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| <i>School</i>                   | Virginia Polytechnic Institute and State University - Blacksburg, VA |
| <i>Subject Area &amp; Grade</i> | Literacy Instruction – Writing, whole group, 3 <sup>rd</sup> grade   |
| <i>Date</i>                     | 28, July 2013  |
| <i>Time</i>                     | 60 minutes   |
| <i>Grade</i>                    | 3  |
| <i>Lead Teacher</i>             | -  |

### *Objectives:*

- The student will be able to accurately describe a science experiment.
- The student will be able to formulate 2 to questions on how to extend the science experiment.

### *Virginia sol*

#### *Writing:*

**3.8 The student will write legibly in cursive.**

**3.11 The student will write a short report.**

a) Construct question about the topic.

c) Collect and organize information about the topic into a report.

**3.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which**

b) predictions are formulated using a variety of sources of information;

g) questions are developed to formulate hypotheses;

j) inferences are made and conclusions are drawn;

**3.9 The student will investigate and understand the water cycle and its relationship to life on Earth. Key concepts include**

d) water is essential for living things; and

#### *Pre-Assessment*

The students will fill in a short worksheet with two pictures. One shows a wilting flower and the other one shows a blooming one. Students have to explain why one flower is wilting and why the others are not.

#### *Materials*

Wilting/Blooming flower worksheet

Carnation; two for each student pair. One of the two has the stem cut in two parts.

Plastic beakers; three per student pair

Food colouring, in blue and red. At least 3 each so that multiple pairs can add the food colouring at the same time

Worksheets to record observations

Sticky notes

Paper bag

small note paper for voting

### *Introduction (15 minutes)*

During the introduction the teacher will guide the students through the experiment.

### *Motivation (5 minutes)*

Gather the students together in a circle for instruction.

**Today we will do a science experiment. I've got some flowers here and lots of other stuff. How are these flowers called?**

*[Students may not know this but it is still a good idea to check.]*

**Don't worry if you don't know the flower's name. It's a 'carnation'. It's spelled c-a-r-n-a-t-i-o-n. I'll write it on the board for you. What two words are hidden in the flower's name?**

*There is 'car' and 'nation'!*

**Right, now isn't that a funny way to remember how it is spelled? But let me tell you a fun fact about the flower. If you want to sound real smart you can brag with this. The name 'carnation' has 'carn-' in it. Remember that you learned about 'carnivores' [write word on board, underline 'carn-].**

**What are 'carnivores'?**

[Meat eaters]

**Indeed, carnivores eat other animals, they eat meat. "Carn" is a Latin word and it means flesh. And the flower is named "Carnation" because once they were only flesh coloured, similar to a light skin colour. If you speak Spanish you know the word "Carne" which means meat. It will be easy for you to remember.**

**Now isn't that a nifty little tidbit of knowledge?**

### *Prior knowledge activation (10 minutes)*

**So now we even had a little word study, but let's move on to science. When we grew our beanstalks, what did you add every once in a while?**

[Call on students]

*We gave it water. We put cotton balls. We put it in the sun.*

**Those are good answers. Let's concentrate on the water. Where did the water go?**



**Do you think the plant used it? Could there be a way to prove the plant used it? Maybe the cotton ball just dried out and the plant didn't use any water at all.**

*No, the plant used it because otherwise it cannot grow. But I gave so little water to my plant, maybe it doesn't need water. I know the plant used it, because we talked about this before.*

**Today we'll get started on a science experiment that proves the plant uses the water.**

### *Instruction & Activities (45 Minutes)*

The students will work in pairs and the teacher will assign these pairs. It should be avoided that best friends team up; and ELL students should be paired with a native speaker. The teacher will only start up the activity and then let the student pairs work independently with written instructions.

### *Science activities (15 minutes)*

**You will now be paired up with a partner. I will tell you who that partner is – and no discussion about it; you can't always work with your best friend.**

**[Pair up students.]**

**Keep sitting quietly on the floor. As always in science class there are some important things I have to tell you.**

**What are the basic safety rules?**

*No pushing & pulling. Be careful with the material. Pull long hair back. No horseplay.*

**Here I have a pile of papers with instructions. I will pass them around and everyone will take one. Then you go back to your table and I will come and hand out the materials. You all know by now how this works. What do you do while you wait for your materials?**

*We read the instructions.*

**And how many times do you need to read them until you can ask the teacher?**

*Three times.*

**Ready?! Then go to your seats.**

Once the students have received their instructions they will go on to set up their science experiment, **describe what they did** and formulate a hypothesis.

### *Extension (15 minutes)*

It can take up to several hours until the carnation starts to colour. Therefore the lesson has to be split into two parts. Depending on the circumstances the lesson may even be split over two days.

**It's very exciting to see what happened to the carnations, isn't it? You can all pick up your carnations, go back to your tables and continue with the instruction sheets.**

The students will continue to work in pairs using the written instructions. Their task is to observe what has happened to the flower, describe their observations and explain why this has happened.

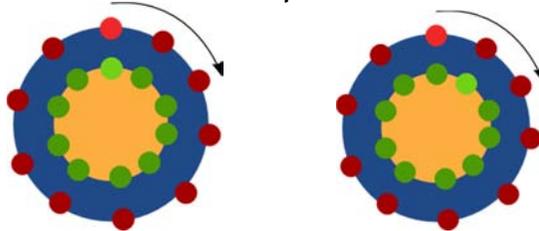
*Closure (15 minutes)*

The students will finish the experiment by formulating 2 new research questions which they will write down. They will share their research questions with their class mates. Each pair will chose one question they want to submit and the class will discuss them as a group and decide which two research questions they would pick for a science fair project.

**Thumbs up if you finished and wrote down two research questions.**

**Great, everyone is done. Then let's get up and get into our sharing circle.**

Students are familiar with this kind of sharing. They will not use chairs but go to an empty area in the class room and stand in the circle there. Each pair stands opposite each other, one in the inner circle and one in the outer circle. There has to be some distance between students. Students then rotate clockwise, share their questions and continue when they arrive back at their partner.



**Please sit down.**

**Thank you, we'll choose two research questions that we would use for a science fair.**

**First you talk to your partner, choose one of your questions. Write it on a post-it note and come and stick it on the board. You have 2 minutes to do this.**

[Pass out sticky notes while students discuss, and pencils]

**Let's vote for the research questions we like best. I'll pass out the papers you can write your vote on and then assign someone to collect them in a bag. Then we'll count the votes.**

Proceed with the voting; make a tally of the votes and then discuss if the chosen research questions are good question and why they are good questions.

*Accommodation & Differentiation*

**ELL students** will be accommodated because this is a very hands-on class where the material provides many clues. An added component for ELL students is that they can also practice the future and past tense when they make their notes. The teacher can point this out to students and make sure this opportunity is used. Worksheets are

made such that they provide clues to help ELL students understand what they need to do. The ELL students will also be teamed up with a native speaker for the main writing activity.

**Gifted Students** will be accommodated by pairing them up together or be allowed to work alone. This way they can formulate questions and statements on their own intellectual level. Especially the last part in the closure should appeal to gifted students because it is open ended.

**ADD/ADHD Students** should benefit from the active and hands-on components of the lesson. The various activities do not last longer than 10-15 minutes and the regrouping offers some physical moving around. This student will be allowed to take breaks during writing, finishing one sentence at a time. The sharing part is done standing, which provides another opportunity to be physically active.

Besides that my classroom will contain a box of "break time" activities that students can do when they feel they need a break. There is a poster in the classroom that has the rules for taking a short break and students must use an activity card. Rules are for instance that not more than 2 students at a time can take a break, and that break time may not last longer than 5 minutes. Activities include little games to enhance concentration, balance and motor skills. When the students are required to attach the notes to the poster board students with ADD/ADHD could be encouraged to do this for the whole group so they get some activity.

**Autism Spectrum disorder:** The student should be able to participate in this task, because it the science content is not abstract. The student will also be encouraged to participate in the sharing part.

### *Assessment*

The pre-assessment is very short worksheet with one question that assesses if students know that a flower needs water to thrive. This is essential knowledge for the lesson and if more than one student do not understand this the lesson plan must be adjusted.

The instructions contain sufficient space for students to record their answers. These will serve as a formative assessment to see if student can form a hypothesis, write a short description of their observation and formulate research questions.

### *Evaluation*

The lesson has to be split into two parts to allow sufficient time for the coronations to colour. Because of the nature of the experiment it would be best to conduct the first part at the end of the day and the second part in the next morning. I do know that using glass is not the best idea in an elementary classroom but for this experiment I'm a bit afraid the plastic beakers won't be stable enough. They could be filled with some stones to make them heavier but personally I would gravitate towards using Mason or Bell jars. Those are sturdy and do not break easily.

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*Objectives:*

- The student will be able to accurately describe the process of making a salad.
- The student will be able to put different actions in a sequential order that is logic.

*Virginia sol*

*Writing:*

**3.8 The student will write legibly in cursive.**

**3.11 The student will write a short report.**

**c) Collect and organize information about the topic into a report.**

**3.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which**

b) predictions are formulated using a variety of sources of information;

d) natural events are sequenced chronologically;

*Pre-Assessment*

The students will do a short Mix & Match exercise about how to boil an egg.

*Materials*

Mix & Match worksheet

Recipe cards print-out

Bean salad ingredient list that was made in Math class during the “Healty Plate” challenge. Students wrote those in their workbooks.

*Introduction (15 minutes)*

During the introduction the teacher will introduce the students to recipe writing and explain how the recipe cards are being used.

*Motivation (5 minutes)*

Gather the students together in a circle for instruction.

**Today we will write a recipe for a bean salad. I brought some nice recipe cards that you can use. The bean salad should ring a bell! Please go and fetch your Math workbooks that you used for the station learning today.**

*Prior knowledge activation (10 minutes)*

**Please sit down again and open your workbook to the last page that contains the ingredient list for your bean salad.**

**Real chefs often invent new dishes and recipes. Some chefs also write cookbooks and they write instructions how to make a dish. Today you will be the chef who invented a new bean salad and you will write your own recipe.**

**You will receive some scrap paper from me. You will also practice the writing stages today.**

**Let's briefly go through the writing stages again and recall what you do in each stage.**

*[Let the student explain the writing stages.]*

**I will project some helpful hints for you on the board. First you will start with 'gather ideas'. That is the ingredient for the salad and you have to collect vocabulary you need for recipe writing.**

**As you go through the writing stages I want you to go over to the pictures and move your clothes-peg each time you finished a stage. So I can see where the whole class is.**

**When you want to share with someone, you need to find a person that is at the same stage. Don't disturb someone who is ahead or behind.**

*[Let students repeat the instructions.]*

*Instruction & Activities (45 Minutes)*

The students will work individually. This is a short task that lets student practice the new writing strategies they learnt in the past few days.

*Writing activities (15 minutes)*

**Go over to your seats and I will first pass the scrap papers around. When you finished the 'Edit & Proofread' stage you may come to my desk and pick up your recipe card.**

**Once students received their scrap paper, they will start making notes for their recipes. Students are also allowed to make sketches or drawings if that helps them.**

**On the board the teacher will either write or project helpful hints. A list of cooking vocabulary is available on small paper if students get stuck or need some more help. The helpful hints will also consist of sentence beginnings that are needed for sequential order. For instance "First I ...;" "Then...;" "After that...;" and "In the end..."**

*Extension (15 minutes)*

During the extension the students will fill in their final recipe cards.

*Closure (15 minutes)*

The recipe cards will be collected and one will be drawn by the teacher. This is the recipe the whole class will make for lunch on Friday.

**Come together and bring the recipe cards! Put them all in the bag I brought with me.**

**I will draw one of the cards and we'll make that on Friday.**

[Wait until students delivered their cards. Toss them in the bag and draw one.]

**This one sounds really exciting! We will find out how that tastes on Friday. I'll bring the ingredients.**

**Before you leave, take your scrap paper and write your name on it. Then leave it in the "Edit & Proofread" basket. Get up in line to deliver it there. Thank you and see you tomorrow.**

*Accommodation & Differentiation*

**ELL students** will be accommodated because the writing task is hands-on and realistic. They also worked on this topic before in Math class and are familiar with the content. The hints for a useful sentence beginning and the vocabulary lists with cooking words were incorporated in this plan to assist ELL learners. Worksheets are made such that they provide clues to help ELL students understand what they need to do. The ELL students will also be teamed up with a native speaker for the main writing activity.

**Gifted Students** will be accommodated by pairing them up together or be allowed to work alone. They are expected to produce sentences and instructions at a higher and more sophisticated level.

**ADD/ADHD Students** may be challenged during this class because this is a class with a longer writing component. To accommodate these students, they may take breaks whenever they completed a writing stage. This serves as incentive and reward.

My classroom will contain a box of "break time" activities that students can do when they feel they need a break. There is a poster in the classroom that has the rules for taking a short break and students must use an activity card. Rules are for instance that not more than 2 students at a time can take a break, and that break time may not last longer than 5 minutes. Activities include little games to enhance concentration, balance and motor skills. When the students are required to attach the notes to the poster board students with ADD/ADHD could be encouraged to do this for the whole group so they get some activity.

**Autism Spectrum disorder:** The student should be able to participate in this task, because its content is not abstract and students work individually.



### *Assessment*

The pre-assessment is very short Mix & Match exercise that assesses if student are aware that in recipes have a sequential order. Third graders may not the experienced cooks but boiling an egg should be something that most children know.

The final product is a recipe card with instructions. However at this stage students are also required to hand in their scrap papers.

### *Evaluation*

This is not a pure science lesson but in order to fit it into my two units I think it is still feasible to use the topic of recipe writing. It connects to the other parts of the unit and in science it is important to be able to describe events in a sequential order. A recipe is in my opinion a good beginning to teach that it matters in what order actions are executed. In later science lessons this can then be used as a prior knowledge especially when the students have to do experiments.

My concern for this lesson is that the individual work will stretch the concentration span of third graders. I've tried to balance this by including the component that children must get up and change their clothes-peg on the visuals to indicate their writing stage. At least that will provide for a short break where they can get up from their desks.



Name: \_\_\_\_\_

Date: \_\_\_\_\_



## Colored Carnations

|              |                  |
|--------------|------------------|
| At beginning | After ____ hours |
|--------------|------------------|

Draw a picture of your observations.

What did I do? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What did I see? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Why does one flower look so sad and the other one happy?



Why does one flower look so sad and the other one happy?



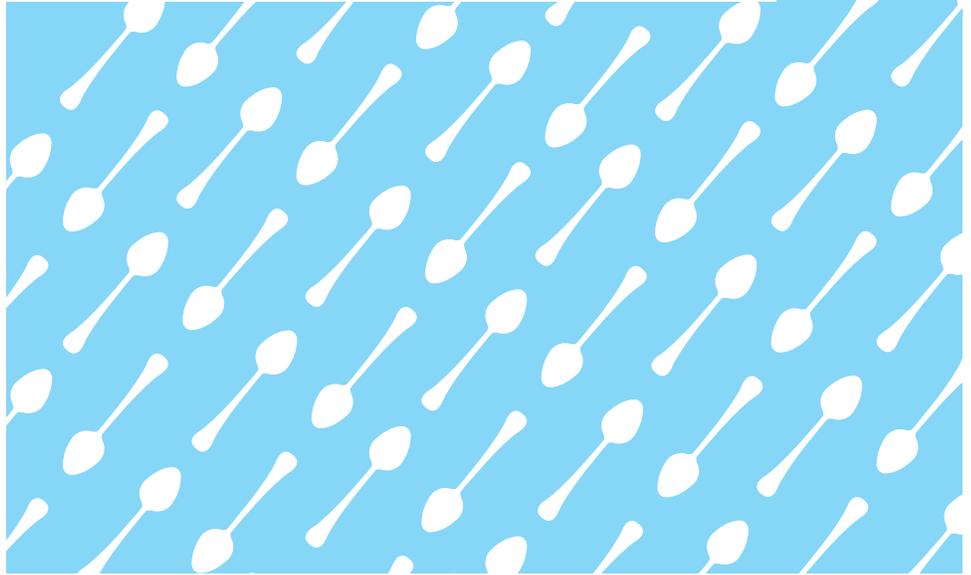


# Recipe Cards and Dividers

Collect your recipes with this set of blank 3"x 5" recipe cards. Print out as many copies of the cards as you need. Use thicker paper for better results.

Use the colored divider cards to separate different kinds of recipes! Use a small index card box to store the recipes for safe keeping.

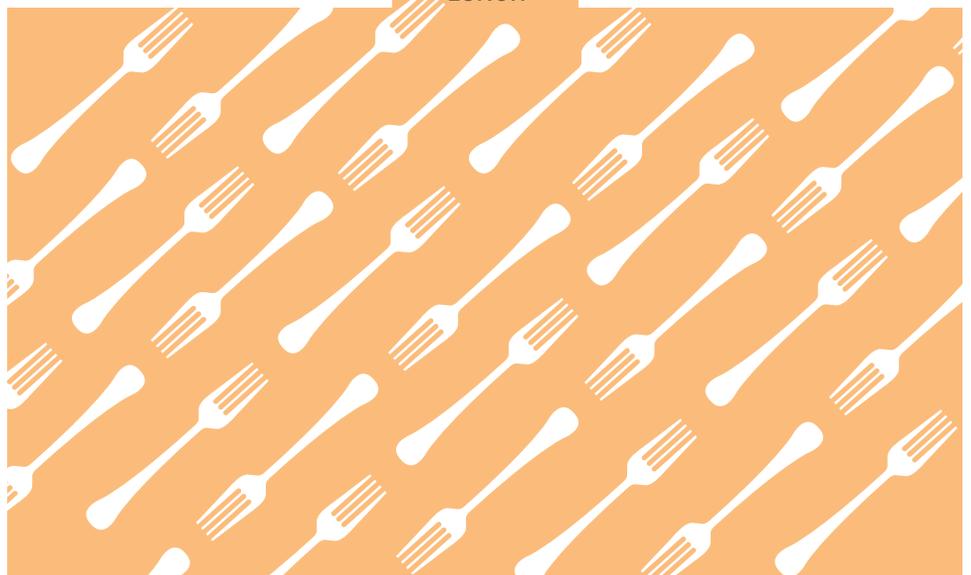
SNACKS



BREAKFAST



LUNCH

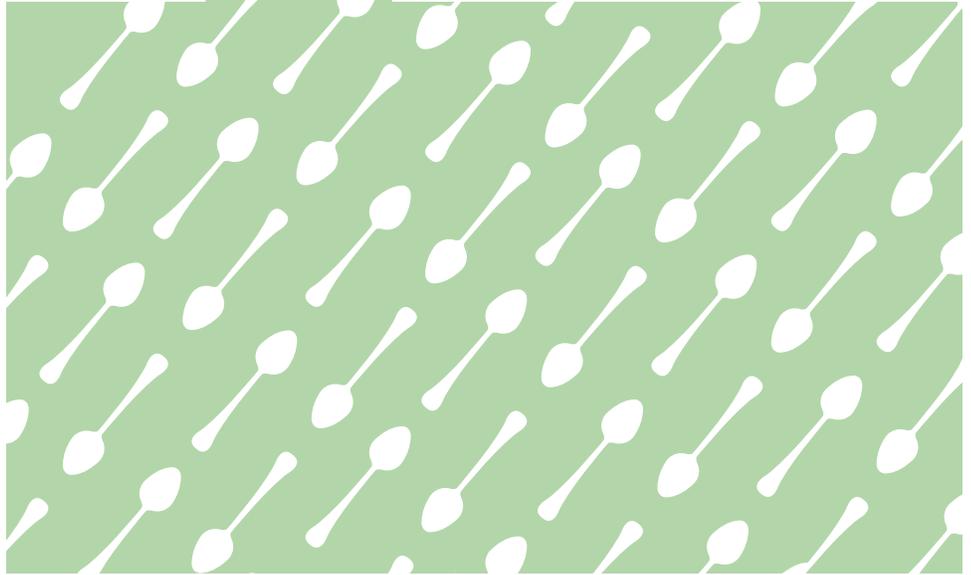


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DINNER



DESSERTS



APPETIZERS

