# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| **Target Language**: English as a Second Language | **Grade Level**: 2 and 3 |
|---|---|
| **Proficiency Level**: Junior Novice Low – Junior Novice Mid | |

**Context and Storyline:**

One day, the teacher brings in seed packets for common ingredients for salad. (i.e. Onion, carrot, green beans, celery, spinach, lettuce, sunflowers, corn, radishes, cucumber, tomato and so on. Teachers will choose 4-5 kinds, depending on the time when this module is taught and the availability of these seeds in a supermarket.) Students will select a plant and grow these seeds while they keep a log recording how they take care of the plant and the progress of the plant's growth. They will understand that it takes a long time for seeds to grow into mature plants because they have to turn water, sunlight, air, and soil into nutrients.

Meanwhile, students will study the conditions for different plants to grow. They will discover that plants have differing needs for water, sunlight, air/temperature, and type of soil, so the environment in which they live is important for them. They will understand that plants and other living things interact with one another and also with the environment to form a food chain, in which each plays an important role.

At the end, students will make their own salad/dish by using different parts of plants and telling their audience in what kind of environment the selected items of their salad live. They will report on the growth of their own plants. Before they take home their plants, students will make a pledge to take care of the plant.

**Enduring Understanding:**
Living things and their environment form a system, in which they need each other.

**Essential Questions:**
What are the living things in our environment?
How does environment affect living things?

**Module Duration and Lessons**:
Depending on the length and frequency of classes per week, we suggest the five lessons in this module could be taught during the period of three to five weeks. On the average, each lesson may be taught over a week, with 30 minutes classes three to five times per week.

Lesson 1 – *Where Do Salads Come from?* (Engagement stage or introduction)

Lesson 2 – *Let's Plant Seeds.* (Exploration stage for main events and practice)

Lesson 3 – *Conduct Experiments of Changing Environments.* (Explanation stage for main events and practice)

Lesson 4 – *Hello, parts of the plant!* (Elaboration stage for summary and review)

Lesson 5 – *Making a Salad and a Pledge to My Plant* (Evaluation stage for assessing student learning outcomes)

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| Standards Targeted | |
|---|---|
| **5C – World Language Standards** | **5E – STEM Standards** |
| **Communication**<br>• Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions while learning about plants and their environment. (1.1)<br>• Students understand and interpret written and spoken language on a variety of topics related to this module.(1.2)<br>• Students present information, concepts, and ideas to an audience of listeners or readers on topics related to this module. (1.3)<br><br>**Cultures**<br>• Students demonstrate an understanding of the relationship between the products of the culture and environment (e.g., salads of different cultures). (2.1)<br><br>**Connections**<br>• Students reinforce and further their knowledge of ecology and plants through the study of a foreign language. (3.1)<br>**Comparisons**<br>• Students demonstrate understanding of the nature of language through comparisons of the language studied and English. (4.1)<br>• Students demonstrate understanding of the concept of culture through comparisons of the culture studied and their own. (4.2)<br>**Communities**<br>• Students use the language both within and beyond the school setting (5.1)<br>• Students use their target language and cultural knowledge to enrich their life (5.2) | **2. Interdependence of Organisms and Their Surroundings**<br>a. Construct a representation in which plants and animals depend on their environment to meet their needs.<br>c. Plan and carry out investigations to test whether plants from different settings have different needs for water, sunlight and type of soil. |

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| Knowledge: Students will know… | Skills: Students can… |
|---|---|
| Vocabulary (both linguistic and content areas)<br><br>Needs: *water, food, air, soil, sun, nutrients*<br>Verbs: *eat, drink, grow, need, has*<br>Plant parts: *seeds, leaf, stem, root, flower, fruit*<br><br>Expressions and patterns<br>*How much*<br>*A lot, not a lot,*<br>*Hot, not hot*<br>*I (we) like, do not like*<br>*I (we) need, do not need*<br>*It needs*<br>*A plant needs*<br>*different*<br>*Where, who, and what questions*<br>*Back, front* | Students can:<br>• Identify and name the basic needs of living things.<br>• State that plants need soil, water, air and sun.<br>• Name different parts of a plant.<br>• Explain how the environment affects living things. |

| Performance Assessment |
|---|
| **Interpretive Task: Shop for a Salad**<br>Students walk up to a basket filled with small brown bags of cut-out fruit or vegetable. Each student will pick out one bag and tell the class what he/she has (e.g., I have tomatoes. Tomatoes are fruits). |
| **Interpersonal Task: Let's Make a Salad**<br>Students will go around the room to look for salad partners. In each salad, there must be at least one part of plants (e.g., leaves, fruits, seeds, roots, and stems). Students cannot tell people what they have until they are asked appropriate questions. They must ask other students to identify partners for their salad. Continue until all salad groups are formed. Each group of students will make a salad by mixing the content of their bags into a big bowl. |
| **Presentational Task: This is Our Salad**<br>Each group presents their salad. Students will each talk about their own contributions and provide a brief description of the ingredient used (such as the name, which part of a plant it is.)<br><br>**Presentational Task: My Pledge to My Plant**<br>Students will each present the plant they have chosen. They will tell the class how they planted it and how they will take care of it.<br><br>After everyone has presented their plants, the class will read the pledge together. |

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| Materials/Resources |
|---|
| Poster or display board for model, markers, magazines, glue, cutouts of universal symbols for water/sun light, two pieces of plain paper 8 ½" x 11, Informational chart on different seeds, timer, examples of seed packets.<br><br>**Useful Articles:**<br>• Kids Gardening: http://www.burpee.com/vegetables/kid-s-gardening-article10196.html<br>• Video: how to plant-grow-lettuce: http://www.burpee.com/heinz/lettuce/how-to-plant-grow-lettuce-article10469.html<br>• http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/science/s_plants/index.htm<br>• http://www.firstschoolyears.com/science/living/interactive/growing-plants.swf<br>• Parts of Plants We Eat http://pubs.ext.vt.edu/348/348-823/348-823_pdf.pdf<br>• http://www.bbc.co.uk/schools/scienceclips/ages/9_10/changing_state.shtml<br>• http://www.tutorvista.com/biology/parts-of-a-plant-for-kids<br>Germination times for seeds<br>• http://www.heirloomseeds.com/germination.html<br>• http://www.plantingseedsblog.com/2011/07/seed-germinating-times-and-tips/<br><br>**Additional Resources:**<br>• Maryland Department of Agriculture: http://www.mda.state.md.us/mdfarmtoschool/index.php<br>• National Farm-to-School Network: www.farmtoschool.org<br>• Healthy Foods for Healthy Kids: www.healthyfoodsforhealthykids.org/<br>• College of Agriculture & Natural Resources http://growit.umd.edu/<br><br>**Note:**<br>See lesson plans for specific materials needed for the particular lesson<br>**Worksheet M.1 –** Game: Red Light, Green Light |

**STEM Background for teachers:**

**Ecology**

Ecology is the study of how living things relate to one another and to the world around them. Scientists who study ecology are called ecologists.

Many different things live in the world. Each living thing depends on other living and nonliving things in its environment, or surroundings. For example, a moose eats certain plants for food. If the plants in its surroundings were destroyed, the moose would have to move to another area, or it would starve to death. Plants also depend on animals. Wastes from animals provide many of the nutrients, or nourishing substances, that plants need to live. Ecologists study how these different things depend on one another.

**General Plant Organization Facts**

Scientists believe there are over 260,000 species of plants. Some plants are so small they can barely be seen. Others are taller than people or animals. Some of the largest living plants on the earth are the sequoia trees of California. Some stand over 290 feet (88 meters) high and measure over 30 feet (9

meters) wide. Plants play the most important part in the cycle of nature. Without plants, there could be no life on Earth. They are the primary producers that sustain all other life forms. This is so because plants are the only organisms that can make their own food. Unlike animal cells, plants have an additional cell wall made from cellulose. The cellulose enables plants to stand upright without the aid of an internal or external skeleton. Animals, incapable of making their own food, depend directly or indirectly on plants for their supply of food. All animals and the foods they eat can be traced back to plants.

**The Shoot and Root Systems**

Plants have two organ systems (groups of organs that perform related functions), the shoot system and the root system. The shoot system is above ground and includes the organs such as leaves, buds, stems, flowers, and fruits (if the plant has them). The root system includes those parts of the plant below ground, such as the roots, tubers (swollen underground stems in plants that store food, such as the potato), and rhizomes (a horizontal stem with upright leaves containing specialized tissues for transporting fluids and nutrients in plants).

Vascular plants have systems of tubes (xylem and phloem) for the transport of nutrients and water. There is a wide variety of plants on Earth and even a whole group that doesn't have vascular systems. Mosses and liverworts may still have photosynthesis, but they do not have the typical plant structure. The tip (terminal bud) of the main stem has a specialized structure that is the source of new growth for plants. You will find the apical meristem that develops into young leaves. There are other points of growth at each node where leaves and branches develop on the stems. Those branching points are home to axillary buds that can also develop into new branches.

Roots are designed to pull water and minerals from whatever material the plant sits on. For water plants, the roots may be in the water. For trees, the roots go deep into the soil. There are even plants called epiphytes that live in trees and their root system clings to branches. Humans often rely on the roots of plants for food. Carrots are just one big orange root.

Root systems also provide support for plants in the form of an anchor in the soil. If the wind blows hard, those roots keep the plant from falling over. Some plant species have roots above ground that provide support for the entire plant. Roots are further broken down into the primary root and lateral roots that each has apical meristem at their tips. Root hairs are also a common structure on roots. They make the roots look fuzzy and help in the absorption of water and nutrients.

**Plants and Their Environment**

Plants require a reasonable level of heat to grow. The most favorable temperature at which photosynthesis takes place ranges from near freezing to 20 to 25° C (70 to 80° F). The rates of photosynthesis and respiration increase with rising temperatures, temperatures above or below these levels limit plant growth. The climate of a region determines what types of plants can survive in that region.

A plant's environment is made up of many factors. One of the most important is the weather – sunlight, temperature, and precipitation (rain, melted snow, and other moisture). Soil and other plants and animals that live in the same area are also included in the environment of a plant. All these factors form what is called a natural community. No two natural communities are exactly alike, but many resemble

one another more than they differ. Botanists divide the world into biomes – natural communities of plants, animals, and other organisms.

**Parts of Plant:**
**Root**: Roots originate from the lower portion of a plant and they are in the soil. Their functions are to absorb nutrients and moisture, anchor the plant in the soil, support the stem, and store food, as with carrots. In some plants, they can be used for propagation.

**Stem**: The stem is the upper part of the plant and bears branches, leaves, flowers and fruits. The stem is generally green when young and later often become woody and dark brown. It conducts water and minerals from the roots to the leaves. Some stems perform the function of storage of food, for example potato, ginger, turmeric

**Bud**: A bud is an undeveloped shoot from which leaves or flower parts grow. Enlarged buds or parts of buds also form the edible portion of some crops, for example cabbage.

**Leaves**: Leaves provide trees with all their food because they turn sunlight and carbon dioxide into food energy through photosynthesis. Leaves also return oxygen to the air that we breathe as a product of photosynthesis.

**Flowers**: Flowers generally are the showiest part of a plant. Their beauty and fragrance attract pollinators (insects or birds) that play an important role in the reproductive process.

**Fruit**: Fruit is the fleshy structure of certain plants that may be sweet and edible in the raw state, such as apples, oranges, grapes etc. It also consists of seeds used for propagation of the plant. The seed contain food that supplies energy and materials for growth until the plant grows its first leaves above the ground.

**Information compiled from World Book Encyclopedia, National Geographic, and Maryland at a Glance State Symbols.**

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## From Seeds to Table

### Lesson 1 – Where Do Salad Come from?

| Lesson 1 of 5 – *Where Do Salads Come from?* | Duration: 30 Minutes |
|---|---|
| *Objectives* | ***I Can:***<br>**Oral language:**<br>• Name the things we need: *food, water, air, home*<br>• Name the things plants need: *soil, water, air, sun(light)*<br>**Literacy:**<br>• Recognize the words: *seeds, soil, water, air, sun, home*<br>**STEM and Other Subject Areas:**<br>• Identify the needs of living things.<br>• Identify the needs of plants |
| *Vocabulary and Expressions* | **Previously learned:**<br>Students know the difference between living and non-living things.<br>Students know color words.<br>**Content obligatory language:**<br>*salad, food, hot dog, carrot, lettuce*, *tomato*, *celery*, *cucumber*<br>*Need, grow, eat, drink, market, vegetable-garden, farm*<br>*air, soil, seed, plant, water, sun*<br>**Content compatible language :**<br>*Pictures, own*, *rock, desert, river bank,*<br>*delicious, market, garden, farm* |
| *Materials/ Resources* | ○ Realia: glass, water, various fruits and vegetables (apple, orange, grapes, lettuce, berry, *carrot,* cucumber, broccoli), rock, flower<br>○ Pictures of fruits, vegetables, and plants (apple, apple tree, grape vine, berry bush, cucumber, broccoli,..) ,sun, plant, flower<br>○ Bag to hold vegetable pictures<br>○ Seeds packages<br>○ Copy of "Seed Song" (refrain) on chart paper.<br>○ **M.1 – Game "Red Light, Green Light"**<br>○ **Worksheet 1a** -- Vegetables and fruits<br>○ **Worksheet 1b–** Various Salads (Maybe enlarge pictures)<br>○ **Worksheet 1c** – Supermarket , Garden, and Farm<br>○ **Worksheet 1d** -- Little Seed Finds a Home<br>○ **Worksheet 1e** – What Little Seed Needs (chant /hand emotions)<br>○ **Ppt** – Little Seeds Finds Home |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

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| *Lesson Storyline and Core Text* | At the beginning, the teacher tells students that she/he is planning a meal for a friend who loves salad and wants some help from the class. The teacher will show pictures and have students pick and choose what ingredients to use in their salad. (Teaching vocabulary). Teacher poses a question: Where do these salad ingredients come from? (From a supermarket or someone will have to grow them?) (Reading the story of Little Seeds, and identify what seeds need to grow. As a preview, tell students that they will plant and grow their own seeds later.)<br><br>**Core Text :**<br>*Welcome. Today I need some help with a salad.*<br>*Most salads come from plants.*<br>*I have some pictures.*<br>*Is this a salad or a …?*<br>*Do you like to eat salad?*<br>*Can you tell us what's in the salad?*<br>*Can you find carrots in a salad?*<br>*Please put carrots in the salad bowl.*<br>*Where do these things come from? -- From a supermarket/* garden/farm.<br>*Can we grow vegetables/fruits*?<br>*We'll grow vegetable/fruit/plants.*<br><br>*These are seeds.*<br>*Plants grow from seeds.*<br>*Let's see how a seed grows.*<br>*What does Little Seed need?*<br>*Does it need soil?*<br>*Seeds need soil, air, water, and sun to grow.* |

| Key Elements | Lesson 1 Procedures – *Where Do Salads Come from?* |
|---|---|
| *Engagement*<br>● *Object, event or question used to engage students.*<br>● *Connections facilitated between what students know and can do* | **Plan a meal**<br>(Show pictures of different salads. Also show pictures of various produce. e.g., vegetable, fruit; both as produce and as living plants) **Worksheet 1a**<br>As class begins, place a variety of cutout pictures of salad ingredients on the floor or on a desk, so students can choose them later.<br>T: *Students, welcome. Today I really need your help. I'm planning a meal for a friend who really, really likes salads. I need to plan a great salad. Will you help me?*<br>Students respond. |

# World Language-STEM MODULE COVERSHEET
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| Key Elements | Lesson 1 Procedures – *Where Do Salads Come from?* |
|---|---|
| | T: *I have some pictures. Is this a salad or a hot dog/pizza/hamburger?*<br>Ss: *Salad/pizza/hamburger.*<br>Teacher sets all pictures of salads together in front of the class. **Worksheet 1b**<br>T: *Do you like to eat salad? Which one you like the most?*<br>Ask different students to respond. (like, not like, eat)<br><br>Teacher with a picture of a salad.<br>T: *Let's talk about what's in a salad.*<br>T: (showing picture of a carrot or a plastic carrot.) *This is a carrot. Can you find carrots in a salad?* (Students pick out or point at carrots in the salad pictures.)<br>T: *Is that a carrot? Can you tell me what it is?*<br>Ss*: Carrot.*<br>T: (models) *Now I'm putting the carrot in a salad bowl.*<br>T: (calls on another student) *Please put another carrot in the salad bowl.*<br>Student chooses from among pictures on the floor or desk.<br><br>Repeat with procedure for carrots and then for *lettuce*, *tomato*, *celery*, *cucumber,* or any choices that teacher decides to put in the salad (or the picture shows). To vary the procedure, mix up ingredients and ask students to put in a vegetable that had been added earlier.<br><br>Note: make sure your choices can be found in seed packages sold in a grocery store or ordered online. Additionally, the selection must include using leaves, stems, fruits, and roots of vegetable or fruit. If health concern is taken care of, you may include seeds such as sunflower seeds or other kinds of seeds.<br><br>T: *Wow ，our salad looks delicious. Do you think it will be delicious?*<br>Ss: *Yes, delicious.*<br>T: *Do you like this salad? Or do you not like it?*<br>Ss: *Yes, we like it. (No, I don't like it.)*<br>T: *Good. Where do these things in the salad come from?* (Showing a picture of a supermarket) *from a supermarket?* **Worksheet 1c**<br>S: *Yes, from a supermarket.*<br>T: *Hmmm, from supermarket. Do you think a supermarket grows vegetables or fruit?*<br>S: *Yes/No.*<br>T: *A supermarket does not grow vegetables/fruit. Someone grew them* in *a garden or on a farm.* (showing a picture of a farm)<br>T: *Does anyone in this class live on a farm?* (Waits for a show of hands, and then names the children, saying: ____ *lives on a farm, and* ____ *lives on a farm,* etc.)<br>T: (Show pictures of home gardens.)<br>T: *Does anyone in this class have a garden at home?* (Waits for a show of |

| Key Elements | Lesson 1 Procedures – *Where Do Salads Come from?* |
|---|---|
| | hands, and then names the children, saying: ____ *has a garden.* ____*has a garden,* etc.) *Can we grow vegetables and fruit, too*?<br>Students respond.<br>T: *As we plan our salad, we'll learn about how to grow the things for a salad, and you can grow something, too. We'll also make salads after we have learned about plants and how they grow*. |
| *Exploration*<br>● *Objects and phenomena are explored.*<br>● *Hands-on activities, with guidance.* | **Introduce Seeds**<br>T: (Shows a seed package, opens it, and shows seeds) *These are seeds. Plants grow from seeds. Most of these things in a salad come from seeds.*<br>(Distribute a seed packet for students to look. Model as they pass the packet from one student to another.) *Look, this is a packet of seeds.*<br>Students repeat the utterances as they pass along the seed packet.<br><br>**Note:** Use the "Red Light, Green Light" game, **Worksheet M.1**. Give one packet to a student, saying: "This is a packet of seeds." Call "Green Light" and motion the student to pass it along, telling the next student as they pass it, "This is a packet of seeds." After several passes call "Red Light" and the student who holds the packet must name it. Once class is comfortable playing this game, add more packets to pass around.<br>S: *This is a packet of <u>tomato</u> seeds. …etc…*<br><br>T: *If we plant these seeds they grow into plants. Let's see how a seed grows.*<br>T: (Pick up a book) *Oh, I found a story about Little Seed. Let's listen to the story and find out what seeds need to grow?* |
| *Explanation*<br>● *Students explain their understanding of concepts and processes.*<br>● *New concepts and skills are introduced as conceptual clarity and cohesion are sought.* | **Story of Little Seed**<br>Teacher reads the story of "Little Seed Finds a Home". **Worksheet 1d**<br><br>While reading it, make sure students understand the storyline and the concepts of plants needing air, water, sun, and soil to grow.<br><br>Students chant "What Little Seed Needs" with hand motions. **Worksheet 1e**<br>Instructions: Use the hand motions below when singing the refrain to the story. (You may also find a tune appropriate for your language.)<br><br>*Soil, water, air, and sun,*<br>*These are things I need.*<br>*I need to find them in my home.*<br>*These are things I need.*<br><br>*Soil-* (Palm of hand facing down, sweep hand from left to right)<br>*Water-* (Make wave motion with hand from left to right-palm down) |

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| Key Elements | Lesson 1 Procedures – *Where Do Salads Come from?* |
|---|---|
| | *Air*-(Hand up, palm facing left, move hand in fan motion from side to side)<br>*Sun*- (Make circle shape with two hands held over head)<br>*These are things that I need.* (Point to self)<br>*These are things*- (Palms up, side by side in front of body, move hands apart.)<br>*In my home*- (Make triangle house shape in front of face).<br><br>If time the students can retell the story to each other or practice sing the song together. |
| *Elaboration*<br>● *Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.* | **Teacher conducts a comprehension check about the story of Little Seed**<br>Make sure to provide the language and ensure students' learning of the concept about needing soil, water, air, and sun. **Worksheet 1d**<br>*Sample questions might be:*<br>T: *What does Little Seed need?*<br>T: *Does it need soil?*<br>T: *Does it find soil in a rock/desert/river bank?*<br>T: *Does it need air/sun/water?*<br>Students respond. Conclude with the following utterance:<br>T: *Right, seeds need soil, water, air, and sun to grow.*<br><br>Review Salad, vegetable and fruits, make sure students can tell where these things come from. |
| *Evaluation*<br>● *Students assess their knowledge, skills and abilities.* | Assessment:<br>1. Show pictures of different salads. Students pick what they want to talk about and name common ingredients of their chosen salad.<br>2. Using pictures, students retell the story of Little Seed.<br>3. Students perform the chant about Little Seed and name things that plants need to grow. |

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| Teacher Reflection Lesson 1- *Where Do Salad Come from?* | |
|---|---|
| *What worked well?* | |
| *What did not work well?* | |
| *What would I do differently?* | |
| *Other comments or notes* | |

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### Lesson 2 – Let's Plant Seeds

| Lesson 2 of 5 – *Let's Plant Seeds* | Duration: 30 Minutes |
|---|---|
| *Objectives* | ***I Can:***<br>**Oral language:**<br>• Name the things plant need: *soil, water, air, sun(light)*<br>**Literacy:**<br>• Recognize and write: *seeds*, *grow, plant, soil, water, air, sun(light)*<br>**STEM and Other Subject Areas:**<br>• Identify the needs of plants<br>• Describe how to plant seeds |
| *Vocabulary and Expressions* | **Content obligatory language:**<br>*seeds*, *grow, plant, soil, water, air, sun, grow, need, thin, pot*<br>**Content compatible language:**<br>*Have, put, check, take care, to water* |
| *Materials/ Resources* | ○ A big calendar for the class to use daily<br>○ Seeds packages and pots – enough for all students<br>Choose seeds that will germinate fairly quickly, such as lettuce, spinach, onion, sunflowers, beans (green beans are seeds in a protective pod)<br>○ Set up a planting area in the front or at a corner of the classroom. Cover the floor with newspaper or shower curtain so the dirt will not soil the classroom. Make sure there are enough seeds and pots for each student.<br>○ Necessary tools for planting seeds<br>○ A potted plant<br>○ Picture cards: water, sun, air, soil, stem, leaves, roots, fruit, seeds, plants (plain, flower, tree from previous lesson)<br>○ **Worksheet 2a** – Planting Seeds Chant<br>○ **Worksheet 2b** – Matching for Literacy<br>○ **Worksheet 2c** – Planting Seeds mini book |
| *Lesson Storyline and Core Text* | Students plant seeds and learn a "Planting Seeds" chant. Every day they observe the growth of their plants. They check the soil and water if the soil is dry.<br>Core Text:<br>*Let's plant these seeds together.*<br>*What do we need to plant?*<br>*First we need a pot and some soil.*<br>**Planting Seeds Chant:** |

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| | *I have a pot.*<br>*I have some soil.*<br>*I put soil into the pot.*<br>*I have some seeds.*<br>*I put the seeds into the soil.*<br>*I put the pot under the sun.*<br>*I water my plant.*<br>*I take care of my plant.*<br>*I watch it grow every day.* |

| Key Elements | Lesson 2 Procedures – *Let's Plant Seeds* |
|---|---|
| *Engagement*<br>● *Object, event or question used to engage students.*<br>● *Connections facilitated between what students know and can do* | **Review the story of Little Seeds and what it needs to grow.**<br>Begin the day with calendar work. Repeat this activity daily. Using pictures, invite students to retell the story of Little Seed. Review what plants need. Lead students in the Little Seed chant.<br><br>T: (Show seed packages.) *We are going to grow our own plants from seeds. Let's plant these seeds together.*<br>T: (Teacher models how to plant seeds) *What do we need?* (Show a plant pot ) *First we need a pot, right? Here, _____ (Student name), please hold the pot.*<br><br>Repeat with *the soil, water,* and the *seeds…,* enlisting student help to hold each item.<br><br>Open one seed package and show students how to plant it. While planting each step, recite with actions the "Planting Seeds Chant" **Worksheet 2a**<br><br>**Planting Seeds:** Use Gouin series<br>Instructions: Use the hand motions below when singing the refrain to the story.<br><br>*I have a pot.* (Cup left hand as if holding a pot, then sets it down.)<br>*I have some soil. I put soil into the pot.* (Right hand shovels soils into the pot)<br>*I have some seeds.* (extend left arm to show the seeds in your palm)<br>*I put the seeds into the soil.* (Left hand puts seeds into the pot and both hands pat them down gently.)<br>*I put the pot under the sun.* (Make circle with the hand and put down the pot, then look up the sky with right hand over the eyes)<br>*I water my plant.* (One hand tilted as if watering the plant)<br>*I take care of my plant.* (Two arms fold over the heart and rock sideways)<br>*I watch it grow every day.* (two hands motioning as if the plant is growing)<br><br>Lead students first to pantomime while the teacher recites. Then have them |

| Key Elements | Lesson 2 Procedures – *Let's Plant Seeds* |
|---|---|
| | repeat each line after the teacher while they do the actions. |
| *Exploration*<br>● *Objects and phenomena are explored.*<br>● *Hands-on activities, with guidance.* | Practice first in whole class, then in pairs or small groups. Call on volunteer pairs or groups to perform.<br>**Students planting their own plants from seeds**<br>**Formative assessment: Recite Planting Seeds chant**<br>Before students plant their seeds, have them recite the chant with you.<br><br>Tell students that the groups that can recite can come to the gardening area. Call on each group one by one. Distribute a pot and soil to each student, and let them choose the type of seed they wish to plant. The group will plant while the rest of class recites the chant. At the end, recite one more time in chorus. |
| *Explanation*<br>● *Students explain their understanding of concepts and processes.*<br>● *New concepts and skills are introduced as conceptual clarity and cohesion are sought.* | **Students recite and act out the "Planting Seeds" Gouin Series chant.**<br>Using their own language, tell the class how they plant their seeds. This can be done by groups. Teacher models how to write the essential vocabulary: *seeds*, *grow, plant, soil, water, air, sun*<br><br>Have students practice writing key vocabulary. Ask them to make their own flash cards, drawing pictures in the back.<br><br>**Peer Review:** Have students exchange their flash cards and double check accuracy of the writing. Return to the original students for correction. Make new flash cards if necessary. Ensure all flash cards are accurate |
| *Elaboration*<br>● *Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.* | Play the Red Light-Green Light game, **Worksheet 1a**, with student-made flash cards as a review of literacy.<br><br>Using the Planting Seeds worksheet, students draw pictures and explain the sequence of planting seeds in writing. **Worksheet 2a –** Potting Seeds<br><br>*I have a pot.*<br>*I have some soil.*<br>*I put soil into the pot.*<br>*I have some seeds.*<br>*I put the seeds into the soil.*<br>*I put the pot under the sun.*<br>*I water my plant.*<br>*I take care of my plant.*<br>*I watch it grow every day.* |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Key Elements | Lesson 2 Procedures – *Let's Plant Seeds* |
|---|---|
| | **Peer review:** Students exchange their worksheet to review accuracy. Make corrections. They can also perform the chant as preparation for performance assessment next day. |
| *Evaluation*<br>● *Students assess their knowledge, skills and abilities.* | Performance Assessment:<br>a. Chant the Gouin series for *Planting Seeds*.<br>b. Students display their scientific illustration and writing of how to plant seeds. **Worksheet 2b**<br>c. Make oral presentations as individuals or in groups.<br>d. Observe and record changes to their own seedlings. **Worksheet 2c** |

| Teacher Reflections on Lesson 2 – *Let's Plant Seeds* | |
|---|---|
| *What worked well?* | |
| *What did not work well?* | |
| *What would I do differently?* | |
| *Other comments or notes* | |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

### Lesson 3 – Let's Conduct an Experiment to Change the Environment

| Lesson 3 of 5 – *Let's Conduct an Experiment to Change the Environment* | Duration: 30 Minutes |
|---|---|
| *Objectives* | ***I can:***<br>**Oral language:**<br>• Name *dried, yellow, dying, or dead, today, tomorrow, yesterday*<br><br>**Literacy:**<br>• Recognize the words *dried, yellow, dying, or dead, today, tomorrow, yesterday*<br><br>**STEM and Other Subject Areas:**<br>• Construct a representation in which plants depend on their environment to meet their needs.<br>• Plan and carry out investigations to test whether plants from different settings have different needs for water, sunlight and type of soil. |
| *Vocabulary and Expressions* | Content obligatory language:<br>*dried, yellow, dying, or dead, today, tomorrow, yesterday*<br><br>Content compatible language:<br>*environment, change, tomorrow, take…out, darkness,* |
| *Materials/ Resources* | ○ Pencil, paper, worksheets, a video presenter, computers, map of the world,<br>○ visuals of fruit and plants from the previous lesson<br>○ Actual plant that is dried, yellow, dying, or dead. (If necessary, this could be a picture)<br>○ Plastic bag, brown bags<br>○ Newsprint for teacher<br>○ Poster for groups to predict their experiments and share with others<br>○ **Worksheet 3a** – Changes in the Environment |
| *Lesson Storyline and Core Text* | Students will conduct an experiment to find out what happens to a plant if the environment changes. They will predict what happens to a plant when the environment has not enough soil, water, air, and sun. They will also report on the experiments they conducted.<br>Students will continue to observe and care for their own seedlings/plants.<br><br>Core Text:<br>*Let's find out what happens when the environment changes.*<br>*What would happen to a plant?*<br>*What happens when the environment does not have air/ water/soil/sun?*<br>*When the environment has no water, will the plant grow/dry out/die?*<br>*When the environment has no water, the plant will grow/dry out/die.* |

| | |
|---|---|
| | *Let's see what happens if this plant does not have soil.*<br>**No-Soil Group:**<br>*The environment for this plant will change.*<br>*It does not have soil.*<br>*Let's find out what happens to it.*<br><br>**No-Water Group**:<br>*The environment for this plant will change.*<br>*It will not have water.*<br>*We will not water it.*<br>*Let's find out what happens to it.*<br><br>**No-Sun Group**:<br>*The environment for this plant will change. It will not have sun.*<br>*We will put the plant in darkness.*<br>*Let's find out what happens to it.* |

| Key Elements | Lesson 3 Procedures – *Let's Conduct an Experiment to Change the Environment* |
|---|---|
| *Engagement*<br>● *Object, event or question used to engage students.*<br>● *Connections facilitated between what students know and can do* | **What happens when the environment does not have air/ water/soil/sun?**<br>T: (Ask and lead students to talk about what they did in Lesson 2: *planting seeds; recite the chant, talk about their own seedlings.* Show students a real herb/flower plant, and ask various students to identify the four elements (soil, water, air, and sun) for plants to grow.)<br><br>T: (Then bring out another plant that has died (or pictures, if necessary). *I wanted to show you this plant, too, but look what happened. What is wrong with this plant? (*Provide language as needed for students to respond: *dry, dead, yellow, brown, etc.*)<br>T: *Class, let's find out what happens when the plant doesn't get what it needs—when the environment changes. What would happen to a plant?*<br><br>Show pictures of plants that are dried, yellow, dying, or dead. Provide language for students to respond.<br><br>T: (Provide students with the language so they can predict.)*What happens when the environment does not have air/ water/soil/sun?*<br>For example:<br>*When the environment has no water, will the plant grow/dry out/die?*<br>*When the environment has no soil, will the plant stand/dry out/die?*<br>*When the environment has no air, will the plant dry out/die?*<br>*When the environment has no sun, will the plant become yellow/dry* |

| Key Elements | Lesson 3 Procedures **–** *Let's Conduct an Experiment to Change the Environment* |
|---|---|
| | *out/die?*<br><br>Guide students to sum up their predictions in chorus.<br><br>*When the environment has no water, the plant will grow/dry out/die.*<br>*When the environment has no soil, the plant will not stand/dry out/die.*<br>*When the environment has no air, the plant will dry out/die.*<br>*When the environment has no sun, the plant will become yellow/dry out/die.*<br><br>Have students observe and record the changes in their own seedlings. |
| *Exploration*<br>● *Objects and phenomena are explored.*<br>● *Hands-on activities, with guidance.* | **Review and facilitate students to make their own predictions about would happen to a plant if the environment lacks *soil, water, air, and sun.***<br><br>T: (Bring out the plant that was shown to students in the Engagement stage.) *Let's find out how it will affect a plant if the environment changes. How about if there was no air/water/soil/sun, what would happen to a plant?*<br>Students respond.<br>T: *Shall we find out? Let's conduct an experiment to change the environment of a plant.*<br><br>T: (Use N0-Soil as a model for the class.) *Let's see what happens if this plant does not have soil.* (Dump the soil onto newspaper on the ground. Put the plant back into the empty pot; encourage students to discuss what will happen to it over the next few days. Refer back to the calendar so students can record the changes. ) *The environment for this plant will change. It does not have soil. Let's find out what happens to it.*<br><br>As students discuss what happens to a plant, write down key vocabulary on a poster for the No-soil group. **Worksheet 3a**<br><br>Continue encouraging students to discuss how they can take away –elements from a plant.<br><br>**No-Water Group**: Ask students to suggest how to take water from the plant. (Our suggestion: How about not watering it?).<br>Ss: *The environment for this plant will change. It will not have water. We will not water it any more. Let's find out what happens to it.*<br><br>**No-Sun Group**: Ask students to suggest what they can do to take away the sun (students might suggest putting it in a dark place. Find a dark place to hide the plant. Or put it in a brown bag. ) Our suggestion: put it in double brown bags |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Key Elements | Lesson 3 Procedures **–** *Let's Conduct an Experiment to Change the Environment* |
|---|---|
| | Ss: *The environment for this plant will change. It will not have sun. We will put the plant in darkness. Let's find out what happens to it.*<br><br>Reading and summary: Pointing at the posters, lead students to read their predictions. Students post their prediction on a poster.<br><br>**Note to teacher:**<br>**No-Air:** Tell the students that there is no good way to take away air from the plant, because air is everywhere. We won't make air as part of the experiment. |
| *Explanation*<br>● *Students explain their understanding of concepts and processes.*<br>● *New concepts and skills are introduced as conceptual clarity and cohesion are sought.* | **Students conduct their experiments**<br>Divide the class into three groups: No-Soil, No-Water, and No-Sun groups, and another group that will be responsible for taking care of a plant that has everything. (In fact, there could be groups for too much sun, too much water.)<br><br>Each group will conduct their experiment and report back to the class orally about their experiment (what they did with the plant). **Worksheet 3a** |
| *Elaboration*<br>● *Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.* | **Students discuss what they did to the plant.**<br>Model how to make the observations and enter them into the log. Use the "Plant Log" **Worksheet 3b**, to record the change in the plant.<br><br>Use the experiment log from the worksheet, each group illustrates and records what they did. They will continue the observation and recording during the next lesson. They will also continue to observe and care for their own seedlings.<br><br>**Note:** Make sure each group will have the time to observe and record the changes each day during Lesson 4. |
| *Evaluation*<br>● *Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and* | Students can:<br>• Predict what happens if the environment changes and a plant does not have one of its essential elements to live.<br>• Talk about their experiments: what they did to change the environment of a plant and what they did to observe and keep a record.<br><br>Performance assessment Tasks:<br>• Presentational mode: Using the posters the class made, in small groups, students talk about their predictions. |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Key Elements | Lesson 3 Procedures **–** *Let's Conduct an Experiment to Change the Environment* |
|---|---|
| *lesson effectiveness.* | • Interpersonal mode: Exchanging the environment logs, **Worksheet 3a**, students ask questions about other groups' experiments. (But not the results that will be reported in Lesson 4.) |

| Teacher Reflections on **Lesson 3 –** *Let's Conduct an Experiment about Changes in the Environments* | |
|---|---|
| *What worked well?* | |
| *What did not work well?* | |
| *What would I do differently?* | |
| *Other comments or notes* | |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

**Lesson 4 – Hello, parts of the plant!**

| Lesson 4 of 5 – *Hello, parts of the plant!* | Duration: 30 Minutes |
|---|---|
| *Objectives* | ***I Can:***<br>**Oral language:**<br>• Name parts of plants: *roots, stem, leaves, fruit, flower*<br>• Name things we need for living: *nutrients, photosynthesis, oxygen, carbon dioxide*<br>• Name body parts: *arm, foot, hand*<br><br>**Literacy:**<br>• Recognize and write: *roots, stem, leaves, fruit, flower*<br><br>**STEM and Other Subject Areas:**<br>• Obtaining, Evaluating, and communicating Information (2. IOS. Science and Engineering Practice )<br>• Organisms obtain the materials they need to grow and survive from the environment. (2. IOS. LS2.B) |
| *Vocabulary and Expressions,* | **Content obligatory language:**<br>*Seeds. roots, stem, leaves, fruit,*<br>*feet, grow, big, strong, arms, cats, dogs, birds*<br>*above ground, underground*<br>*onions, garlic, salt, vinegar, and sugar.*<br><br>**Content compatible language:**<br>*Mexican, Palestinian, Iranian, stand, lie down, travel, straw, nutrients*<br>*Carbon Dioxide, photosynthesis, bowl, dressing* |
| *Materials/ Resources* | ○ Pencil, paper, worksheets, a video presenter/document camera/Elmo device<br>○ A plant or poster of a plant (with roots)<br>○ Prepare many cut out pictures of the following items (grocery stores usually have lots of flyers advertising them): Use Worksheet 1 to prepare cut out pictures.<br>Leaf: lettuce, spinach<br>Fruit: tomato, cucumber, apple, orange, grapes<br>Seeds: sunflower seeds<br>Stem: celery, asparagus<br>Roots: carrots, beets<br>○ Adopted “Brown bear, brown bear, what do you see” http://www.youtube.com/watch?v=ek7j3huAApc<br>○ Mexican Salad http://allrecipes.com/recipe/mexican-salad-2/ |

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| | ○ Tomato and Cucumber Salad: Arabic (Palestinian and Iranian) salad: http://www.food.com/recipe/arabic-salad-90140<br>○ Chinese Salad http://chinesefood.about.com/od/salads/a/chinese_salad.htm<br>○ **Worksheet 4a –**What Do Living Things Eat<br>○ **Worksheet 4b** – Little Seed, Little Seed, What do You See?<br>○ **Worksheet 4c** – Parts of a Plant<br>○ **Worksheet 4d** – What Do Parts Do for a Plant?<br>○ **Worksheet 4e** – Chant: Making Salad<br>○ **Mini Booklet** – The Story of My Plant |
| *Lesson Storyline and Core Text* | In this lesson, students will learn about different parts of a plant and what these parts do to help a plant grow. They will make a connection between parts of plants and the environment, and understand why environmental changes will affect plants. When they report the results of their *No-Water/Air/Soil/Sun* experiments, they will include the information about what happened to parts of a plant.<br>While learning parts of a plant, student will identify which parts of plants that we use for making salad. They will review names of vegetables and fruits commonly used in salad.<br>Students will continue to observe and record the changes of their own seedlings/plants.<br><br>Core Text:<br>*Do plants need to eat food, like us?*<br>*They do not need to eat food. They absorb nutrients from the soil.*<br>*They can make food from soil, air, water, and sun.*<br>*Can we make food?*<br><br>**Little Seeds, Little Seeds, What do you see? Worksheet 4b**<br>(Chant: Plant's Body Part Chant)<br>*Little Seed, Little Seed, what do you see?*<br>*I see my roots growing as my feet.*<br>*Little Seed, Little Seed, what do you see?*<br>*I see my stem growing big and strong.*<br>*Little Seed, Little Seed, what do you see?*<br>*I see my leaves growing on my arms.*<br>*Little Seed, Little Seed, what do you see?*<br>*I see my fruit ready to be used.*<br><br>**What do Parts do for a Plant? Worksheet 4c**<br>*These are roots.*<br>*Are roots the feet or hands of a plant?*<br>*Do roots live underground or above the ground?* |

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| | *Roots live underground.*<br>*What do roots do to help a plant?*<br>*Roots help a plant stand up.*<br>*Roots help a plant take in water and nutrients.*<br>*A plant has many roots.*<br><br>*Does a stem help a plant stand or lie down?*<br>*Yes, a stem helps a plant stand.*<br>*Water and **nutrients** travel from roots to the rest of the plant.*<br>*A stem is like a straw.*<br>*Water and nutrients travel through a stem to reach the rest of the plant.*<br><br>*Leaves take in the air and the sun.*<br>*Plants use sunlight and **carbon dioxide** for **photosynthesis**.*<br>*They* give us ***Oxygen*** *to breathe. So plants are good for us.*<br>*Some plants have fruits, but some plants don't.*<br><br>**Making a Salad Chant:**<br>*I have a lettuce, I have leaves for my salad,*<br>*I cut them and put them into a salad bowl.*<br>*I have celery, I have a stem for my salad,*<br>*I cut it and put it into a salad bowl.*<br>*(Repeat with all other ingredients.)*<br>*I mix them together, I put the salad in my own bowl,*<br>*I add salad dressing. Yum, I love the salad I make!* |

| Key Elements | Lesson 4 Procedures -- *Hello, parts of the plant!* |
|---|---|
| *Engagement*<br>● *Object, event or question used to engage students.*<br>● *Connections facilitated between what students know and can do* | **What do living things need?**<br>Do calendar work. Sing "What a Plant Needs" Song.<br><br>T: *What do seeds need to grow?*<br>Students respond.<br>T: *Do they need to eat food, like us?*<br>Students respond.<br>T: *They do not need to eat. They take up nutrients from the soil through their roots. They can make food for us from nutrients in the soil, carbon dioxide from the air, water, and sun. They give off oxygen. Can we make our own food?*<br>T: *People and animals need to eat. We need nutrients from food, oxygen from the air, water, and a place to live.*<br><br>Work with students to talk about and compare what different living things (animals vs. plants) need. Use **Worksheet 4a.** |

| Key Elements | Lesson 4 Procedures -- *Hello, parts of the plant!* |
|---|---|
| | T: (Teacher models and ask student in pairs or small groups to do a Venn Diagram to ensure students' understanding. Lead students to conclude that people and other animals need to eat food and get oxygen from the air; plants need to have the four essential elements to live: carbon dioxide from the air, nutrients from the soil, water, and sun.)<br><br>Observe and record students' No-Soil/No-Water/No-Sun experiments, **Worksheet 3a** |
| *Exploration*<br>● *Objects and phenomena are explored.*<br>● *Hands-on activities, with guidance.* | **Identify different parts of a plant: *roots, stems, leaves, fruits, and seeds.***<br>Bring out a plant with that has some kind of fruit and take the plant out of its pot. Dump all the soil to show roots. (Or use pictures.) Invite students to point out parts of the plant as you mention them.<br>*The roots hold the plant in the soil and take in water and nutrients. Who can point to the roots?*<br>*The stem holds up the plant and carries nutrients and water to the leaves. Who can point to the stem?*<br>*The leaves take in the sun and carbon dioxide from the air*<br>*The plant grows the fruit for us to pick and eat. Who can point to the fruit?*<br><br>Using the "Brown Bear, Brown Bear, What Do You See?" song, teach new vocabulary, pointing at the specific part and miming. **Worksheet 4b** (http://www.youtube.com/watch?v=ek7j3huAApc)<br><br>**Note:** If weather permits and there is grass or small flowers or plants (e.g., dandelions) outside, you may take the students to pick their own grass or plants. Return to the classroom. Later, the grass or plants can be pressed into an art project.<br>T: *Let's learn a chant about the parts of a plant. We will all pretend to be the Little Seed, grown into a plant. Move with me.*<br><br>*Little Seed Chant*<br>*Little Seed, Little Seed, what do you see?*<br>*I see my roots growing as my feet.* (moving legs and wiggle toes)<br><br>*Little Seed, Little Seed, what do you see?*<br>*I see my stem growing big and strong.*<br>(stretching arts upward and straiten the body)<br><br>*Little Seed, Little Seed, what do you see?*<br>*I see my leaves growing on my arms.* (moving fingers) |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Key Elements | Lesson 4 Procedures -- *Hello, parts of the plant!* |
|---|---|
| | *Little Seed, Little Seed, what do you see?*<br>*I see my fruits ready to be used.*<br>(Stretching an arm to pick fruits and put them into an imaginary basket.)<br><br>**Literacy practice:** Model for students how to write the words for Parts of a Plant. **Worksheet 4c** and **Worksheet 4d** spend 2-3 minutes per day to engage in literacy practice.<br><br>Observe and record students' No-Soil/No-Water/ No-Sun experiments, **Worksheet 3b** |
| *Explanation*<br>● *Students explain their understanding of concepts and processes.*<br>● *New concepts and skills are introduced as conceptual clarity and cohesion are sought.* | **How does each part help plants grow?**<br>Sing the "Little Seed What do You See?" song. Review different parts of a plant. http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/science/s_plants/index.htm Click on parts of a plant to show students first.<br><br>T: (Take the plant that is out of its pot, pointing at the root or use **Worksheet 4c**)<br>*These are roots. Remember the song Little Seed, Little Seed, What do you see?*<br>*What do we say roots are? Are they the feet or hands of a plant?*<br>S: *feet.*<br>T: *Right, do you think roots live underground or above the ground?* (use hand gesture to help students understand words underground and above ground)<br>Ss: *underground.*<br>T: *Yes, roots live underground. What do you think roots do to help a plant?*<br>Ss: (Answers varies.)<br>T: *Roots help a plant stand up. They also help a plant take in water and nutrients from the soil to its body.*<br>T: *A plant has many roots. Roots help a plant take in water and nutrients.*<br><br>T: (Pointing at stem and bring a straw to simulate a stem.) *Anyone knows what does stem do for a plant? Does a stem help a plant stand or lie down?*<br>S: (Answers varies.)<br>T: Yes, *a stem helps a plant stand and is there anything else?*<br>*Students' responses.*<br>T: *Right. Water and nutrients travel from roots to the rest of the plant. A stem is like a straw. Water and nutrients travel through a stem to reach the rest of the plant.*<br><br>T: (Pointing at leaves) *Leaves take in the sun and carbon dioxide from the air. The plants turn sunlight and water and carbon dioxide into food energy. This is called photosynthesis. They give off Oxygen.*<br>T: *People need Oxygen to breathe. So plants are good for us. Photosynthesis is good for people and plants.* |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Key Elements | Lesson 4 Procedures -- *Hello, parts of the plant!* |
|---|---|
| | T: (Pointing at fruits) *Some plants have fruits, but some plants don't. Can you tell me some examples of fruits?*<br>Students might respond: *apple, oranges, grapes…* and so on.<br>T: *How about cucumbers/tomatoes* (and other examples of fruit that are vegetables)? *Fruits also have seeds. What can grow from seeds?*<br><br>Ss: *more apple trees, more grapes, and so on.*<br>T: *Right, because seeds have nutrients for the plant to grow. Then little seeds grow into a big plant that bears fruit. Life of a plant begins again and again from little seeds.*<br><br>**Worksheet 4d- What Do Parts Do for a Plant?**<br>Divided students into 3 groups, lead students to do a dramatic demonstration. Students can perform and compete by group to make it more fun.<br><br>**What do Parts do for a Plant?**<br>*We are the roots.*<br>*We are the feet of a plant.*<br>We live *underground.*<br>*We help a plant stand up.*<br>*We help a plant take in water and nutrients.*<br><br>*We are the stems.*<br>*We are the arms and the body of a plant.*<br>We live *above ground.*<br>*We help a plant stand up.*<br>*We help a plant take in water and nutrients.*<br><br>*We are the leaves.*<br>*We are the hands of a plant.*<br>*We help a plant take in air and the sun.*<br>*We can do photosynthesis.*<br>We give *Oxygen and food to all living things.*<br><br>Observe and record students' No-Soil/No-Water/ No-Sun experiments, **Worksheet 3b** |
| *Elaboration*<br>*Activities allow students to apply concepts in contexts, and build* | **Review or learn names of fruit or vegetable that can add into a salad. Identify which part of a plant the edible bites belong.**<br><br>Review parts of the plants **Worksheet 4c** and parts of the plant chant. **Worksheet 4d** |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Key Elements | Lesson 4 Procedures -- *Hello, parts of the plant!* |
|---|---|
| *on or extend understanding and skill.* | **What can we use for making a salad?**<br>As in a cooking show, teacher models how to make a salad. Ask students to pantomime mime as teacher does the salad chant: **Worksheet 4e** –Making a Salad<br><br>Making a Salad:<br>*I have lettuce; I have leaves for my salad,*<br>*I cut them and put them into a salad bowl.*<br><br>*I have celery; I have stems for my salad,*<br>*I cut them and put them into a salad bowl.*<br><br>*I have tomatoes; I have fruits for my salad*<br>*I cut them and put it into a salad bowl*<br><br>(Repeat with all other ingredients.)<br>*I mix them together.*<br>*I put the salad in my bowl.*<br>*I add salad dressing.*<br>*Yum, my salad is delicious!*<br><br>Invite volunteers to come up to pick out pictures from the basket. Lead the class to help the volunteers to do the salad chant.<br><br>**Salads from the World: Worksheet 1b**<br>Show pictures of different salads such as Black bean salad (Mexican), tomato and cucumber salad (Arabic), and cucumber and carrot (Chinese). Invite students to identify what ingredients are used to make those salads. Show pictures of basic and additional ingredients such as onions, garlic, salt, vinegar, oil, and sugar.<br><br>Divide the class into small groups and ask the groups to decide what kind of salad they will make. Have the groups practice doing a cooking show with the salad chant.<br><br>Each group will perform for the class with their own cooking show and salad chant. Lead the whole class to do the cooking show and salad chant as the big finish. |
| *Evaluation*<br>● *Students assess their knowledge, skills and abilities.* | **Review**<br>Recite the salad chant together. Invite a few volunteers to perform.<br>Ask the class to talk about their (1) No-Soil/No-Water/ No-Sun experiments. |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Key Elements | Lesson 4 Procedures -- *Hello, parts of the plant!* |
|---|---|
| *Activities permit evaluation of student development and lesson effectiveness.* | No-Water/Air/Soil/Sun Experiments:<br>○ Each group will put their "products" on a table. Have students observe and compare each product.<br>○ Take the original posters with students' predictions. Compare the results of the experiment with the predictions. See if the predictions were correct. If not, what do the plants look like now?<br>○ Have students enter the findings onto their logs.<br>○ Ask students to practice before doing a report to the class. |

| Teacher Reflections on Lesson 4 – *The Plant Grows Different Parts!* | |
|---|---|
| *What worked well?* | |
| *What did not work well?* | |
| *What would I do differently?* | |
| *Other comments or notes* | |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

**Lesson 5 - Assessment Tasks**
Making a Salad and a Pledge to My Plant

| Lesson 5 of 5 | Duration: 30 Minutes |
|---|---|
| *Objectives*<br>*(core can dos)* | **Students can:**<br>1. Retell the story of Little Seed<br>2. Identify and name common vegetables and fruits used in salad<br>3. Talk about the sequence of planting seeds into pots<br>4. Tell others what seeds and plants need to live and grow<br>5. Talk about an experiment showing the result of environmental changes on a plant<br>6. Identify parts of a plant and name their functions in supporting the life of a plant<br>7. Make a salad with different parts of various plants, including leaves, fruits, stems, seeds, and roots<br>8. Make a pledge to take care of a plant |
| *Materials/Resources* | ○ Preparation: Cut out pictures of various vegetables or fruits that the class has learned. E.g.,<br>Leaf: lettuce, spinach<br>Fruit: apple, grapes, cucumber, orange, tomato<br>Seeds: sunflower, corn<br>Stem: asparagus, celery<br>Roots: carrots, onions<br>○ Basket, brown bags, and sandwich bags for vegetables and fruits<br>○ Salad Bowls and utensils – enough for each group.<br>○ **Worksheet 5a :** What We Need<br>○ **Worksheet 5b:** Can do Statement |
| *Review* | Before assessing students, make sure students have the opportunities to review lesson materials in terms of the Can-do statements listed above. |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Interpretive Task |
|---|
| Title: **Shop for a Salad** |
| Task procedures/Instructions:<br>Students walk up to a basket filled with small brown bags of cut-out fruit or vegetable. Each student picks out one bag and tells the class what he/she has (e.g., I have tomatoes. Tomatoes are fruits).<br><br>Preparation: Cut real items or pictures of various vegetables or fruits that the class has learned. E.g.,<br>Leaf: lettuce, spinach<br>Fruit: apple, grapes, cucumber, orange, tomato<br>Seeds: sunflower, corn<br>Stem: asparagus, celery<br>Roots: carrots, onions |
| Interpretive Task:<br>1. Put all the bagged items or pictures in a basket, randomly go to a student for him/her to pick an item out of the basket.<br>2. He/she will tell the class what he/she has. For example: I have tomatoes in my salad. Tomatoes are fruits. |

| **Interpersonal Task** |
|---|
| Title: **Let's Make a Salad** |
| Task Procedures/Instructions:<br>Students will go around the room to look for salad partners. In each salad, there must be at least four (or three, if you prefer) part of plants (e.g., leaves, fruits, seeds, roots, and stems). Students cannot tell people what they have until they are asked. They must ask each other what they have so they can build a salad. Continue until all the salad groups are formed. Each group of students will make a salad by mixing the content of the bags into a bowl.<br><br>Task Procedures/Instructions: Jigsaw activity:<br>1. Students will walk around to find their salad partners.<br>2. Each group must make sure it has at least four parts of a plant. E.g., leaf, stem, root, and fruit. If not, they have to find more partners. |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Presentational Task |
|---|
| Title: **This is our Salad** |
| Materials to be used:<br>Poster or display board for model, markers, magazines, glue, cut outs of universal symbols for water/sun light/temperature. Two pieces of plain paper 8 ½" by 11"Informational chart on different seeds, timer, seed packets for examples. |
| Student expresses his/her preference in the target language.<br>Student provides reason for preference in the target language |
| **Presentational Task: This is Our Salad**<br><br>Each group presents their salad. Students will talk about their own contribution and provide a brief description of the ingredient used (such as the name, which part of a plant it is.)<br>Task Procedures/Instructions:<br>1. Students will make their salad. Each group will describe how they made the salad and present their final product. |
| Title: **My Pledge to My Plant** |
| **Presentational Task: My Pledge to My Plant**<br><br>1. Each student will present the plant that he/she planted, telling what kind of plant it is.<br>2. After everyone has presented their plants, the class will read the pledge together.<br>Task Procedures/Instructions:<br><br>Make my pledge to my plant<br>1. Distribute a template of a pledge.<br>2. Students fill out the pledge.<br>3. Groups of students practice to prepare to make the pledge.<br>4. Each group makes the pledge<br><br>*Dear **plant**:*<br><br>*You were a little _____(seed). I planted you with **soil** and **water**. Using **air, water,** and the **sun,** you **grew**. Now I am taking you home. I will **water** you, and make sure you get good **air** and **sun**. I will **take care** of you.*<br>*Signed,*<br><br>*Student name,*<br>*date* |

# World Language-STEM MODULE COVERSHEET
## From Seeds to Table

| Teacher Reflections on Lesson 5 – *Assessment Task* | |
|---|---|
| *What worked well?* | |
| *What did not work well?* | |
| *What would I do differently?* | |
| *Other comments or notes* | |