compass directions on your map. Now, using your map, give your friend directions to your house. Use compass directions. For example, tell your friend "go south on Elm Street, then east on Main Street."

7. Activity: Invent Your Own Aliens

Skill: Creative thinking
Materials: Paper and pencils

As far as we know, there is intelligent life on only one planet in the solar system – Earth! But just for fun, MICKEY'S SPACE ADVENTURE depicts aliens living on some of the other planets. Where they live affects what they are like. What do you think that aliens living on Venus would be like. What about aliens living on Io, one of Jupiter's largest moons? Draw a picture of these alien creatures. Explain why they look as they do.

Glossary of Terms

ALPHA CENTAURI – The stellar system nearest our own.

ANCIENT – Very old.

ASTEROIDS – Very small planets, with diameters ranging from a fraction of a mile to nearly 500 miles. Although about 2000 circle the sun in an orbit between Mars and Jupiter, some have other orbits.

ATMOSPHERE – A layer of gases which surround a planet. When you look up at the sky, you are looking at the bottom layer of Earth's atmosphere.

AXIS – An imaginary line that runs through the centre of a planet, from pole to pole. Each planet rotates around this pole as it circles around the sun.

BARREN – Without plant life

BASIN – A large depression in the land, or in an ocean floor

BLEAK – Barren, and often windswept

CARBON DIOXIDE – A heavy, colourless gas that is one of the main ingredients of our atmosphere on Earth.

CHASM – A long, narrow canyon.

CIVILISATION – The culture of a particular time or place.

CRUST – The outside or surface layer of a planet

DAY – The length of time it takes for a planet to rotate once on its axis. A day on Earth is 24 hours long.

EASTWARD – Toward the East

ERUPT – To force out or suddenly release stored-up energy (such as volcanic lava or steam).

EXTENSIVE – Wide or large.

FLAMMABLE – Easily set on fire.

GAS – An almost weightless, sometimes invisible substance (such as gases in our air).

GASEOUS – Describes the planets Jupiter, Saturn, Uranus and Neptune, which are made mostly of compressed gases. The gaseous planets actually make some of their own heat. You cannot land on a gaseous planet since it has no surface.

GLACIER – A large body of ice moving slowly down a slope or valley or spreading outward on a land surface.

GORGE – A narrow, steep-walled canyon

GRAVITY – The attraction of a body (sun, planet, moon) to other bodies that holds them near each other. The sun has a gravitational pull on the planets to keep them circling around it,

just as a planet has a gravitational pull on its moon(s). Gravity holds you to the ground, and causes you to have weight. This is why you weigh more, or less, on a planet with different gravity than Earth.

HELIUM – A lighter-than-air, colourless, non-flammable gas sometimes used to inflate balloons.

HYDROGEN – A lighter-than-air, colourless, odourless gas that is highly flammable.

ICE (WATER ICE) – A hard, cold substance formed from water when its temperature drops below 32°F (0°C).

IMBEDDED – Enclosed or surrounded, almost a part of something.

INFLATE – to enlarge, usually by blowing in air or gas.

LAVA – Hot liquid rock that flows from a volcano when it erupts – when it cools down it becomes solid.

METHANE – A colourless, odourless, flammable gas.

METHANE ICE – A hard, cold substance formed from methane when its temperature drops below -297°F (-183°C).

MINERAL – A naturally occurring substance such as stone, coal, salt, petroleum or sulphur.

MOLTEN – Melted

ORBIT – The imaginary path followed by a body (moon, planet) when it circles around another body (planet, sun).

OXYGEN – A colourless, odourless gas that forms about 21% of our own atmosphere.

PICTOGRAPHS – Ancient drawings or paintings on a rock wall.

PLANET – A large body that circles around a star.

PRECISE – Exact

REVOLVE – The circling of a body (planet, moon) around another body (sun, planet).

ROTATE – The spinning motion of a planet or moon as it turns on its axis.

RUGGED – Having a rough or uneven surface.

SOLAR SYSTEM – A group of planets, moons, asteroids, comets, and the stars they revolve around.

SOLID – Having a hard surface. The planets Mercury, Venus, Earth, and Mars, have solid or hard surfaces, and are generally rocky in composition. Everything in the universe must be either solid, liquid or gaseous.

STAR – A gaseous body that gives off light and heat.

STELLAR Relating to a single star, or the stars in general.

SULPHUR – An element that exists in both solid and gaseous forms, that is characterized by its yellow colour.

SUN – The star around which the nine planets in our solar system revolve.

SURFACE – The top-most layer of a body.

SURROUNDED – Enclosed on all sides.

THERMOMETER – An instrument for finding the temperature of something.

THROTTLE – The lever which controls the fuel to an engine.

MOON – A body of matter that circles around a planet.

NITROGEN – A colourless, odourless gas that makes up 78% of our own atmosphere.

NUTRITIOUS – Nourishing (good for you)

VIBRATION – A regular quivering or trembling motion that often accompanies the operation of an engine.

VOLCANO – A hill or mountain above a crack of hole in a planet's crust, where steam, melted rock, and lava sometimes erupt.

YEAR – The amount of time it takes for a planet to make a full orbit around the sun. A year of Earth is 365 days long.

Happy Exploring!

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