

Basics of Differentiation

By Wendy Conklin, M.A.

What Is Differentiation?

What is differentiation? Carol Ann Tomlinson (2000) at the University of Virginia says, “Differentiation is simply a teacher attending to the learning needs of a particular student or small group of students, rather than teaching a class as though all individuals in it were basically alike.” Today, teacher’s bookshelves are lined with books on differentiation. Although many teachers have sat through countless workshops telling them how beneficial it is to differentiate curriculum, few actually feel comfortable with implementing it in their classrooms. Most teachers know what differentiation is; they just do not know how to practically apply it. This book is a how-to manual. It will show teachers how to differentiate lessons across the content areas using a variety of strategies, implement flexible grouping techniques, and tailor learning styles while managing a differentiated classroom.

Over the past few years, classrooms have evolved into diverse pools. Gifted students, English language learners, special education students, high achievers, underachievers, and average students all come together to learn from one teacher who is expected to meet their diverse needs in one classroom. It brings back memories of the one-room schoolhouse during early American history. Not too long ago, lessons were designed to be one-size-fits-all. It was thought that students in the same class learned in similar ways. Today, we know that viewpoint to be faulty. Students have differing learning styles, come from different cultures, experience a variety of emotions, and have varied interests. For each subject, they also differ in academic readiness. At times, the challenges teachers face can be overwhelming. They struggle with knowing how to create learning environments that address the differences they find in their students.

Differentiation has multiple faces depending on the particular students and teachers involved, the outcomes of these learners, and the structure of the classroom environment (Pettig 2000). In other words, differentiation encompasses what is taught, how it is taught, and the products students create to show what they have learned. When differentiating curriculum, teachers become the organizers of learning opportunities within the classroom environment.

- ▶ **Content:** Differentiating the content means to put more depth into the curriculum through organizing the curriculum concepts and structure of knowledge. This includes offering similar materials at various levels of difficulty.
- ▶ **Process:** Differentiating the process requires the use of varied instructional techniques and materials to enhance learning for students.
- ▶ **Product:** When products are differentiated, cognitive development and the students’ abilities to express themselves improves.

Basics of Differentiation *(cont.)*

What Is Differentiation? *(cont.)*

Tomlinson (2005) writes that differentiation is proactive, more qualitative than quantitative, filled with multiple approaches to content/process/product, student centered, a blend of grouping techniques, an opportunity to implement meaningful learning for everyone, and “organic,” meaning it is an ongoing process. However, there are many misconceptions about differentiation too. Tomlinson goes on to say that differentiated instruction does not assume each student has a separate ability level. Some students are grouped together because they have similar academic needs. Another misconception about a differentiated classroom is that they are disorderly and chaotic. Although teachers have to manage a variety of activities at the same time, there are tried-and-true ways to establish expectations for behavior, monitor activities, and direct the learning experience in their classrooms.

Diane Heacox (2002) says differentiation is “changing the pace, level, or kind of instruction in response to learners’ needs, styles, and/or interests.” Teachers should differentiate content, process, and product according to students’ characteristics. These characteristics include students’ readiness, learning styles, and interests.

- ▶ **Readiness Levels:** If a learning experience matches closely with their skills and understanding of a topic, they will learn better.
- ▶ **Learning Styles:** Teachers should create assignments that allow students to complete work according to their preferences.
- ▶ **Interests:** If a topic sparks excitement in the learners, then students will become involved in learning and better remember what was taught.

Why Should We Differentiate?

The more we understand how students learn, the more we understand why curriculum needs to be differentiated. According to the National Research Council (1990), students make meaning out of what is taught in classrooms based on their prior understandings, learning styles, attitudes, and beliefs. Differentiated curriculum takes these into account. Research has shown that students need to be pushed just a little beyond their independence levels for real learning to take place (Csikszentmihalyi 1990). Differentiated curriculum provides an avenue by which lessons can challenge, but not overwhelm, students based on their ability levels. Both emotions and movement enhance the learning process and when students have opportunities to study their interests, their motivation for learning increases (Piaget 1978). A differentiated classroom takes interests into account. And finally, we know that everyone learns in a variety of ways (Strong, Silver, and Perini 2001). Curriculum that is differentiated allows for a variety of grouping techniques and assignments so that teachers can reach students regardless of their backgrounds.

Basics of Differentiation *(cont.)*

How to Begin Differentiating

Teachers need not dread the idea of differentiating their classroom curricula. This book will show teachers that they are already differentiating curricula. Some teachers already offer open-ended activities and let students choose their own activities. Others have learned how to adapt the theory of multiple intelligences into their curricula. Many will see that they have already learned to use flexible grouping techniques. This book will not only provide the instruction teachers need to implement differentiation, but it will also provide the encouragement and reassurance they need as well. It will encourage teachers to know how they should continue differentiating their curricula, slowly adding to what they are already doing.

When first starting out, teachers should take baby steps when differentiating curricula. For example, they can begin with just differentiating the content for one student. If a student already knows how to multiply two-digit numbers, he or she should not have to do 25 practice problems for homework. Instead, have the student complete the five most-difficult problems first. If all of those are right, the rest of the homework does not have to be completed. In other words, the student has proven understanding of the concept.

Teachers should offer a variety of differentiated activities. Having students produce brochures is fine for one lesson, but students will easily become bored if brochures are the products for every lesson all year long. Instead, create a list of products that students can choose from like video documentaries, taped radio shows, maps, drawings, cartoons, or historical fiction stories based on real events.

Teachers should also be wary of assigning additional busy work to those who finish early. For example, gifted students do not need to complete 40 division problems if the rest of the class is only completing 20. Often, these students already know how to do division. So in truth, they should receive fewer problems. Giving them more work is a punishment, not a differentiated strategy. In no time, the high achievers will learn not to work so hard if their reward is busy work.

Steps to Differentiated Instruction

- ▶ Get to know your students. Make sure you know their readiness levels, learning styles, and interests.
- ▶ Become familiar with this notebook and the strategies throughout. Familiarize yourself with the models and decide which ones match your content.
- ▶ Identify instructional activities that you think you can easily differentiate using the models and examples provided in this book. Try the activities with your class.
- ▶ Branch out on your own. Try to differentiate a lesson using what you've learned. Do not take on more than you can handle at one time. Practice makes perfect!

Choices Board Overview

Steps for Using Choices Boards to Differentiate

1. Pick the grade level objective you will be covering. Decide upon the specific skills, concepts, or generalizations that need to be learned.
2. To make a choices board, write assignments on different cards. Index cards work great for this activity. The assignments should connect the objective of the lesson with the specific skills, concepts or generalizations.
3. Place the cards in random order in pockets on a hanging chart. Make a typed copy of assignments so that students can have a paper copy in hand.
4. Assess the students using classroom discussions, quizzes, tests, or journal entries. Use this as a pre-assessment to place students into ability groups for this objective.
5. Assign students a symbol according to their ability levels. Above-grade-level students should be triangles, on-grade-level students should be squares, English language learners should be stars, and below-grade-level students should be the circles.
6. Display the choices board pocket chart at the front of the room. Distribute paper copies of the assignments. Read through the list of options for your students and explain that each student will be choosing one activity that correlates with the symbol you assigned them. Answer any questions. Let students work on these assignments.
 - **English Language Learners**—Meet with these learners in small groups and reexamine the choices on the choices board. Encourage your English language learners by telling them that they will get to work with a partner on the second challenging activity, but to consult you or another student if they experience difficulty on the first independent activity.
7. After students complete the first activity, they can choose additional activities to complete with partners. For this activity, students will be choosing from a more challenging list of activities. To do this, have on-grade-level students choose activities from the triangle category, English language learners choose from the circle category, and below-grade-level students choose from the square category. Your above-grade-level students will create their own activities that you need to approve.
8. Finally, collect the assignments and have students fill out the *Choices Board Assessment* (page 173) regarding their work. Average your grades with the student self-assessments.

Figures of Speech

Overview of Activity

- ▶ Create a choices board organizer for your classroom using an overhead transparency. (An example is shown on page 168.)
- ▶ Students get to choose two activities from the choices board. One activity is academically appropriate and the other activity should be a challenge. There is a symbol listed for each activity, which identifies the difficulty of that activity.
- ▶ For the more challenging activity, students will work with partners.

Choices—Figures of Speech Student Reproducible

Name _____

Symbol Choices Board Sampler

Directions: Choose two activities from the choices below. Make sure your choices correspond with the two symbols your teacher assigned you.

Perform a 30-second advertisement for radio supporting figurative language.	Perform a one-minute puppet show that teaches about one type of figurative language.	Make a wanted poster using your own picture and figurative language.	Write a letter to an editor using at least five different kinds of figurative language in the text.
Interview an idiom of your choosing and write the transcript.	Create a newspaper headline using figurative language.	Create a picture dictionary illustrating seven figurative language terms.	Write at least three jokes or puns using figurative language in the text.
Record a story about a homework machine using figurative language.	Create a conversation for a comic strip with each character using figurative language.	Illustrate the difference between a metaphor and a simile.	Create a set of eleven flash cards with answers on the back.
Write one act of a play using characters disguised as figurative language.	Act out four figurative language terms for your teacher.	Create your own crossword puzzle of seven kinds of figurative language.	Create three story problems for others to solve using figurative language descriptions.

#50018 (i2182)—Applying Differentiation Strategies © Shell Education

Skills Summary

Language Arts

Writing

Literacy Skill

Analyzing language in literary texts

Differentiation Strategy

Choices (See page 154 for more information.)

Classroom Management Tip

Choices boards can also be made using a bulletin board. Keep this bulletin board up and implement this differentiation strategy once a week. Some teachers like to skip the symbols and place the activities in specific rows. Advanced students would choose from activities in one row, English language learners would choose from another row, etc.

How This Strategy Benefits Students

- ▶ **Below-grade-level** students are able to be successful with their independent work since the activities are leveled specifically for them.
- ▶ **English language learners** have the opportunity to choose activities from the list, which helps them feel more comfortable with the assignment.
- ▶ When **on-grade-level** students get the chance to choose challenging activities to complete, they boost their self-esteem, challenge their thinking abilities, and improve their cooperative learning skills.
- ▶ In trying to meet **above-grade-level** students' needs, a choices board can provide these students with independence by allowing them to make their own choices and decisions about assignments.

Learning Standards

- ▶ Students use descriptive language that clarifies and enhances ideas.
- ▶ Students understand the ways in which language is used in literary texts.

Figures of Speech *(cont.)*



Whole-Class Activity

1. Toward the end of a unit on figurative language, create a choices board for your students as a way of assessment and application. To make a choices board, assignments are written on different cards. The cards are placed in random order in pockets on a hanging chart. (Some teachers like to place these cards in rows according to level of difficulty and assign each ability group a different row.) Another way to keep students from distinguishing ability grouping on the chart is to give each assignment a symbol like the ones provided on the *Symbol Choices Board Sampler* (page 168). This page shows an example of what your choice board will look like when it is ready for your students. A second example chart is also provided on page 174 for your reference. A blank copy of this page is provided on the CD so that you can more easily create your own choices boards (filename: choices.doc).
2. Begin by assigning students a symbol according to their ability levels. Your above-grade-level students should be triangles, your on-grade-level students should be squares, your English language learners should be stars, and the below-grade-level students should be circles. Do not discuss the specific levels with students. Instead, talk to them in terms of the different symbols. In other words, you do not need to tell them that they are choosing one activity on their level and one above. Just tell them to pick from one symbol and then the next.
3. Cut out the assignments from the *Triangle Group Cards* (page 169), *Square Group Cards* (page 170), *Circle Group Cards* (page 171), and *Star Group Cards* (page 172). Place them randomly on the pocket chart. Display the choices board pocket chart at the front of the room. Read through the list of options for your students and explain that each student will be choosing one activity that correlates with the symbol you assign them. Answer any questions. It might be helpful for students to have their own copies of this choices board. The *Symbol Choices Board Sampler* (page 168) would be a page your students could reference as they work on these assignments.
4. Next, explain that after they complete the first activity, they will be choosing an additional activity with a partner. For this additional activity, students will be choosing from a more challenging list of activities. To do this, have on-grade-level students choose activities from the triangle category, English language learners choose from the circle category, and below-grade-level students choose from the square category. Above-grade-level students will create their own activities to be approved by you.

Figures of Speech *(cont.)*



Whole-Class Activity *(cont.)*

5. To make sure English language learners and below-grade-level students understand the assignment, meet with them in small groups and reexamine the choices on the choices board. Encourage your ELLs by telling them that they will get to work with partners on the second challenging activity, but to consult you or another student if they experience difficulty on the first independent activity.
6. Give your students the entire class time to complete the first activity. If time permits, let them begin work on the second activity with their partners that day. Otherwise, provide a few minutes at the beginning of the next class to complete these assignments.

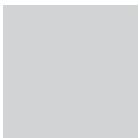











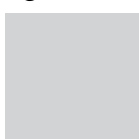



Assessment

1. First, give students the opportunity to assess their own work. Quite often, students are much harder on their own work. Distribute copies of *Choices Board Assessment* (page 173) to your students and give them time to assess their work. Ask your students if they want to add any categories for assessing their work. Add these ideas to the list.
2. Explain to students that you will average your assessments with the ones they complete.
3. If possible, let your students present one of their two activities to the class. If students worked on an activity with partners, they can present it together.

Name _____

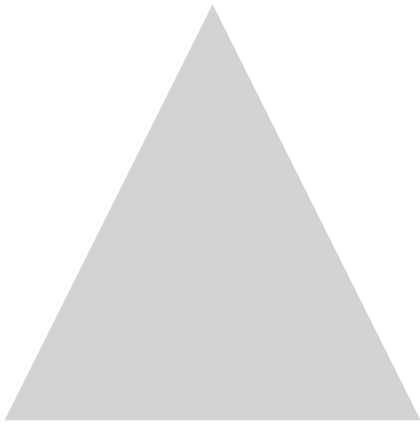
Symbol Choices Board Sampler

Directions: Choose two activities from the choices below. Make sure your choices correspond with the two symbols your teacher assigned you.

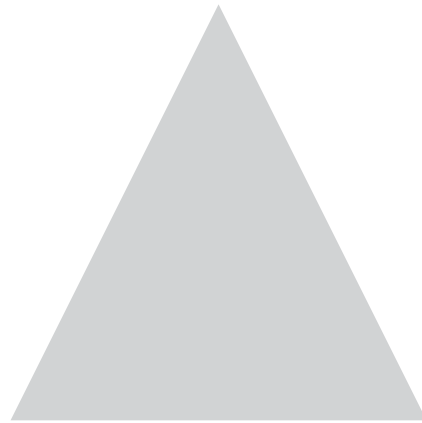
<p>Perform a 30-second advertisement for radio supporting figurative language.</p> 	<p>Perform a one-minute puppet show that teaches about one type of figurative language.</p> 	<p>Make a wanted poster using your own picture and figurative language.</p> 	<p>Write a letter to an editor using at least five different kinds of figurative language in the text.</p> 
<p>Interview an idiom of your choosing and write the transcript.</p> 	<p>Create a newspaper headline using figurative language.</p> 	<p>Create a picture dictionary illustrating seven figurative language terms.</p> 	<p>Write at least three jokes or puns using figurative language in each.</p> 
<p>Record a story about a homework machine using figurative language.</p> 	<p>Create a conversation for a comic strip with each character using figurative language.</p> 	<p>Illustrate the difference between a metaphor and a simile.</p> 	<p>Create a set of idiom flash cards with answers on the back.</p> 
<p>Write one act of a play using characters disguised as figurative language.</p> 	<p>Act out four figurative language terms for your teacher.</p> 	<p>Create your own crossword puzzle of seven kinds of figurative language.</p> 	<p>Create three story problems for others to solve using figurative language descriptors.</p> 

Triangle Group Cards

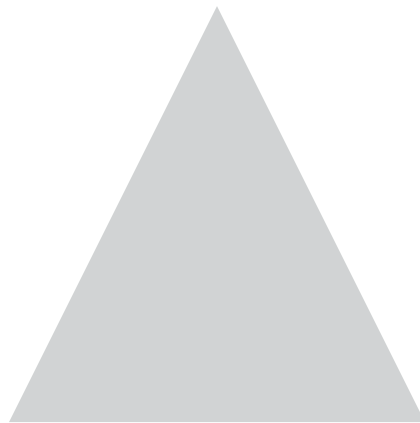
Write a letter to an editor using at least five different kinds of figurative language in the text.



Interview an idiom of your choosing and write the transcript.



Create three story problems for others to solve using figurative language descriptors.

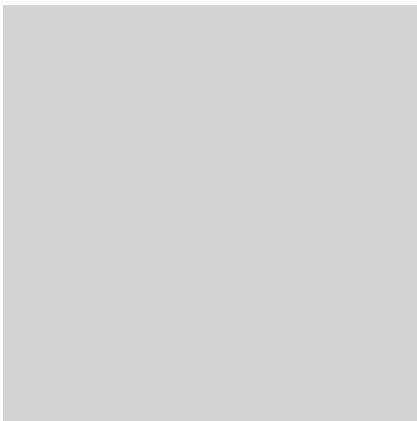


Write at least three jokes or puns using figurative language in each.

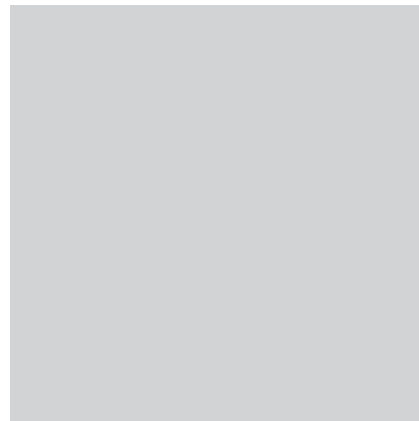


Square Group Cards

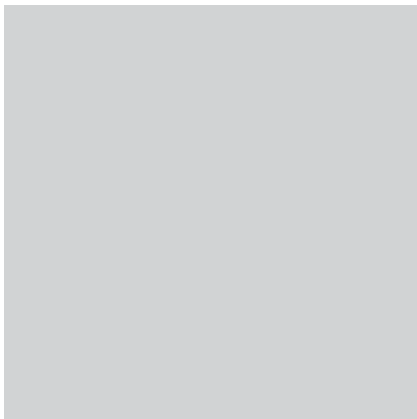
Create a conversation for a comic strip with each character using figurative language.



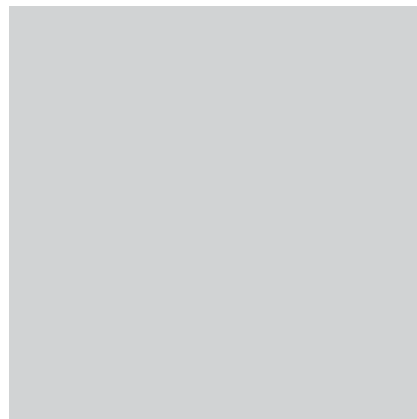
Write one act of a play using characters disguised as figurative language.



Perform a 30-second advertisement for radio supporting figurative language.

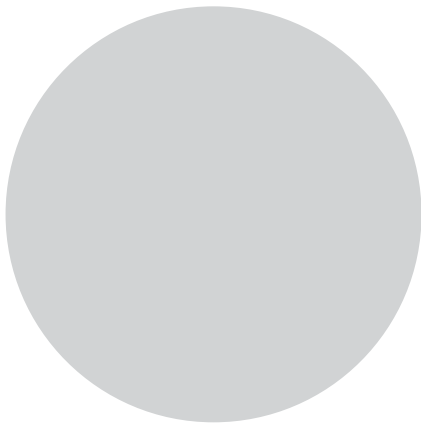


Create your own crossword puzzle of seven kinds of figurative language.

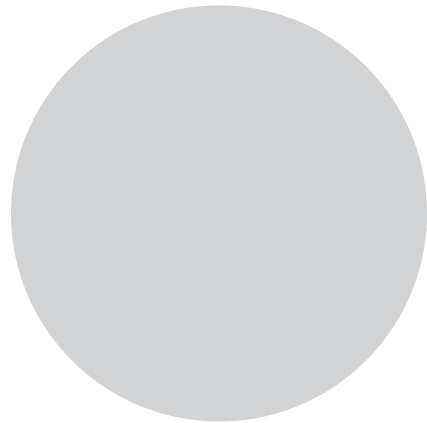


Circle Group Cards

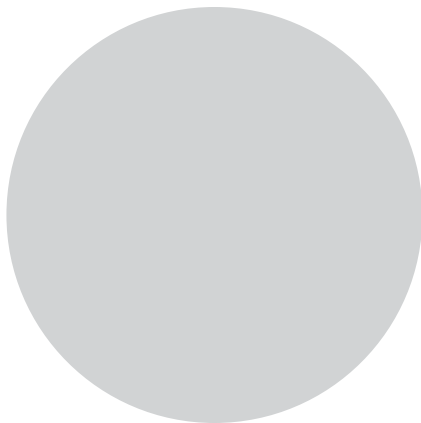
Make a wanted poster using your own picture and figurative language.



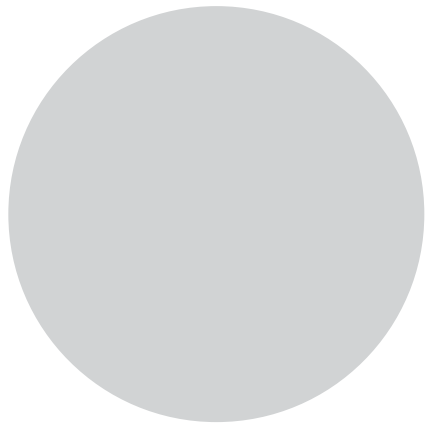
Create a newspaper headline using figurative language.







Act out four figurative language terms for your teacher.



Illustrate the difference between a metaphor and a simile.



Star Group Cards

<p>Create a set of idiom flash cards with answers on the back.</p> 	<p>Create a picture dictionary illustrating seven figurative language terms.</p> 
<p>Perform a one-minute puppet show that teaches about one type of figurative language.</p> 	<p>Record a story about a homework machine using figurative language.</p> 

Name _____

Choices Board Assessment

Directions: You will have the opportunity to assess your own work. Answer the questions below by grading yourself on a scale of 1–5, with 5 being the best. Circle the number in each row to respond to the following statements.










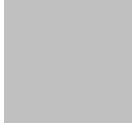





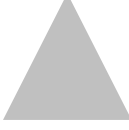
	Disagree			Agree	
Your completed assignment is easy to understand.	1	2	3	4	5
Your completed assignment is easy to read.	1	2	3	4	5
Your completed assignment is creative.	1	2	3	4	5
Your completed assignment is able to grab the audience’s attention.	1	2	3	4	5
Your completed assignment has correct spelling.	1	2	3	4	5
Your completed assignment has correct punctuation.	1	2	3	4	5
Your completed assignment has correct grammar.	1	2	3	4	5
Your completed assignment has figurative language in it.	1	2	3	4	5

Comments

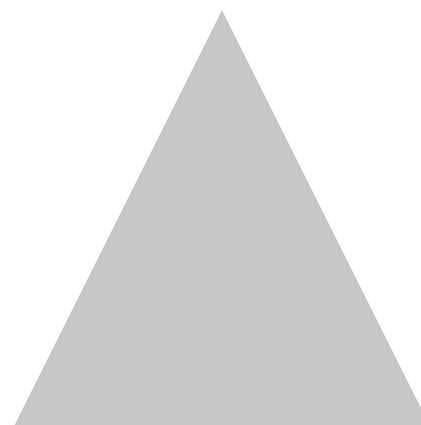
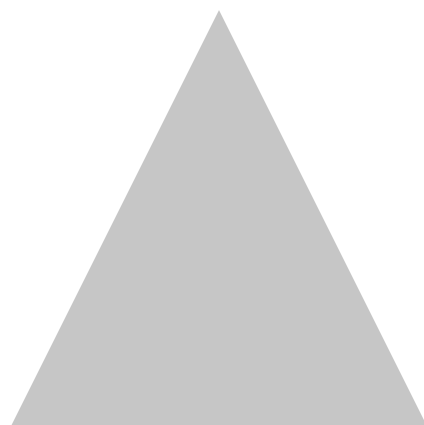
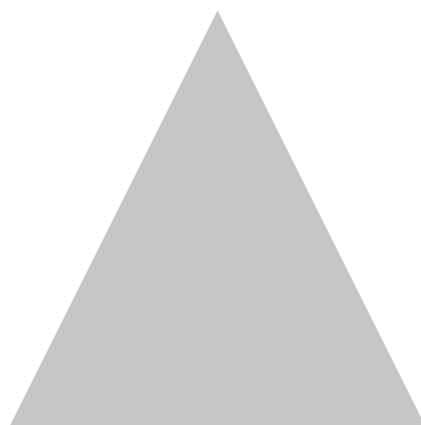
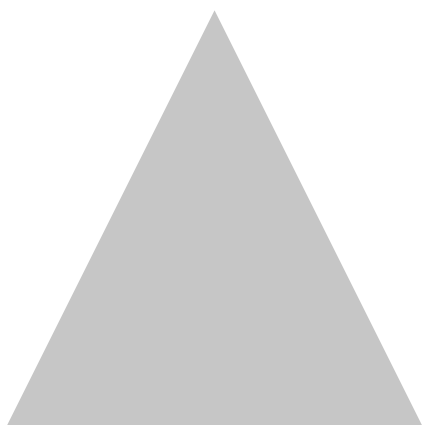
Name _____

Symbol Choices Board

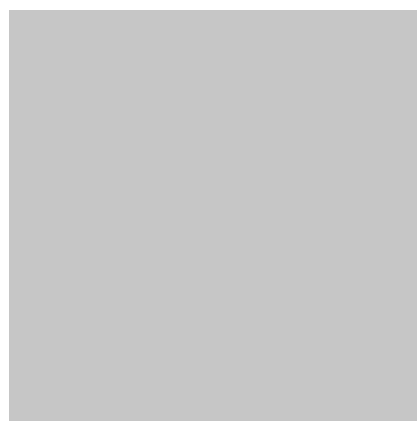
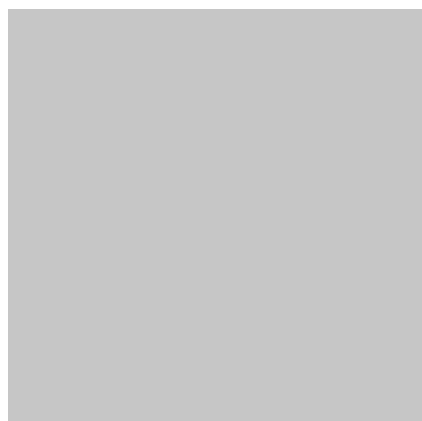
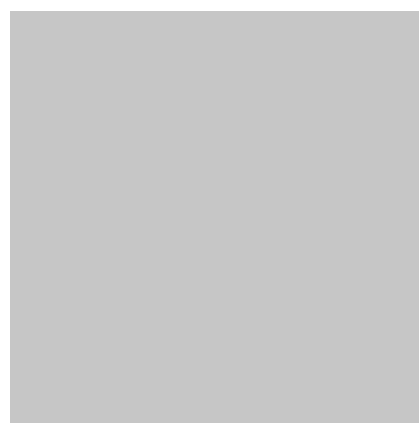
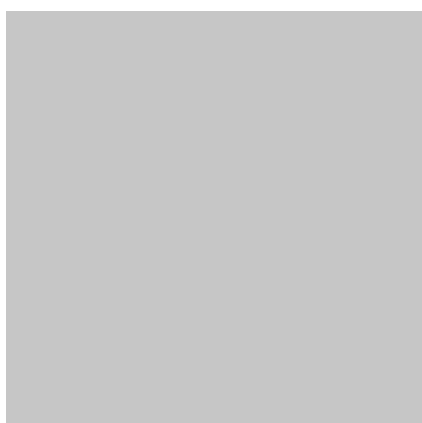
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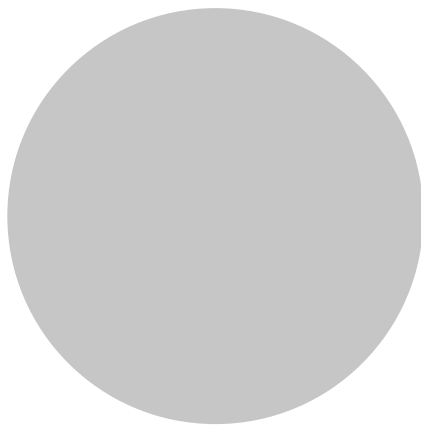
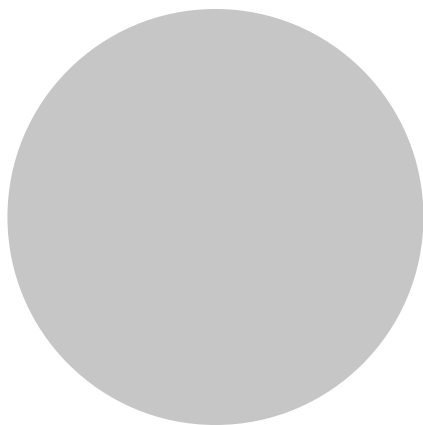
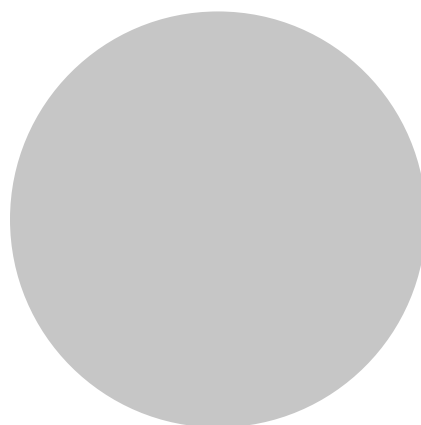
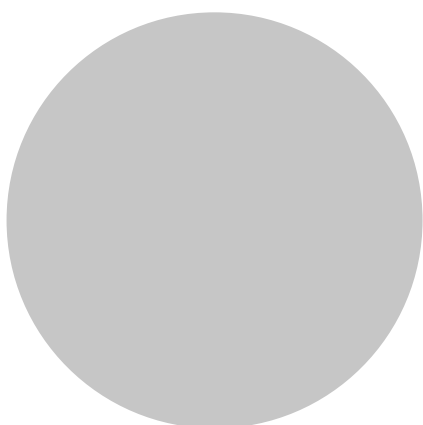
Triangle Group Cards



Square Group Cards



Circle Group Cards



Star Group Cards



The Water Cycle

The water cycle is a circle. There is no real start to it. We must pick a place to start. Evaporation is as good a place as any to start.

Evaporation

Evaporation is all around us. You can heat a liquid. Then it will change to a gas. The warmed molecules in the liquid move. They bounce with the heat. They bounce far apart. Then they aren't part of the liquid any more.

When water is a gas, it is called water vapor. You can find it in a pot of boiling water on the stove. You can find it when the sun heats water in the oceans.

When the water vapor moves up into the air, it loses its heat. Then it turns back to a liquid. The water clumps up. It forms small drops or ice crystals. They are not big enough to fall back to Earth. When there are enough of them close together, they can form clouds.

The sun heats Earth. It doesn't heat evenly. Some places get hot. Some places don't. The hot air puts pressure on the cold air. The pressure must balance out. Air moves from high-pressure parts to low-pressure parts. This makes wind. Earth's spin twists the air. Currents in the oceans move the air, too. Air moving from side to side is called advection. It is why clouds move.

Precipitation

Water vapor in the sky can form water droplets. It can also form ice crystals. Wind causes the water drops and ice to bump into each other. They form larger clumps.

The large clumps make even larger clumps. They fall to the earth. This is called precipitation. We know it as rain, snow, sleet, and hail.

Now the water is on the ground. This is the next phase of the water cycle. What happens depends on where it falls and in what form. The water could be ice as snow, sleet, or hail. It might pile up and stay ice for a while. It may melt and change to liquid water. The water could fall as rain. It can soak into the ground or it can run off and form streams or rivers.



Groundwater

When water soaks into the ground, it flows into tiny spaces. The spaces are in between bits of soil. Deeper down the water can't flow through rock. The rock is impermeable. The water is trapped. It fills up all the spaces in the soil above. That rock is permeable. Then it is called groundwater. The water backs up. It spills out. It starts moving downhill.

Sometimes there is a lot of rain from a storm. The water can't all soak into the ground. The water runs over the ground's surface. It runs into streams. It runs into rivers. The water keeps going and going. Over time, all the water makes its way back to the ocean.

Water flows to the oceans. It has gone all the way around the water cycle. All the water that flows into the ocean once came out of it.



Comprehension Question

Write three things that happen to a drop of water in the water cycle.

The Water Cycle

There is really no start to the water cycle. To talk about it, we must pick a place to start. Evaporation is as good a place as any.

Evaporation

Evaporation happens all over. When a liquid is heated, it changes to a gas. The heated molecules move around very quickly. They move far apart. Then they aren't part of the liquid any more. When water is a gas, it is called water vapor. It is made in a pot of boiling water on the stove. It is made when the sun heats water in the oceans.

The water vapor moves up into the air. It loses the heat it had taken in. Then the vapor turns back into a liquid. The water starts to clump up. It forms small droplets or ice crystals. The droplets or crystals are very tiny. They are not heavy enough to fall back to Earth. When there are enough of them close together, they can form clouds.

When the sun heats Earth, it doesn't heat evenly. Some places get hot. Some places don't. The hot air puts pressure on the cold air. To make the pressure balance, air moves from areas with high pressure to areas with low pressure, creating wind. The spinning of Earth and currents in the oceans can affect movement of the air, too. Air moving from side to side is called advection. It is why clouds move across the planet.

Precipitation

Water vapor in the sky can form water droplets. It can also turn into solid ice crystals. Wind and air movement cause the drops and ice to bump into each other. They form larger clumps. If they get large enough, they fall to the earth. This is called precipitation. Of course, it is better known as rain, snow, sleet, and hail.

Water on the ground is the next phase of the water cycle. What happens depends on where it falls and in what form. The water could be ice as snow, sleet, or hail. It might pile up and stay ice for a while. It may melt and change to liquid water. The water could fall as rain. It can soak into the ground or it can run off and form streams or rivers.



Groundwater

When water soaks into the ground, it flows into tiny spaces. The spaces are in between bits of soil. Even deeper down, the rock is impermeable. That means the water can't flow through it. It is trapped. That water permeates the soil above. That means it fills up all the spaces in the soil. Water that soaks into the ground is called groundwater. The water overflows. It starts moving downhill.

Sometimes there is a lot of water during a rainstorm. The water can't all soak into the ground. Instead, the rainwater runs over the ground's surface. It runs into streams. It runs into rivers. With enough time, all the water makes its way back to the ocean.

Water flows to the oceans. It has gone all the way around the water cycle. All the water that flows into the ocean once came out of the ocean.



Comprehension Question

Describe three things that happen to a drop of water in the water cycle.

The Water Cycle

There's really no start to the water cycle. To talk about it, we must start somewhere. Evaporation is as good a place as any.

Evaporation

Evaporation happens all over. When a liquid is heated enough, it changes to a gas. The heated molecules move around very fast. They move too far apart to be a part of the liquid. When water evaporates, we call it water vapor. It happens on a small scale when a stove heats a pot of water. It happens on a very large scale when the sun heats water in the oceans.

The water vapor moves up through the atmosphere. It loses the heat it had taken in. When it loses enough heat, the vapor turns back into a liquid. The water molecules start sticking together. They form small droplets or ice crystals. The droplets or crystals are very tiny and not heavy enough to fall back to Earth. When there are enough of them close together, they can form clouds.

When the sun heats Earth, it doesn't heat evenly. Some places get hotter than other places do. This causes pressure differences in the air. To make the pressure balance, air moves from areas with high pressure to areas with low pressure, creating wind. The spinning of Earth and currents in the oceans can affect movement of the air, too. This process of air moving from side to side across the earth is called advection. It is why clouds move across the planet.

Precipitation

Water vapor in the sky can form water droplets. It can also turn into solid ice crystals. Wind and air movement cause these particles to bump into each other. They form larger particles. If they get large enough, they fall to the earth as precipitation.

Of course, this is better known as rain, snow, sleet, and hail.

Water progresses to the next phase of the water cycle once it hits the ground. What happens depends on where it falls and in what form. If the water is frozen as snow, sleet, or hail, it might pile up and stay frozen for a while. It may melt quickly and change to liquid water. When water falls as rain, it can soak into the ground or it can run off and form streams or rivers.



Groundwater

When water soaks into the ground, it flows into tiny spaces between soil particles. Deeper underground, the rock is impermeable. The water can't flow through it and is trapped. The captured water permeates the soil above. It fills up all the spaces between soil particles. Water that soaks into the ground like this is called groundwater. The water overflows. It starts moving horizontally.

If there is a lot of water during a rainstorm, the water can't all soak into the ground. Instead, the rainwater runs over the ground's surface. It collects into streams and rivers. Eventually, all the water makes its way back to the ocean.

Water flows to the oceans. It has traveled all the way around the water cycle. All the water that flows into the ocean once came out of the ocean.



Comprehension Question

Describe the trip that one drop of water makes as it goes around the water cycle.

The Water Cycle

There's really no start to the water cycle, but to understand it, we must begin somewhere. Evaporation is as good a place as any.

Evaporation

Evaporation happens everywhere. When a liquid is heated enough, it changes to a gas. This happens when the heated molecules move around so fast they are no longer close enough together to be a part of the liquid. When water evaporates, we call it water vapor. It happens on a small scale when a stove heats a pot of water. It happens on a very large scale when the sun heats water in the oceans.

The water vapor moves up through the atmosphere and loses the heat it had taken in. When it loses enough heat, the vapor condenses back into a liquid. The water molecules start sticking together, and they form small droplets or ice crystals. The droplets or crystals are very tiny and not heavy enough to fall back to Earth. When there are enough of them close together, they can form clouds.

When the sun heats Earth, it doesn't heat evenly. Some places get hotter than other places do, and this causes pressure differences in the air. To make up for these differences, air moves from areas with high pressure to areas with low pressure, creating wind. In addition, the spinning of Earth and currents in the oceans can affect movement of the air on Earth as well. This process of air moving from side to side across the earth is called advection, and it is why clouds move across the planet.

Precipitation

Water vapor in the atmosphere can form water droplets or turn into solid ice crystals. Wind and air movement causes these particles to bump into each other, forming larger particles. If they get large enough, they fall to the earth as precipitation. Of course, precipitation is better known as rain, snow, sleet, and hail.

Water progresses to the next phase of the water cycle once it hits the ground. What happens depends on where it falls and in what form. If the water is frozen as snow, sleet, or hail, it might pile up and stay frozen for a while. It may melt quickly and change to liquid water. When water falls as rain, it can soak into the ground or it can run off and form streams or rivers.



Groundwater

When water soaks into the ground, it flows into tiny spaces. The spaces are in between bits of soil. Deeper down the water can't flow through rock. The rock is impermeable. The water is trapped. It fills up all the spaces in the soil above. That rock is permeable. Then it is called groundwater. The water backs up. It spills out. It starts moving downhill.

Sometimes there is a lot of rain from a storm. The water can't all soak into the ground. The water runs over the ground's surface. It runs into streams. It runs into rivers. The water keeps going and going. Over time, all the water makes its way back to the ocean.

Water flows to the oceans. It has gone all the way around the water cycle. All the water that flows into the ocean once came out of it.



Comprehension Question

Describe the water cycle from the point of view of a single drop of water.