Planungsskizze: The Earth

Themenaspekte	Kommunikative Tätigkeiten/Aufgaben	Materialien
Aufbau der Erdkruste, Plattentektonik, Kontinentalverschiebung und Bruchzonen Überblick über die Erdteile	Übungen zum Umgang mit Globus, Atlas, Karten unterschiedlichen Maßstabs Such- und Ratespiele (Gruppenarbeit) zur Förderung der Orientierung im Atlas, zur Festigung eines "Überblickswissens" und zum "Einschleifen" der englischen Bezeichnungen	Atlas, Globus, Landkarten
Naturbilder und Naturverständnis	Auswertung von Texten, Filmen, (Satelliten-) Bildern, Profildarstellungen Anfertigen von Skizzen	
Auseinandersetzung mit den Naturbedingungen	Erstellen von Wandzeitungen oder Informationsbroschüren (arbeitsteilige Gruppenarbeit) zu den verschiedenen Kontinenten, zu einzelnen geographischen Phänomenen	Arbeitsblatt: Mark the continents
Earth in space	Find out the names of the other planets in our solar system! Imagine you are an astronaut seeing the earth from space. Write and paint what you see! Build a model of the solar system showing the different sizes of the planets and their distance to the sun!	Jennings, T.: Our Universe Beddis: A Sense of Place 2, p. 8: Earth in space Arbeitsblatt: Which planet is it?
Inside the earth The crust of the Earth The Ice Ages		Inside the earth (Jennings: Mountains, p. 5; Volcanoes and Earthquakes, p. 5) The crust of the Earth (Jennings: Mountains, p. 6; Polar Regions, p. 16; Volcanoes and Earthquakes, p. 7f.) The Ice Ages (Jennings: Oceans and Seas, p. 15; Polar Regions, p. 39)
Latitude and Longitude	Use your map and find out the latitude (√) and longitude (·) of the following places Make a game with your partner: Which city does he/she mean?	Latitude and Longitude (Biederstädt: Around the World. Volume 1, p. 6)
The ends of the Earth		The ends of the Earth Jennings: Polar Regions, p. 4f.: The Arctic; The Antarctic
Oceans and seas		Jennings: Oceans and Seas, p. 4f.
Tides, waves and currents		Jennings: Oceans and Seas, p. 10ff.: Tides, waves and currents

THE EARTH

Earth in space

For thousands of years men and women knew little about the world, other then their immediate surroundings. They thought the earth was flat, and they could not understand the movement of the moon, sun and stars, nor the causes of day and night and the changing seasons.

Several centuries ago a number of brilliant astronomers and mathematicians worked out the truth. The earth is not flat, and although it is the home of the human race it is not the centre of the sun and the planets. It is almost a sphere, and it revolves around the sun. The shape of the earth was proved when men first sailed and then flew around it, while in recent decades space travellers have been able to get far enough away to see the earth as a whole.

The earth is one of nine planets orbiting the sun. Together with various moons, and other materials (like lumps of rock called 'asteroids'), the sun and its orbiting planets make up what is called the solar system. The planets are very different in size, appearance, what they are made of, distance from the sun, speed and pattern of movement. Mercury, for example, rotates on its axis so slowly that it takes 176 of our days to get from one sunrise to the next! Venus rotates on its axis from east to west - the opposite way to all the other planets. Jupiter is eleven times the diameter of the earth, and is more than twice as heavy as the other planets put together, yet it is mostly hydrogen and helium gas! But all these planets are held in their orbits by the sun's gravitational attraction, and are part of the same system or family. Our sun of course is a star and is just one of many millions of stars in the universe. Some of these can be seen on a cloudless night, but many more cannot be seen with the naked eye. The earth is a very, very tiny part of the universe.

Although it is so small, our planet is extremely varied. This is partly due to the strange pattern of oceans and land masses called continents. It is also caused by the two main movements that it makes - rotation on its axis every 24 hours and orbiting the sun every 3651/4 days.

(adapted from: Beddis, R.: A Sense of Place 2, p. 8)

 **Find out the names of the other planets in our solar system.**

? – **Which planet is it?**

_____ is the largest planet in the solar system.

_____ is smaller than the earth and has two moons.

_____ is famous for its rings.

_____ has the same name as a goddess of beauty.

_____ has five moons.

_____ is the smallest planet in the solar system.

_____ is found very far away from the sun.

_____ needs about 150 years to orbit the sun.

_____ needs 365 1/4 days to orbit the sun.

- **Imagine you are an astronaut seeing the earth from space. Write and paint what you see.**

☺ **Build a model of the solar system showing the different sizes of the planets and their distance to the sun.**

The earth

The most striking feature of the earth when seen from a satellite or spacecraft is the contrast between vast land masses and even larger sea areas. Since it has been possible to take pictures from spacecraft and satellites you can see the outlines of continents on photographs, not only on maps and globes.

The earth is more than 25,000 km in diameter. It is covered by a number of more or less rigid 'plates' of solid and heavy rock that fit together like a huge jigsaw. These 'float' on a layer of partly molten rock. The plates are covered by layers of surface rock that is 5 to 30 km thick.

(adapted from: Beddis, R.: A Sense of Place 2, p. 10)

Energy from the sun

The earth receives all its light from the sun, either as direct sunlight or reflected moonlight. Without sunlight plants would not grow, and no life would be possible. The earth would be a dead planet.

Reactions taking place within the sun produce extremely high temperatures. From its glowing surface, heat and light energy is radiated into space. The earth, at a distance of 150 000 000 km from the sun, intercepts only a tiny fraction of this energy.

The earth is surrounded by a mixture of nitrogen, oxygen and many other important but small amounts of gases, known as the atmosphere. The atmosphere rapidly thins out away from the earth's surface. This is why mountaineers and people flying at any height need oxygen to breathe properly. All weather activities take place in the lower layers of the atmosphere, where there are often clouds.

Because the atmosphere reflects and absorbs a lot of the solar energy, and because the earth's surface is curved, the amount of energy - heat and light - received at the surface varies a lot from place to place. Places where the sun is nearly overhead receive much more energy than those where the sun is usually low in the sky. It is because of this that places near the equator are hotter than places near the Poles.

(adapted from: Beddis, R.: A Sense of Place 2, p. 12)

Show in a diagram how sun rays fall on earth on different places, and explain why places near the equator are hotter than those near the Poles.

Inside the earth

The Earth is made up of layers. The outside of the Earth is covered by a layer of rocks and soil. This is the part of the earth we live on. It is known as the Earth's crust, it is mostly from 30-50 km thick. This crust of rocks goes underneath the oceans and seas as well. There in some places it is only 5-8 km thick.

The deeper you go down through the Earth's crust, the hotter it is. This is because underneath the crust is a thick layer of hotter, heavier rocks. This layer is known as the mantle. Parts of it are so hot that the rocks have melted and flow like treacle.

There are two more layers underneath the mantle. Together these form the Earth's core. The inner core is believed to be a solid ball of hot metal made up of iron and nickel. Around this inner core is the outer core consisting of iron and nickel which are so hot that they are liquid.

(adapted from: Jennings, T.: Mountains, p. 5; Volcanoes and Earthquakes, p. 5)

? –

1. What is the Earth's crust?
2. What is the layer of rock around the Earth called?
3. What is the mantle like?
4. What is the core of the Earth like?
5. How do the inner and outer cores of the Earth differ?

The crust of the Earth

The Earth's crust is not all the same thickness. On the continents beneath mountains, the crust may be 30 kilometres thick. Under the oceans it is only about 6 km thick.

But the crust does not go all around the Earth in one piece like the skin of an orange. In fact the Earth's crust is cracked and broken into at least 15 pieces. These pieces are called plates. They fit together like the pieces of a jigsaw puzzle. Some of these plates carry oceans. Other plates carry continents.

The plates are slowly moving. They are being slowly pushed and pulled around by movements of the hot mantle rock below them. It is believed that millions of years ago all seven continents were joined together. Scientists have named this super-continent Pangaea. It is believed that Pangaea gradually broke up. The pieces drifted away from each other. They formed the seven continents we know today. The smallest continent is Australia. The largest is Asia. The continents form part of the Earth's crust.

But the continents haven't stopped moving. They are travelling very very slowly. As the plates move about they push against each other. They cause earthquakes as they move. Where two of the Earth's plates collide, they push up fold mountains. The highest mountains in the world are the Himalayas. They were pushed up when India and Asia collided with each other millions of years ago. India used to be a long way from Asia. Slowly the plate with India on it moved closer to the plate bearing Asia. The rocks in the sea between India and Asia were gradually pushed up. They formed the Himalayan mountain range. It is possible to find seashells near the tops of the Himalayas.

It is thought that Antarctica was joined to Australia. Gradually the continents drifted apart. Australia drifted towards the hot tropics. But Antarctica drifted towards the bitterly cold South Pole.

The continents are still moving slowly. Each year Africa moves a little bit nearer to Europe. And the Mediterranean Sea becomes narrower.

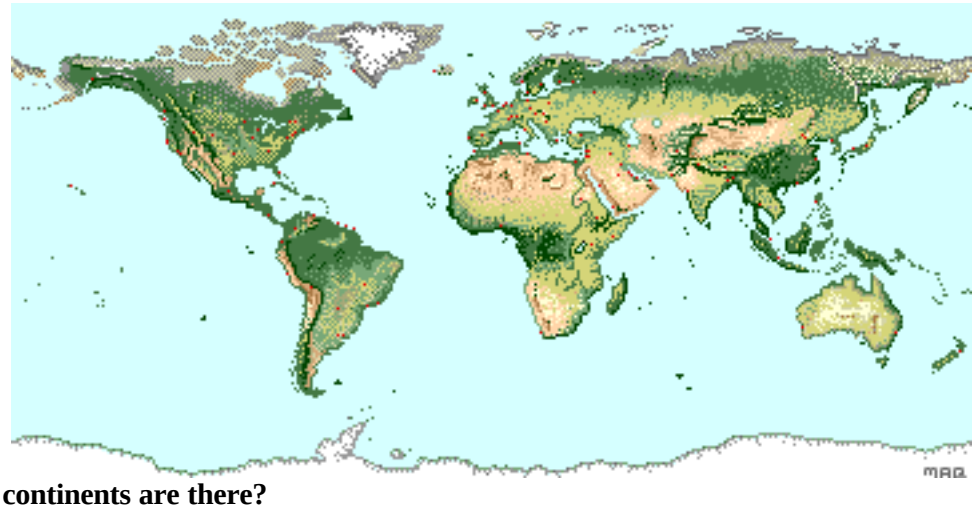
Some plates are moving further apart. Europe and North America are slowly drifting further apart. Each year the Atlantic Ocean becomes 2 or 3 cm wider. North America and Europe are drifting apart because a gap keeps opening up between the plates bearing these two continents. Liquid rock seeps up from the mantle through the gap in the floor of the Atlantic Ocean. This liquid rock hardens and keeps filling the gap formed between the two plates. And so a new strip of crust is always being formed under the Atlantic. It is mainly the movements of the Earth's continents and plates which cause earthquakes and volcanoes.

(adapted from: Jennings, T.: Mountains, p. 6; Polar Regions, p. 16; Volcanoes and Earthquakes, p. 7f.)

? –

1. What are pieces called which make up the crust of the Earth?
2. What are the Earth's plates?
3. How many plates are there?
4. What makes the Earth's plates move?
5. How did fossil seashells get to be high up in the Himalayan mountains?
6. What is the super-continent called which was formed when the seven continents were joined together?
7. Why are the continents of North America and Europe slowly moving part?
8. What is happening on the sea-bed between North America and Europe?
9. What causes earthquakes?

Mark the continents.



How many continents are there?

The Ice Ages

Long ago nearly one-third of all the land on Earth was covered with ice. The Earth was in the Ice Age. There were at least four of these Ice Ages. In between there were warmer spells.

During the Ice Age all of Canada and much of the United States were covered with ice. Britain was covered with ice as far south as London and the River Thames. Norway, Sweden, Finland, Denmark and the northern parts of Germany, Poland and Russia were also beneath the ice. In the South, the Antarctic ice-sheet was much larger than it is today.

When the Earth became warmer, about 10,000 years ago, much of the ice melted. Where glaciers had been, U-shaped valleys were left. Some of these valleys filled with water and lakes formed. There were low hills of clay and rocks which had been pushed along by glaciers. These now form valuable farmland.

With the melting of the ice, the sea-level rose. Some of the land was flooded. The land between Britain and Europe was flooded forming the North Sea and English Channel. In some places the remains of forests can be seen on the shore at low tide. These forests were drowned when the sea-level rose.

(adapted from: Jennings, T.: Oceans and Seas, p. 15; Polar Regions, p. 39)

? –

1. What were the Ice Ages?
2. What happened to the sea when the ice melted at the end of the Ice Ages?

Latitude and Longitude

To help us to locate a point on the Earth's surface, we use imaginary lines that make a grid. The horizontal lines are lines of latitude. The vertical ones are lines of longitude. The distance between them is measured in degrees. Degrees are given the symbol °. When we want to be very exact, we use degrees and minutes. A minute (symbol: ') is one sixtieth of a degree. The latitude of the Tropic of Cancer is written as 23 1/2°N.

The equator, which goes around the centre of the Earth, is the main line of latitude. Other lines of latitude are drawn parallel to the equator. Lines of latitude tell you how far North or south a place is from the equator.

Lines of longitude are drawn from the North to the South Pole. The most important line or prime meridian is also known as the Greenwich Meridian. It passes through Greenwich in London. Lines of longitude tell you how far east or west a place is from Greenwich. If you travel east until you reach 180°W, you will both end up at the same place: longitude 180°E is the same as 180°W. This line is known as the International Date Line.

(adapted from: Biederstädt, W.: Around the World. Volume 1, p.6)

Mark the Equator, the Tropic of Cancer, the Tropic of Capricorn and the Greenwich Meridian in the globe.

— Use your map and find out the latitude (Õ) and longitude (ı) of the following places.
Don't forget the direction (N/S/E/W).
Then look for the latitude and longitude of other places.

City	Latitude	Longitude
Wiesbaden		
London		
New York		
Manila		
Melbourne		
San Francisco		
Moscow		
Tokyo		
Cape Town		

☺ **Make a game with your partner, start with the longitude and latitude of a place.**

The Ends of the Earth

All the time our Earth is spinning round. It spins as if it were a giant top turning on an invisible axis. The upper end of this invisible axis is the North Pole. The bottom of the invisible axis is the South Pole.

The Arctic is the area around the North Pole. The Antarctic is the area around the South Pole.

The Arctic and the Antarctic were the last parts of the Earth to be explored and mapped. They are the coldest places on Earth. All the year round most of the ground is frozen solid and there is ice and snow over it. It is so cold that in winter the tear will freeze on your cheek when you're crying, and water poured from a jug freezes before it reaches the glass.

The Arctic

The Arctic is the name we give to the far northern part of the Earth. It is inside an imaginary circle around the Earth called the Arctic Circle. The Arctic Circle runs through Alaska, the northern tip of Canada, most of Greenland and northern Norway, Sweden and Finland. It also passes through Russia and a long strip of Siberia. Within the Arctic Circle is the Arctic Ocean. This contains several large islands. The Arctic Ocean is five times the size of the Mediterranean Sea. But little water is to be seen. During the winter the Arctic Ocean is frozen over. In summer much of it is covered by pack ice.

The North Pole is at the centre of the Arctic Ocean. There is no land at the North Pole, only ice. In places the ice is as much as 3 km thick.

The Antarctic

The Antarctic, or Antarctica, is the area at the southern end of the Earth. It is roughly twice the size of Australia. Antarctica is inside an imaginary line around the Earth called the Antarctic Circle. Almost at its centre is the South Pole.
The Arctic is a frozen ocean surrounded by land. But the Antarctic is a frozen continent surrounded by oceans. Antarctica is one of the seven continents of the world. Most of it is covered with a sheet of ice which is often about 2 km thick. The snow that falls on Antarctica is gradually crushed into ice by the weight of fresh snow that falls on top of it. Most of this ice is slowly moved towards the edge of the land. It moves only a few metres a year. When the ice reaches the sea, it moves across the water as an ice shelf. The ice sticks up above the water like huge white cliffs.

Antarctica is much colder than the Arctic. The average temperature inland in Antarctica is -57°C. The winds often blow at 200 km an hour. No plant and animal live on the land, except for a few penguins and seals near the sea.
It seems that the polar regions were not always cold. One reason for believing this is that layers of coal 4 m thick have been found in the Antarctic.
Coal was made from trees and other plants which grew millions of years ago. The trees and other plants died and were covered by mud and sand. The mud and sand pressed down on them. After millions of years the trees and other plants were turned into coal. So the Antarctic must have been much warmer and wetter for these trees and other plants to grow. (adapted from: Jennings, T.: Polar Regions, p. 4f.)

? –

1. Where are the polar regions?
2. How is the snow which falls on Antarctica turned into ice?
3. What countries does the Arctic Circle run through?
4. Why is little water to be seen in the Arctic Ocean?
5. What is the North Pole like?

Mark the North Pole, the South Pole, the Arctic Circle and the Antarctic Circle in the globe.

Oceans and seas

If you look at the globe you will see that there is much more water than land. Nearly three-quarters of the world is covered by oceans and seas. There are four great oceans: the Atlantic, Pacific, Indian and Arctic Ocean. The largest ocean in the world is the Pacific Ocean. In spite of their vast size, all the oceans are connected to each other. This means that their waters are mixed together.

In addition to the oceans there are seas. Some of these, such as the Arabian Sea and the Saragossa Sea, are parts of oceans. Other seas are surrounded by continents. They are separate from the oceans. The Mediterranean Sea, Red Sea and Black Sea are all surrounded by continents. Some shallow seas, such as the North Sea and Baltic Sea, are the flooded edges of continents. The largest of the world's seas is the South China Sea.

The edges of the oceans
Where the land meets the oceans and seas is called the seashore. Some seashores are sandy. Others are rocky or muddy. Some shores are covered with small stones called shingle. Others are covered with large stones called pebbles, or big lumps of rock called boulders. The shores of some volcanic islands go steeply into the depth of the sea. But most shores are gently sloping.

Around the continents the sea is fairly shallow. At its deepest the sea around the continents is only about 200m deep. This shallow water covers a gently sloping platform of land. It is called the continental shelf. Some parts of the continental shelf were once dry land.

In most places the continental shelf stretches for about 80 km from the shore. However, off some parts of the British Isles, the continental shelf is more than 160 km wide. And off the northern coast of Siberia the continental shelf has a width of more than 1,200 km. Most of the fish we eat are caught in the fertile waters over the continental shelf.

Where the continental shelf ends there is a long steep slope. This is known as the continental slope. The continental slope plunges downwards like a cliff. In some places, water and mud flowing from rivers on land have carved deep valleys in the continental slope. At a depth of about 3,000 m the slope becomes less steep. Finally it levels out at a depth of about 4,000 m.

The continental slope levels out into an extremely deep underwater plain. This is known as the abyss. It is covered with a thick layer of slimy mud. The mud is mostly made up of the shells of tiny sea animals. Originally these lived in the surface waters. They sank to the sea-bed when they died. The abyss is dark and cold. Sunlight cannot reach these great depths. The water hardly moves.

In many ways the bottom of the ocean is like dry land. There are flat, sandy plains. Water currents push the sand up into dunes, just as the wind on land makes sand dunes in the deserts. There are mountain ranges and deep valleys on the ocean floor. Some of the mountains are so high that they rise above the surface of the water as islands. The island of Mauna Kea in Hawaii is really an undersea mountain. From its base to its peak, it is 10,023 m high. This is higher than Mount Everest.

The mountains under the oceans and seas were formed by volcanoes on the sea-bed. Molten rock or lava comes from cracks in the sea-bed. The lava turns solid and builds up into mountains. There is a huge mountain range down the middle of the Atlantic Ocean. This was built of lava from undersea volcanoes.

There are also deep trenches under the oceans. These are huge cracks which have opened up in the sea-bed. The Pacific Ocean, over the Marianas Trench, is more than 11,000 m deep. A large stone dropped into the Pacific Ocean over the Marianas Trench, would take more than 60 minutes to reach the bottom.

(adapted from: Jennings, T.: Oceans and Seas, p. 4f.)

? –

1. How much of the world is covered by oceans and seas?
2. How many oceans are there?
3. What is the world's largest sea?
4. Why is the Arctic Ocean unlike the other oceans?
5. What is the continental shelf?
6. What has carved deep valleys in the continental slope?

Mark all the geographical names in the globe above.

Tides, waves and currents

The seas and oceans are never still. Tides and waves keep the water moving. Twice each day the level of the sea or ocean rises. Water covers the shore. Waves may crash against the rocks and cliffs. We say that the tide is in. Twice each day the water falls. The seashore is uncovered. We say that the tide has gone out. The tide is said to ebb as it goes out and to flow as it comes in.

Tides are caused by several forces. The most important of these is the pull of the moon's gravity. This pull causes the ocean's water to pile up in a bulge on the side of the Earth which faces the moon.

The highest and lowest tides are called spring tides. They occur twice a month when the sun and moon are both on the same side of the Earth. Then both the sun and the moon pull on the ocean's water and make it pile up. Tides can be useful to people. High tide brings deep water to harbours and ports, ships can sail in and out of ports and harbours with the tide. Sometimes tides are dangerous. A very high tide can cause flooding.

Waves are caused by the wind. They do not move the sea water from place to place like currents ore tides. Waves move rather like the ripples made by the wind in a wheat field. The longer and stronger the wind blows, the bigger the waves. A wave goes on growing until its tip turns over and breaks. Big waves can batter down rocks or wear away cliffs. They can tear down buildings or lift huge pieces of rock.

Currents are great bands of water moving through the oceans. Most currents are caused by winds which blow in the same direction all the time. Some currents travel across the surface of the water. Others travel deep down. Some currents are formed because cold water is heavier than warm water. Cold water near the polar regions sinks to the bottom of the ocean, making a current deep down. Warm water moves in to take its place, forming another current. Islands can make currents change direction. But mostly the direction of currents is affected by the spinning of the Earth.

One of the most important ocean currents is the *Gulf Stream.* It begins with warm water near the Equator. The temperature of this water is about 26° to 29°C. The Gulf Stream then flows up the east coast of the United States, warming it as it goes. Then it flows across the Atlantic. Parts from the Gulf Stream wash the shores of France, the British Isles, Norway and Iceland. The current is still warm enough to make the winter in these countries milder than it would otherwise be. Cold currents cool the land they flow past.

(adapted from: Jennings, T.: Oceans and Seas, p. 10ff.)

? –

1. What is the main cause of the tides?
2. What causes the waves on the sea?
3. What are currents?
4. How does the Gulf Stream affect France, the British Isles, Norway and Iceland?

New rocks from old

The mud, sand and stone carried by rivers eventually finish up in the sea. At the same time, rocks by the sea are being broken down into pebbles, shingle, sand and mud. These also pile up on the bottom of the sea. After thousands of years they are pressed into new rock. Limestone, chalk, sandstone and clay were all made at the bottom of the sea. They were formed in layers called strata. You can often see these strata in cliffs and in the sides of quarries.

The rocks formed at the bottom of the sea may be pushed up by the movements of the Earth's plates. Then they will form new mountains. In this way new mountains are formed from old ones. Sometimes the rocks formed under the sea are changed by heat, by chemicals, and by other rocks pressing on them. The rocks formed by volcanoes can also be changed in these ways. All kinds of rocks can be changed. Slate which is sometimes used for roofs was once soft shale. The beautiful rock, marble, which is used for statues, gravestones and fine buildings, was once limestone.

(adapted from: Jennings, T.: Mountains, p. 11)

? –

1. Why do pieces of rock carried away by rivers and streams eventually get smaller?
2. What may happen to the mud, sand and stones which are carried by rivers to the sea?
3. What are strata?

The Earth

Vocabulary

to absorb	aufsaugen
to affect	beeinflussen
agricultural	landwirtschaftlich
amount	Menge
apart from	außer
to appear	erscheinen
appearance	Aussehen, Erscheinung
area	Gegend
astronomer	Astronom
average	Durchschnitt
axis	Achse
base	Basis
battered	verbeult
to bear	tragen
beneath	unter
both	beide
bottom layer	unterste Schicht
boulder	Felsbrocken
to break up	auflösen
to breathe	atmen
bulge	Ausbauchung
to carve	schnitzen
to cause	verursachen
to change	ändern
clay	Ton
cliff	Klippe
cloudless	wolkenlos
coal	Kohle
coast	Küste
to collide	zusammenstoßen
to connect	verbinden
to contain	enthalten
contour-line	Umrißlinie, Höhenlinie
contrast	Gegensatz, Kontrast
core	Kern
course	Verlauf
to cover	bedecken
to crack	reißen
crash	Krachen
to crush	zerdrücken
crust	Kruste
current	Strömung
curved	gewölbt
danger, dangerous	Gefahr, gefährlich
dead	tot
decade	Jahrzehnt
degree	Grad
depth	Tiefe
diameter	Durchmesser
to die	sterben
different	verschieden
direction	Richtung
to discover	entdecken
distance	Entfernung
downhill	bergab
drift ice	Treibeis
dry season	Trockenzeit
to drown	ertränken, ertrinken
due	fällig, angemessen
dune	Düne
during	während
earthquake	Erdbeben
eastern	östlich
edge	Rand
either...or	entweder...oder
elevation	Höhe
equator	Äquator
eventually	schließlich
to explore	erforschen
extent	Ausdehnung
extremely	extrem
facing	zugekehrt, gegenüber
fault	Verwerfungslinie
feature	Merkmal
fertile	fruchbar
finish	Ende
to fit	passen
to flood	überschwemmen
flooding	Überschwemmung
to flow	fließen
fold	Falte
to force	zwingen
fraction	Bruch
to freeze	frieren
freshwater	Süßwasser
further	weiter
to gain	erhalten
gap	Lücke
gently	leicht, sachte
giant	riesig
glacier	Gletscher
globe	Globus
to glow	glühen
gradually	allmählich
gravestone	Grabstein
gravitational	Schwerkraft-
gravity	Schwere
grid	Netzmuster
to harden	hart werden
hardly	kaum
hemisphere	Halbkugel
huge	groß, riesig
human	menschlich
hydrogen	Wasserstoff
Ice Age	Eiszeitalter
ice-sheet	Eisstück
icicle	Eiszapfen

imaginary	eingebildet
immediate	sofortig, unmittelbar
to include	einschließen
to intercept	unterbrechen
invisible	unsichtbar
iron ore	Eisenerz
jigsaw	Puzzle
to join	verbinden, beitreten
jug	Krug
kind	Art
last	letzte
latitude	Breitengrad
layer	Schicht
at least	mindestens
less	weniger
level	Grad, Niveau, Schicht
limestone	Kalkstein
liquid	flüssig
to locate	lokalisieren
longitude	Längengrad
lump	Klumpen
mainly	hauptsächlich
mantle	Mantel
marble	Marmor
marsh	Sumpf
mass	Masse
mathematician	Mathematiker
to measure	messen
to melt	schmelzen
middle	Mitte
mine	Mine, Bergwerk
mineral resources	Bodenschätze
mixture	Mischung
molten	geschmolzen
mostly	meist
movement	Bewegung
mud, muddy	Schlamm, schlammig
naked	nackt
narrow	eng
nearly	fast, beinahe
to need	brauchen
nitrogen	Stickstoff
to occur	sich ereignen
to orbit	kreisen
originally	ursprünglich
otherwise	andernfalls
outer	äußere
outline	Umriß
oxygen	Sauerstoff
pack ice	Packeis
partly	teilweise
pattern	Muster
peak	Spitze
pebble	Kies
penguin	Pinguin
pile	Pfahl
plain	Ebene
plant	Pflanze
to plunge	stürzen
port	Hafen
possible	möglich
to pour	gießen
to press, pressure	pressen, Druck
prime	erste
to produce	herstellen
properly	richtig
to prove	beweisen
race	Rennen
to radiate	ausstrahlen
rapid	schnell
reaction	Reaktion
really	wirklich
reason	Grund
to receive	erhalten
recent	kürzlich
to reflect	reflektieren
to remain	bleiben
to revolve	kreisen
rigid	starr
ripple	Welle
to rise	aufgehen
rock	Fels, Gestein
to rotate, rotation	sich drehen, Drehung
roughly	rauh
scientist	Wissenschaftler
sea level	Meeresspiegel
seal	Seehund, Robbe
to seem	scheinen
to seep	sichern
separate	getrennt
several	mehrere
shallow	flach, seicht
sheet	Platte
shell	Muschel
shingle	Kiesel
shore	Ufer
size	Größe
slate	Schiefer
to slide	rutschen, verschieben
slimy	schleimig
slope	Abhang
to soak	aufsaugen
soft	weich
soil	Erde, Boden
solar	Sonnen-
solid	fest
southern	südlich
space	(Welt)Raum
spacecraft	Raumschiff
to spin	sich drehen
to spread	ausbreiten
spring tide	Springflut

steep	steil
to stick	stecken
still	still, noch
stream	Bach
to stretch	sich erstrecken, ausbreiten
striking	auffallend
strip	Streifen
to structure	gliedern
to study	studieren
to surround	umgeben
substance	Material
to suck	saugen
summit	Gipfel
sunrise	Sonnenaufgang
surface	Oberfläche
tear	Träne
thickness	Dicke
tide	Flut
tiny	winzig
tip	Spitze
towards	hin, zu
treacle	Sirup
trench	Graben
Tropic of Cancer	nördlicher Wendekreis
Tropic of Capricorn	südlicher Wendekreis
u-shaped	u-förmig
uncovered	unbedeckt
underground	Untergrund
underneath	unter
universe	Universum
until	bis
upper	obere
useful	nützlich
valley	Tal
valuable	wertvoll
various	verschieden
to vary	sich unterscheiden
vast	weit
vertical	vertikal
volcano	Vulkan
wave	Welle
weak	schwach
weight	Gewicht
wheat	Weizen
whereas	während, wo...doch
wide	weit
width	Breite, Weite
wrinkle	Run