Microteaching Lesson Plan

Name: Reem Mohammed, Mariam Ghassan, Baraah Abdulaziz, Duaa Ghazi **Date**: 19/ 5/ 2016 **Duration:** 30 min

Grade: 4 **Subject:** Science **Semester:** 2 **Topic**: Physical Changes

Prior knowledge: The students know the defection of matter, the state of matter and its properties.

Starter Activity: (Storytelling)

The teacher will tell short story of real life problem. The story about: (while some girl enjoying eating the dinner with her family, suddenly the electricity stops functioning and the darkness prevail the place. Her mum went to look for some kindle. After she found the kindle, she light up the place by the kindle.). After that the teacher will ask the students question about the kindle: 1) What will happen to the kindle after 3 minutes? Does it change? 2) What is the type of the change?

After that the teacher will distribute KWL paper.

KWL: What do you know about physical change? What do you want to know about physical change? What do you learn about physical change?

Misconception: In kindle there is two type of change physically and chemically change. Teacher most explain that there is difference between the chemical and physical change, and to show them in kindle (Burning wick is chemical change, Melting wax is physical change). (Using Conceptual Change Theory for handling misconception)

Learning Objectives	Procedures				Assessment
	Materials	Strategies	Teacher Activities	Learner Activities	
1. Students will be able to define	- Audio clips and music PowerPoint	KWL & Whole class	**Activity: Imagination** – Teacher will ask students to close their eyes and at the same time she will play music, she will require from all		– From your understanding and in your

the physical change.		discussion & Imagination	students to not open their eyes tell the end of the story. – The story about: First imagine that you are in the island, then you walk in the island between the trees you see a wonderful waterfall and you notice that the waterfall was falling strongly on the rocks. After period of time you observe that some part of the rocks were crumble. Suddenly, you hear voice that come among the tree and you feel scared, then you run away. Finally, you find yourself in the beach because of that you feel thirsty, so you decide to buy icing-juice from ice-cream bus. After you buy the icing-juice you notice that the ice cube starting to melt. – After the end of the story the teacher will close the music and she will ask students open their eyes and to came back to reality. **Teacher questions:** **1)** From what did you imagine, what do you think that happen to the rocks? Does it change to another substance and why? **2)** What the reasons behind crumbling rucks? **3)** How about the ice cubs that inside your juice? **4)** What the reason behind the melting ice? **5)** Does it change to another substance and why? – After that, teacher will indicate that what happen in the story for the rocks and ice cube was physical change.	**Possible student's answer:** **1)** The rocks were crashed/ crumble/ move/ stay as it is. No, because it is still the same particles/ no, the water does not change the substances/ Yes, because of the waterfall **2)** The waterfall/ water/ heat **3)** It melt/ turn to water **4)** Because of the weather/ the sun/ the air temperature **5)** No, because we did	own way define the physical change? (Such as drawing, writing, verbal, acting, and etc.).

			– Then the teacher will present the definition of physical change in such ways (draw, simples, word and picture) in the whit board.	not get a new sentences/ yes, ice turn to water	
2. Students will be able to discover the effect of heating and cooling the substance on physical change.	- Ice cubs - Wool fiber - Balloon - Scissors - Small plastic container - Paper activity No.1 - Video - Power - Point	Cooperativ-e learning & Learning by doing & Video clips & Do and say something	**Activity1: Experiment** - The teacher will distribute a card for the student roles in the group such as (Timer, Materials checker, summarizer, opportunity provider). She will ask them to distribute the roles between them. - There will be 4 groups out of 4 students. - The teacher will provide each group with paper instructions and materials such as (ice cubs, wool fiber, balloon, scissors and small plastic container). Also, she will give each group a red flag to raise it when they need any help. - Before they start working on the activity, the teacher will remind them about **<u>safety rules</u>**: 1. Be careful from using sharp materials. 2. Don't play with the materials. 3. Apply the teacher's instructions. 4. Clean the place after you finish. 5. Call the teacher if you need help. **Paper instructions include:** 1. First, you have to plump the balloon with air. 2. Second, surround the balloon by using the wool, make sure that you surround the balloon from the center then cut the end of the wool. 3. Put ice inside the container. 4. Write your predication what will happen if you put the balloon inside the container.		Use your white small board to evaluate the relation of each of the heating and cooling on the substances

			5. Put the balloon in the container about 10 minutes. 6. Remove the balloon from the container and re-surround it with same wool that you cut it in the center of the balloon. **The activity questions:** **1)** Predict what will happen to the balloon inside the container? **2)** What did you notice about what happed to the balloon? **3)** What was changed that happen to the balloon? What is the type of change? **4)** What is the reason that makes the balloon change? **5)** Summarize the experiment by explaining the effect of cooling on the substances? - Each group will have to present their work. - The teacher will ask the students to clean up their places and to return the materials back into the box. **Activity2: Video clip** - After that, the teacher will play video for second experiment which is about (the effect of heat and cooling on physical change). - The video will include: There will be a glass bottle and in the top of the glass there stacked balloon. This bottle will put one time in a hot water, so the balloon will plumps up. Other time will put the bottle in the cold water, so the balloon will dwindle. - The teacher will stop the video before they see the result and she will ask them to: **1)** Predict what will happen to the balloon if we put the glass in the heated water?	**Possible student's answer:** **1)** Shrinking/ bomb/ plump/ dwindle/ iced **2)** The size of the balloon changed. **3)** The size has been increase/ decrease, physical/ chemical **4)** Because of the ice/ cooling **5)** In cooling the substances shrinks **Possible student's answer:** **1)** Will bomb/ Shrinking/ plump/ dwindle/	

			- Then the teacher will stop the video also before they see the second result which is put the bottle in the cold water, she will ask them to: **2)** Predict what will happen to the balloon if we put the bottle in the cold water? - After showing the students the whole video the teacher will ask questions. **Teacher questions:** **3)** From what you sow in the video, what did you notice about the balloon? **4)** What was changed that happen to the balloon when we put the bottle in heated water? And what is the reason? **5)** What was changed that happen to the balloon when we put the bottle in cold water? And what is the reason? **6)** What is the effect of cooling and heating on the substances? - The teacher will discuss with the students about other example from real-world: **7)** State examples of physical change around us? **8)** State other examples of physical change that stretched in heating and shrink in cooling?	stretched **2)** Will bomb/ Shrinking/ plump/ dwindle/ stretched **3)** The balloon has plump one time and dwindle other time **4)** The balloon has full with air and its plump, cause of the hot water/ heat **5)** The balloon has shrined/ dwindle, cause of cooling/ cold water **6)** In cooling the substances shrink, in heating the substances stretched **7)** Cut paper/ plump balloon/ shape clay/ etc. **8)** electricity wires	
3. Students will be able to justify the evidence of physical change.	- Clay - Papers - Balloon - Ice cubes - Dish - Power-Point - Paper	Cooperative learning & Learning by doing	**Activity: Hand on activity** – The teacher will provide each group several materials, and a worksheet paper. – First group will give them clay, the teacher will ask them to form shape by using the clay, and then she will ask them to compare between the origin shape		Use your notebook to write example of physical change and to justify the evidence behind the change

	activity No.2		and formed shapes. (shape) – Second group will give a balloon; the teacher will ask them to inflate the balloon with air. (size) – Third group will give students a paper, the teacher will ask students to touch paper and feel the texture of the surface, and then she will ask them to curl the paper and touch the paper again and to feel the texture of it. (texture) – Fourth group will give an ice; the teacher will ask them to observe the melted ice, and then to write the state of the ice and water. (state of matter) **NOTE: There will be guide card for each activity to each group** **Teacher questions:** **1)** What kind of change occurs to the matter? **2)** Did the matter change to other matter? And why? **3)** So what do we conclude? – The teacher will move around in the classroom to chick student's work on the activity. **Misconception:** Students might think that melting the ice is not a physical change. (Using Conceptual Change Theory for handling misconception)	**Possible student's answer:** **1)** Shape/ size/ texture/ state of matter **2)** Yes/ no, in physical change the matter stay as it is/ we can return it back/ we can separate the materials **3)** In physical change the matter stay as it is	

Home work: Choose several matters that you find it in your home and apply the physical change on the matter you found, then take photo of the matters that you changed it physically and stick it in your notebook, then write down the change that occurs on matters.