DOWNLOAD PDF THE SEED GROWS UP

Chapter 1 : What Plants Grow the Fastest From Seeds? | Home Guides | SF Gate

It contains the food the seed needs while it is growing roots and forming into a small plant. The three things plants need to grow are light, food and water. Light, whether from the Sun or an artificial light source (like a light bulb), gives the small plant the energy it needs to begin photosynthesis.

From kata and skenoo; to camp down, i. Haunt; figuratively, to remain. A primary preposition denoting position, and instrumentality, i. He, she, it, they, them, same. From the particle au; the reflexive pronoun self, used of the third person, and of the other persons. A young tender shoot, then: From klao; a twig or bough. The greatest among herbs. Pulpit Commentary Verse Instances of the proverbial use in the Talmuds of the size of a grain of mustard to express something very small, may be seen in Levy, s. But when it is grown, it is the greatest among herbs; it is greater than the herbs Revised Version ; i. And becometh a tree, so that the birds of the air. There is not necessarily any connotation of evil about these cf. Come and lodge in the branches thereof. Matthew Henry Commentary In the soul where grace truly is, it will grow really; though perhaps at first not to be discerned, it will at last come to great strength and usefulness. The preaching of the gospel works like leaven in the hearts of those who receive it. The leaven works certainly, so does the word, yet gradually. It works silently, and without being seen, Mr 4: Thus it was in the world. The apostles, by preaching the gospel, hid a handful of leaven in the great mass of mankind. It was made powerful by the Spirit of the Lord of hosts, who works, and none can hinder. Thus it is in the heart. When the gospel comes into the soul, it works a thorough change; it spreads itself into all the powers and faculties of the soul, and alters the property even of the members of the body, Ro 6: From these parables we are taught to expect a gradual progress; therefore let us inquire, Are we growing in grace?

Chapter 2 : CanTeach: Songs & Poems - Seeds, Plants, Flowers, Gardens, and More

How to Grow Plants from Seed. In this Article: Article Summary Planting the Seeds Caring for Seedlings Troubleshooting Community Q&A One of the main reasons people grow plants from seed is because they can choose from a wide variety of plants in seed catalogs.

The same principal that makes this giant redwood tree grow so tall works on smaller plants like the grass that makes up your lawn. Source Root Cap Source Geotropism Geotropism is the influence of gravity on plant growth or movement. Simply put, this means that roots grow down and stems grow up. In this case, the stimulus is gravity. Upward growth of plant parts, against gravity, is called negative geotropism, and downward growth of roots is called positive geotropism. What makes geotropism happen? In plant roots, the very end of the root is called the root cap. It makes the roots turn downward as they grow. The root cap is vital for geotropism since it contains cells with sensors called statoliths. Statoliths are specialized parts of the root cell that settle to the lowest part of the root cap in response to the pull of gravity. This makes the cell expand faster in a downward direction. A similar mechanism is known to occur in plant stems except that the stem cells are programed to elongate upward, the exact opposite of the cells in the roots. This upward and downward growth will continue even if the plant is turned sideways or upside down. Another example of geotropism is the movement of nutrients. The xylem moves the water and nutrients from the roots to the branches, stems and leaves of the plant. The phloem moves the sugary sap from the leaves to the roots. Geotropism is sometimes called gravitropism How xylem works The most important cause of xylem sap flow is the evaporation of water from the surfaces cells to the atmosphere. This causes a negative pressure or tension in the xylem that pulls the water from the roots and soil, very similar to the way a drinking straw works. How phloem works Unlike xylem which is composed primarily of dead cells , the phloem is composed of still-living cells that transport sap. The sap is a water-based solution, but rich in sugars made in the leaves by photosynthesis. These sugars are transported to other parts of the plant, such as the roots, or into storage structures, like tubers or bulbs. Phloem works like tiny pumps. A high concentration of sugar produced by the leaves of a plant in the cells draws water into the cell. This pushes the sap downward, creating space for more sugar, which draws in more water. The process repeats, moving sap down for storage in the roots of the plant. Girdling As you can see in the diagram of a stem cross section, the phloem tubes are near the outside of the stem. A tree or other plant can be killed by stripping away the bark in a ring on the trunk or stem. With the phloem destroyed, nutrients cannot reach the roots and the plant will die. This is known as girdling. Sometimes animals like beavers chew off the bark of a tree and kill it. Girdling can also be caused by lawn mowers and weed eaters that damage phloem. Fun Fact Enormous fruits and vegetables like those sometimes seen at fairs and carnivals are produced by controlled girdling. Source The darker spots on this celery cross section are the xylem. This is where the nutrients travel up from the roots to the leaves at the top of the stalk. See xylem in action. Enough glass containers or plastic cups for each person in your group. Try several different colors for some added interest. A bunch of celery. The more leaves on the bunch the better the experiment will work. Carefully add enough food coloring at least five drops to the water. Separate a celery stalk that still has leaves on it from the bunch. Cut off the bottom half inch or so of the stalk and place it in the colored water. Over the rest of the day check the results. Can you see the color moving up the stalk through the xylem? What happens when it reaches the leaves? Try this with the celery top down in the colored water. What happens in this experiment? After allowing the celery to sit in the colored water overnight, remove one and cut through the stalk every inch or so to see the color of the stalk and the xylem. Do this with the upside down stalk and compare the difference. You can get multiple colored leaves by splitting a stalk longways and putting half in one color and half in another. Did the colored water move up the stalk through the xylem? Source Fun Fact As we saw in the celery experiment, Not all plants have round stems. This can help you identify different plants. Some of these really are grasses, but some are called sedges. Sedges have edges, Grasses are hollow, What have you found? Even though sedges, rushes and grasses all have xylem and phloem, their stems are different shapes. Sedges have triangle shaped stems, rushes have roundish stems and

grasses have stems that are hollow. All mint plants have square stems. You can easily determine if a stem is square or triangle shaped by gently rolling it in your fingers. Another interesting thing about mint plants is that they can be used to help keep mice and rats away. Although people usually like the smell of mint, apparently these rodents do not. Phototropism Another kind of tropism- Remember that a tropism is plant movement triggered by a stimulus. Phototropism- Photo means light, so phototropism is the movement of a plant as it relates to light. Since plants use sunlight to help make sugar, in order to work best, leaves need to be exposed to as much light as possible to work best. They do this by turning so their leaves face the sun. Phototropism in action Activity: Germination and Geotropism Plastic bag germination project What you will need: Bean or corn seeds, paper towels, ziplock type plastic sandwich bag, a small piece of cardboard. Cut the cardboard to fit inside the plastic bag and slide it in. Tear off three paper towels from the roll, fold them in half and then in half again so you have a square that will fit into the plastic bag. Slide them into the bag so they lay flat. Fill the bag with water. Let the towels soak up as much water as they will and then pour the extra water out. Lay the bag flat and place two bean or corn seeds on top of the paper towels near the center of the bag. You should be able to see the seeds as they rest on the towels. Now place the seed bag in a safe place. A kitchen or bathroom counter would be a good spot. Lean the bag against the wall at an angle with the open side up so you can see the seed without letting it slide down to the bottom of the bag. This will allow you to watch the seed without moving the bag around. Using the seedlings in the plastic bags from the germination activity, look to see what direction the roots are growing. They should be growing down and the stem should be growing up. Now, turn the bag so the bottom is on the left and the right edge is down. Leave it like that and come back the next day to see what has happened. Because of geotropism, the root will change direction and turn down and the stem will turn and grow up. You can keep doing this for several days to see how much you can confuse the growing bean plant. If you are patient, you might get the root and stem to make a complete circle.

Chapter 3 : God's Word Is A Seed

When seeds are planted, they first grow roots. Once these roots take hold, a small plant will begin to emerge and eventually break through the soil. When this happens, we say that the seed has sprouted.

The Young Puppet-maker Once upon a time there were four seeds who were good friends of each other. Taken up by the wind they finally landed in a jungle clearing. There they remained, hidden on the ground, hoping they would be able to grow up and become beautiful trees. In that clearing there lived a group of monkeys, and the smallest monkeys would amuse themselves by throwing bananas at any plant they noticed was starting to grow. Using this game, the monkeys learnt how to throw bananas and they also kept the clearing free of vegetation. They threw so many bananas at that first seed that it was almost split in two. And when it told the other seeds what happened, they all agreed it would be better to wait for that group of monkeys to move on, before they attempted to grow. Well, they all thought that, apart from one, who thought she should at least attempt it. And when she tried she was pelted with bananas, and was left folded over in two. The other seeds got together and asked her to stop trying, but that little seed was completely determined to become a tree, and time and again she would try and try. On each new occasion the little monkeys had slightly improved their aim, and so the little seed ended up doubled over yet again. Every time they pelted her with bananas, she tried even harder, despite her friends begging her to stop, and telling her to wait until the monkeys left. And so, for days, weeks and months the little plant was attacked by the monkeys, and she always ended stooped and doubled over. For a few days she would manage to avoid the bananas, but then the next day some monkey would hit her, and it would all start over again. She was hit by a banana, and then another, but none of them managed to make her stoop. She had taken so many blows, and been doubled over so many times, that she was full of hard knots and scars that helped her to grow more strongly than the other seeds. So, her slim trunk got thicker and more resistant, until it could withstand the impact of a banana. And she was already so well developed that nor could the little monkeys uproot her from the ground. And there she stayed, growing, growing and growing. Thanks to the extraordinary strength of her trunk she could continue overcoming all difficulties, until she became the most majestic tree in the jungle. Did you like this story?

Chapter 4 : A short story about extraordinary strength during growth

and goes to bed at night and gets up by day, and the seed sprouts up and growsâ€"how, he himself does not know. Jubilee Bible and should sleep and rise night and day, and the seed should spring forth and grow up, he knows not how.

Shoot Apical Meristem 7. Root Apical Meristem 8. Seed Coat Angiosperm flowering plants seeds consist of three genetically distinct constituents: In angiosperms, the process of seed development begins with double fertilization , which involves the fusion of two male gametes with the egg cell and the central cell to form the primary endosperm and the zygote. Right after fertilization, the zygote is mostly inactive, but the primary endosperm divides rapidly to form the endosperm tissue. This tissue becomes the food the young plant will consume until the roots have developed after germination. Gymnosperm ovule on left, angiosperm ovule inside ovary on right After fertilization the ovules develop into the seeds. The ovule consists of a number of components: The funicle funiculus, funiculi or seed stalk which attaches the ovule to the placenta and hence ovary or fruit wall, at the pericarp. The nucellus, the remnant of the megasporangium and main region of the ovule where the megagametophyte develops. The micropyle, a small pore or opening in the apex of the integument of the ovule where the pollen tube usually enters during the process of fertilization. The chalaza, the base of the ovule opposite the micropyle, where integument and nucellus are joined together. Plants generally produce ovules of four shapes: Orthotropous ovules are straight with all the parts of the ovule lined up in a long row producing an uncurved seed. Campylotropous ovules have a curved megagametophyte often giving the seed a tight "C" shape. The last ovule shape is called amphitropous, where the ovule is partly inverted and turned back 90 degrees on its stalk the funicle or funiculus. The upper or chalazal pole becomes the main area of growth of the embryo, while the lower or micropylar pole produces the stalk-like suspensor that attaches to the micropyle. The cotyledons, the seed leaves, attached to the embryonic axis. There may be one Monocotyledons , or two Dicotyledons. The cotyledons are also the source of nutrients in the non-endospermic dicotyledons, in which case they replace the endosperm, and are thick and leathery. In endospermic seeds the cotyledons are thin and papery. Dicotyledons have the point of attachment opposite one another on the axis. The epicotyl, the embryonic axis above the point of attachment of the cotyledon s. The plumule, the tip of the epicotyl, and has a feathery appearance due to the presence of young leaf primordia at the apex, and will become the shoot upon germination. The hypocotyl, the embryonic axis below the point of attachment of the cotyledon s , connecting the epicotyl and the radicle, being the stem-root transition zone. The radicle, the basal tip of the hypocotyl, grows into the primary root. Monocotyledonous plants have two additional structures in the form of sheaths. The plumule is covered with a coleoptile that forms the first leaf while the radicle is covered with a coleorhiza that connects to the primary root and adventitious roots form from the sides. Here the hypocotyl is a rudimentary axis between radicle and plumule. The seeds of corn are constructed with these structures; pericarp, scutellum single large cotyledon that absorbs nutrients from the endosperm, plumule, radicle, coleoptile and coleorhizaâ€"these last two structures are sheath-like and enclose the plumule and radicle, acting as a protective covering. Seed coat[edit] The maturing ovule undergoes marked changes in the integuments, generally a reduction and disorganisation but occasionally a thickening. The seed coat forms from the two integuments or outer layers of cells of the ovule, which derive from tissue from the mother plant, the inner integument forms the tegmen and the outer forms the testa. The seed coats of some mononocotyledon plants, such as the grasses, are not distinct structures, but are fused with the fruit wall to form a pericarp. The testae of both monocots and dicots are often marked with patterns and textured markings, or have wings or tufts of hair. When the seed coat forms from only one layer, it is also called the testa, though not all such testae are homologous from one species to the next. The funiculus abscises detaches at fixed point â€" abscission zone , the scar forming an oval depression, the hilum. Anatropous ovules have a portion of the funiculus that is adnate fused to the seed coat , and which forms a longitudinal ridge, or raphe, just above the hilum. In bitegmic ovules e. Gossypium described here both inner and outer integuments contribute to the seed coat formation. With continuing maturation the cells enlarge in the outer integument. While the inner epidermis may remain a single layer, it may also divide to produce two to three layers and

accumulates starch, and is referred to as the colourless layer. By contrast the outer epidermis becomes tanniferous. The inner integument may consist of eight to fifteen layers. Kozlowski As the cells enlarge, and starch is deposited in the outer layers of the pigmented zone below the outer epidermis, this zone begins to lignify, while the cells of the outer epidermis enlarge radially and their walls thicken, with nucleus and cytoplasm compressed into the outer layer. In the inner epidermis the cells also enlarge radially with plate like thickening of the walls. The mature inner integument has a palisade layer, a pigmented zone with layers, while the innermost layer is known as the fringe layer. Relevant discussion may be found on the talk page. Please help to ensure that disputed statements are reliably sourced. October Learn how and when to remove this template message In gymnosperms, which do not form ovaries, the ovules and hence the seeds are exposed. This is the basis for their nomenclature â€" naked seeded plants. Two sperm cells transferred from the pollen do not develop the seed by double fertilization, but one sperm nucleus unites with the egg nucleus and the other sperm is not used. Shape and appearance[edit] A large number of terms are used to describe seed shapes, many of which are largely self-explanatory such as Bean-shaped reniform â€" resembling a kidney, with lobed ends on either side of the hilum, Square or Oblong â€" angular with all sides more or less equal or longer than wide, Triangular â€" three sided, broadest below middle, Elliptic or Ovate or Obovate â€" rounded at both ends, or egg shaped ovate or obovate, broader at one end , being rounded but either symmetrical about the middle or broader below the middle or broader above the middle. Striate seeds are striped with parallel, longitudinal lines or ridges. The commonest colours are brown and black, other colours are infrequent. The surface varies from highly polished to considerably roughened. The surface may have a variety of appendages see Seed coat. A seed coat with the consistency of cork is referred to as suberose. Other terms include crustaceous hard, thin or brittle. Structure[edit] The parts of an avocado seed a dicot , showing the seed coat and embryo Diagram of the internal structure of a dicot seed and embryo: In addition, the endosperm forms a supply of nutrients for the embryo in most monocotyledons and the endospermic dicotyledons. Seed types[edit] Seeds have been considered to occur in many structurally different types Martin This reflects the degree to which the developing cotyledons absorb the nutrients of the endosperm, and thus obliterate it. Diagram of a generalized dicot seed 1 versus a generalized monocot seed 2. Endosperm Embryo[edit] In endospermic seeds, there are two distinct regions inside the seed coat, an upper and larger endosperm and a lower smaller embryo. The embryo is the fertilised ovule, an immature plant from which a new plant will grow under proper conditions. The embryo has one cotyledon or seed leaf in monocotyledons , two cotyledons in almost all dicotyledons and two or more in gymnosperms. In the fruit of grains caryopses the single monocotyledon is shield shaped and hence called a scutellum. The scutellum is pressed closely against the endosperm from which it absorbs food, and passes it to the growing parts. Embryo descriptors include small, straight, bent, curved and curled. Nutrient storage[edit] Within the seed, there usually is a store of nutrients for the seedling that will grow from the embryo. The form of the stored nutrition varies depending on the kind of plant. In angiosperms, the stored food begins as a tissue called the endosperm , which is derived from the mother plant and the pollen via double fertilization. It is usually triploid , and is rich in oil or starch , and protein. In gymnosperms, such as conifers , the food storage tissue also called endosperm is part of the female gametophyte, a haploid tissue. The endosperm is surrounded by the aleurone layer peripheral endosperm , filled with proteinaceous aleurone grains. Originally, by analogy with the animal ovum , the outer nucellus layer perisperm was referred to as albumen , and the inner endosperm layer as vitellus. Although misleading, the term began to be applied to all the nutrient matter. This terminology persists in referring to endospermic seeds as "albuminous". The nature of this material is used in both describing and classifying seeds, in addition to the embryo to endosperm size ratio. The endosperm may be considered to be farinaceous or mealy in which the cells are filled with starch , as for instance cereal grains , or not non-farinaceous. The endosperm may also be referred to as "fleshy" or "cartilaginous" with thicker soft cells such as coconut , but may also be oily as in Ricinus castor oil , Croton and Poppy. The endosperm is called "horny" when the cell walls are thicker such as date and coffee , or "ruminated" if mottled, as in nutmeg , palms and Annonaceae. In the non-endospermic dicotyledons the endosperm is absorbed by the embryo as the latter grows within the developing seed, and the cotyledons of the embryo become filled with stored food. At maturity, seeds of these species have no

endosperm and are also referred to as exalbuminous seeds. The exalbuminous seeds include the legumes such as beans and peas , trees such as the oak and walnut , vegetables such as squash and radish , and sunflowers. According to Bewley and Black , Brazil nut storage is in hypocotyl, this place of storage is uncommon among seeds. Seed coat[edit] The seed coat develops from the maternal tissue, the integuments , originally surrounding the ovule. The seed coat in the mature seed can be a paper-thin layer e. The seed coat helps protect the embryo from mechanical injury, predators and drying out. Depending on its development, the seed coat is either bitegmic or unitegmic. Bitegmic seeds form a testa from the outer integument and a tegmen from the inner integument while unitegmic seeds have only one integument. Usually parts of the testa or tegmen form a hard protective mechanical layer. The mechanical layer may prevent water penetration and germination. Amongst the barriers may be the presence of lignified sclereids. The endotegmen is derived from the inner epidermis of the inner integument, the exotegmen from the outer surface of the inner integument. The endotesta is derived from the inner epidermis of the outer integument, and the outer layer of the testa from the outer surface of the outer integument is referred to as the exotesta. If the exotesta is also the mechanical layer, this is called an exotestal seed, but if the mechanical layer is the endotegmen, then the seed is endotestal. The exotesta may consist of one or more rows of cells that are elongated and pallisade like e. In the latter example these hairs are the source of the textile crop cotton.

Chapter 5 : Where are the seeds? Cannabis stores across Canada face shortages | Vancouver Sun

Seedo can grow up to 5 plants at once. In case you want Seedo to grow completely automatically, you should grow one plant. If you grow 5 plants, you will have to spend some "work" of trimming.

Reactions to cashew and tree nuts can also occur as a consequence of hidden nut ingredients or traces of nuts that may inadvertently be introduced during food processing, handling, or manufacturing, particularly in people of European descent. This may be produced from a single cold pressing. Urushiol Cashew nutshell liquid CNSL or cashew shell oil CAS registry number is a natural resin with a yellowish sheen found in the honeycomb structure of the cashew nutshell , and is a byproduct of processing cashew nuts. It is a raw material of multiple uses in developing drugs, antioxidants, fungicides, and biomaterials. Anacardic acid is also used in the chemical industry for the production of cardanol, which is used for resins, coatings, and frictional materials. These can be split into key groups, used as polyols , which have recently seen a dramatic increase in demand for their biobased origin and key chemical attributes such as high reactivity, range of functionalities, reduction in blowing agents, and naturally occurring fire retardant properties in the field of ridged polyurethanes aided by their inherent phenolic structure and larger number of reactive units per unit mass. This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. April Learn how and when to remove this template message The cashew apple, also called cashew fruit, is the fleshy part of the cashew fruit attached to the cashew nut. The bottom end of the cashew apple attaches to the cashew nut, which is encased in a shell. In botanical terms, the cashew apple is an accessory fruit that grows on the cashew seed which is the nut. The cashew apple can be eaten fresh, cooked in curries, or fermented into vinegar, as well as an alcoholic drink. It is also used to make preserves, chutneys, and jams in some countries such as India and Brazil. In many countries, particularly in South America, the cashew apple is used to flavor drinks, both alcoholic and nonalcoholic. Fermented juice then undergoes a double distillation process. The resulting beverage is called feni or fenny. In the southern region of Mtwara , Tanzania , the cashew apple bibo in Swahili is dried and saved. Later, it is reconstituted with water and fermented, then distilled to make a strong liquor often referred to by the generic name, gongo. In Mozambique, cashew farmers commonly make a strong liquor from the cashew apple. It is known under various names in the local languages of Mozambique muchekele in Emakua spoken in the North, xicadju in Changana spoken in the South. In contrast to the above-mentioned Feni of Goa, the cashew liquor made in Mozambique does not involve the extraction of the juice from the cashew apples. Following harvest and the removal of the nuts, the apples are spread on the ground under trees and courtyards and allowed to lose water and ferment. The shrivelled fruits are then used for distillation. According to one source, [30] an alcohol had been distilled in the early 20th century from the juice of the fruit, and was manufactured in the West Indies. Animal feed[edit] Discarded cashew nuts unfit for human consumption, alongside the residues of oil extraction from cashew kernels, can be used to feed livestock. Animals can also eat the leaves of cashew trees.

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Chapter 6 : Seedling is growing upside down, taproot is above the soil! | Grow Weed Easy

Seed Quotes from BrainyQuote, an extensive collection of quotations by famous authors, celebrities, and newsmakers. "Happiness held is the seed; Happiness shared is the flower." - John Harrigan.

We know because of what Jesus said. The seed is the word of God. Just like a seed -- the Bible is full of unseen life. The words that I speak to you are spirit, and they are life. Jesus said His words are alive. The words in your Bible may look lifeless and powerless. But they are not without life or power. Your physical senses are incapable of judging whether a seed is alive or not. You cannot see, feel, hear, smell, or taste the life in a seed. There is only one way to prove a seed is alive -- plant it. Seeds do not grow sitting in a sack on your shelf. They must be planted in the proper place. If you desire the Word of God to produce in your life, you must decide to plant the Word in your heart and mind. Hearing others speak the Word is good -- but will not produce as bountiful a harvest as speaking the Word yourself. Whatever you need to be saved or delivered from, confession what you say is essential. The problem you face may seem huge. In comparison, a scripture may seem very small. But when planted, that Word will grow in you and overcome the problem. Whatever you need, or desire, find scriptures relating to that. Then plant those scriptures inside you in abundance. Those seeds will grow up and produce a harvest of what you need or desire. As a seed begins to grow, it will push up dirt, rocks, etc. The only way to tell if a seed is growing is to dig it up, or wait for a plant to appear. If you dig up a seed, you may kill it. No one expects a seed to produce a harvest the same day that seed is planted. Sometimes the Word of God seems to spring up and bear fruit immediately. A seed never gives up, but works day and night. Even when you are sleeping, the seed you have planted is working to grow and express itself in a fruitful harvest. Whatever happens to other seeds does not make any difference to a specific seed. Each seed sticks to its own task. One wheat seed planted in a corn field will still produce wheat. Seed does not become discouraged, or quit, even if other seeds die. Planting a seed is not enough to assure a harvest. Seed must be protected and taken care of until harvest time. A seed which is dug up, or not watered, will not produce. He who sows sparingly will also reap sparingly, and he who sows bountifully will also reap bountifully. Think on these truths about seeds.

Chapter 7 : Seedolab, home grow box medical | Main

Jessi and Squeaks show you how a tiny seed -- like the kind you eat in your trail mix! -- grows into a big plant!Like SciShow? Want to help support us, and also get things to put on your.

Chapter 8 : Preschool Education Songs & Fingerplays: Garden

Fold the paper towel back up and staple up the side (to make a pouch). Label the top of the paper towel (bean, corn and radish) Carefully place the paper towel (fold side down, so the seeds don't fall out) into the ziploc bag.

Chapter 9 : mark - What does a mustard seed grow into? - Biblical Hermeneutics Stack Exchange

An informative Movie Maker product as a part of my gardening unit for Technology in Elementary Education at Western Michigan University.