

## Utilization of Adobe Flash Interactive Learning Media

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### ABSTRACT

The learning process in schools, especially biology learning, stimulates students' brains to do verbal reasoning and logical thinking on various kinds of concepts. The biology learning process is only focused on textbooks, not used to utilizing technology-based learning facilities. The goal is to develop Adobe Flash interactive learning multimedia as a biology learning medium through project based learning on the concept of the development of living things. Learning materials that attract students' attention are easier to learn and store in students' memory, thus it is hoped that the use of multimedia will have another effect in the form of retention of information that lasts a long time in students' cognitive structures. Some of the advantages of multimedia include the involvement of organs such as ears, audio, eyes, visuals, and hands. kinetic. The involvement of these various organs makes information easier to understand. With the various advantages of multimedia, it is hoped that it can help the effectiveness of the learning process and the delivery of messages and lesson content at that time, besides that it will also provide a realistic understanding of the actual concepts. It is hoped that with this interactive media students can more easily understand the material because this interactive media is equipped with simulations in the form of 2-dimensional animation and can be supplemented with video tutorials or learning videos. besides that it will also provide a realistic understanding of the actual concept. It is hoped that with this interactive media students can more easily understand the material because this interactive media is equipped with simulations in the form of 2-dimensional animation and can be supplemented with video tutorials or learning videos. besides that it will also provide a realistic understanding of the actual concept. It is hoped that with this interactive media students can more easily understand the material because this interactive media is equipped with simulations in the form of 2-dimensional animation and can be supplemented with video tutorials or learning videos.

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### INTRODUCTION

Adobe Flash (formerly known as Macromedia Flash) is one of the computer software which is the flagship product of Adobe Systems. Adobe Flash is used to create vector images and animated images. Files generated from this software have a .swf file extension and can be played in a web browser that has Adobe Flash Player installed. Flash uses a programming language called ActionScript which first appeared on Flash. Before 2005, Flash was released by Macromedia. Flash 1.0 was launched in 1996 after Macromedia purchased a vector animation program called FutureSplash. The last version released on the market under the name 'Macromedia' was Macromedia Flash 8. On December 3, 2005 Adobe Systems acquired Macromedia and all of its products, so that the name Macromedia Flash changed to Adobe Flash. Adobe Flash is a program specifically designed by Adobe and a professional standard authoring tool application program that is used to create very attractive animations and bitmaps for the purposes of developing interactive and dynamic websites. Flash is designed with the ability to create 2-dimensional animations that are reliable and lightweight so that Flash is widely used to build and provide animation effects on websites, Interactive CDs and others. In addition, this application can also be used to create animated logos, movies, games, create navigation on websites, animated buttons, banners, interactive menus, interactive form fields, e-cards, screen savers and other web applications. In Flash, there are techniques for creating animations, action script facilities, filters,

custom easing and can include complete video with FLV playback facilities. The advantage possessed by Flash is that it can be given a little programming code either running alone to manage the animation in it or used to communicate with other programs such as HTML, PHP and databases with an XML approach, can be collaborated with the web, because it has the advantage including small in the size of the output file. Education is a means to prepare students through teaching and training activities for their role in the future. [6] Sadiman (2012) In order to prepare students through the field of teaching, the Indonesian government requires all its citizens to obtain proper education by requiring 9 years of study. Education is also an important means of improving human resources as stated in the law on the national education system no. 20 article 3 of 2003 which contains the intellectual life of the nation and developing the life of Indonesian people as a whole, namely human beings who believe and fear God Almighty and have noble character, have knowledge and skills, physical and spiritual unity, strong and independent personality as well as a sense of social and national responsibility. Education has an effect on improving the quality of human resources. In schools, all aspects of learning determine the success of education because the interactions that occur in the classroom when learning takes place are a measure of student learning outcomes.

With the advancement of technology and information flows it brings changes to the development of learning media, both from simple media such as graphic media which are only in the form of pictures or writing, audio, visual, animation, and computer-based media such as Macromedia Flash animation media 8. Macromedia Flash is an application that used to design and build presentation devices, publications, or other applications that require the availability of means of interaction with the use of projects built with flash, which can consist of text, images, simple animations, videos, or other effects. Information and communication technology-based learning is a learning process that uses computers and the internet as a tool to deliver learning materials that are more interactive, innovative and fun. One of the learning media that packs interactive, innovative, and fun learning concepts is Adobe Flash-based multimedia. According to Adobe flash is software that can be used

to create animations, games, presentations, web, instructional animations and films. The animation produced by Adobe Flash is in the form of an animated movie file. The resulting movie is in the form of graphics or text. In addition, Adobe Flash has the ability to import sound, video, and image files from other applications. Flash is designed and developed to create presentations, applications, and several interactive multimedia works. The jobs that Flash can do include: animations, videos, presentations, and other applications. Flash applications can use elements such as images or photos, sound, video, and special effects.

Likewise with biology subjects because basically biology subjects are subjects that should not be taught verbally with words or lectures "as so far that is still being done in schools in general" but must be through experience / or through direct practice. , it could also be through practical simulations through interactive media in the form of 2-dimensional animation as an effort to use technology in learning. Edgar Dale in [4] Arsyad (2007:10) predicts that the acquisition of a level of awareness through the senses of sight is around 75%, the sense of hearing is around 13% and the other senses are around 12%. While the lecture method is more dominated by the sense of hearing, meaning that only about 13% of the effectiveness of learning using this method. The use of multimedia in learning can visualize various facts, skills, concepts and display animations as needed so that the learning process is more interesting. According to [5] Sujoko (2013: 1) learning materials that attract students' attention are easier to learn and store in students' memories, thus it is hoped that the use of multimedia will have another effect in the form of retention of information that lasts a long time in students' cognitive structures. Some of the advantages of multimedia include the involvement of organs such as ears (audio), eyes (visual), and hands (kinetic). The involvement of these various organs makes information easier to understand [4] Arsyad, 2007:172. With these various multimedia advantages it is hoped that it can help the effectiveness of the learning process as well skills, concepts and displays animations according to needs so that the learning process is more interesting. According to [5] Sujoko (2013: 1) learning materials that attract students' attention are easier to learn and store in students' memories, thus it is hoped that the use of multimedia will have another effect in the form of retention of information that lasts a long time in students' cognitive structures. Some of the advantages of multimedia include the involvement of organs such as ears (audio), eyes (visual), and hands (kinetic). The involvement of these various organs makes information easier to understand

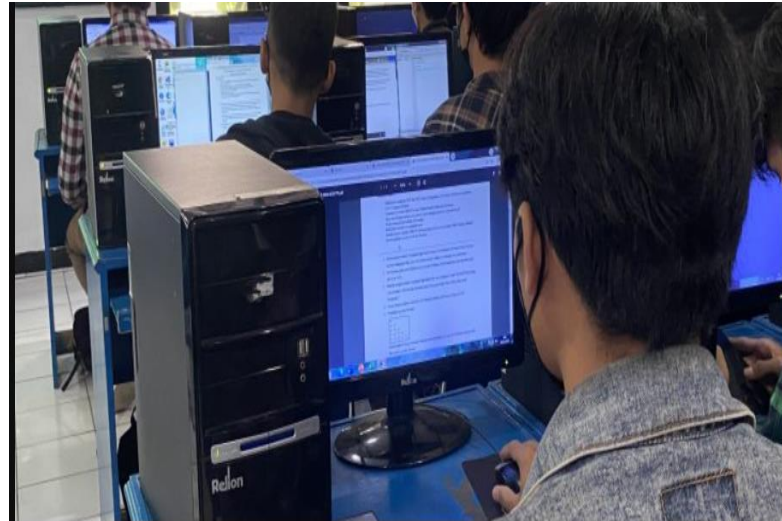
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## **Method**

### **Research Techniques**

This study used direct practical learning methods/techniques which according to [2] Hamzah (2008: 200), practical learning is learning skills that require motor movement, the implementation of learning is carried out in the workplace/field. Based on Hamzah's opinion, practical learning is a learning process that involves motor skills or movement in the workplace or field. Meanwhile, according to [3] David A. Jacobsen, Paul Eggen, and Donald Kauchak (2009: 203) The practice method is divided into two, namely the guided practice method and independent practice. Guided practice is a practical method in learning, the teacher provides feedback so that students know how to practice according to the material that has been explained.

From the various theories above, it can be emphasized that the practical method is a learning technique that has the goal of developing students' abilities by applying the skills students already have in a real activity.



**Figure 1.**Interactive Learning



**Figure 2.**Adobe Flash Practice

## **RESULTS AND DISCUSSION**

### **Discussion of results**

As we know it Biology subjects are basically Biology subjects which should not be taught verbally with words or lectures "as so far it is still done in schools in general" but must be through experience/or through direct practice, it can also be through practical simulation through interactive media in the form of 2-dimensional animation as an effort to use technology in learning. Edgar Dale in [4] Arsyad (2007:10) predicts that the acquisition of a level of awareness through the senses of sight is around 75%, the sense of hearing is around 13% and the other senses are around 12%. While the lecture method is more dominated by the sense of hearing, meaning that only about 13% of the effectiveness of learning using this method. The use of multimedia in learning can visualize various facts, skills, concepts and displays animations according to needs so that the learning process is more interesting. According to [5] Sujoko (2003: 57) learning materials that attract students' attention are easier to learn and store in students' memories, thus it is hoped that the use of multimedia will have another effect in the form of retention of information that lasts a long time in students' cognitive structures. Some of the advantages of multimedia include the involvement of organs such as ears (audio), eyes (visual), and hands (kinetic). The involvement of these various organs makes information easier to understand [4]Arsyad, 2007:172. With these various multimedia advantages it is hoped that it can help the effectiveness of the learning process as well 57) learning materials that attract students' attention are easier to learn and store in students' memory, thus it is hoped that the use of multimedia will have another effect in the form of retention of information that lasts a long time in students' cognitive structures. Some of the advantages of multimedia include the involvement of organs such as ears (audio), eyes (visual), and hands (kinetic). The involvement of these various organs makes information easier to understand [4]Arsyad, 2007:172. With these various multimedia advantages it is hoped that it can help the effectiveness of the learning process as well 57) learning materials that attract students' attention are easier to learn and store in students' memory, thus it is hoped that the use of multimedia will have another effect in the form of retention of information that lasts a long time in students' cognitive structures. Some of the advantages of multimedia include the involvement of organs such as ears (audio), eyes (visual), and hands (kinetic). The involvement of these various organs makes information easier to understand [4]Arsyad, 2007:172. With these various multimedia advantages it is hoped that it can help the effectiveness of the learning process as well Some of the advantages of multimedia include the involvement of organs such as ears (audio), eyes (visual), and hands (kinetic). The involvement of these various organs makes information easier to understand [4]Arsyad, 2007:172. With these various multimedia advantages it is hoped that it can help the

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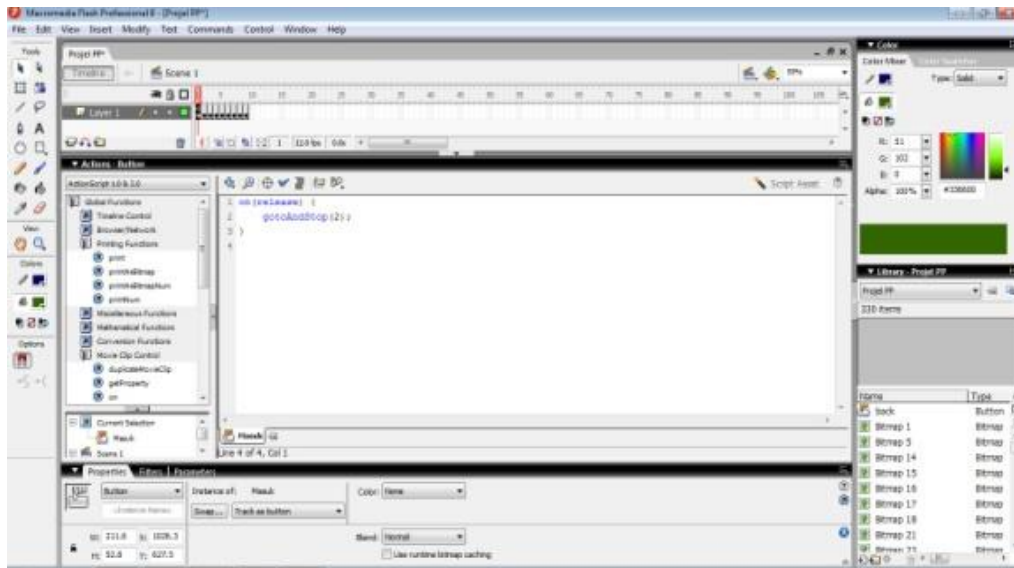
For this reason, it is very important to use interactive learning media, I as the author also strongly suggest that this interactive learning media can also be implemented in other subjects in order to maximize the teaching and learning process, students can learn with enthusiasm and fun because of the uniqueness of learning media and teachers. can teach easily and effectively.

#### Steps for making interactive learning media.

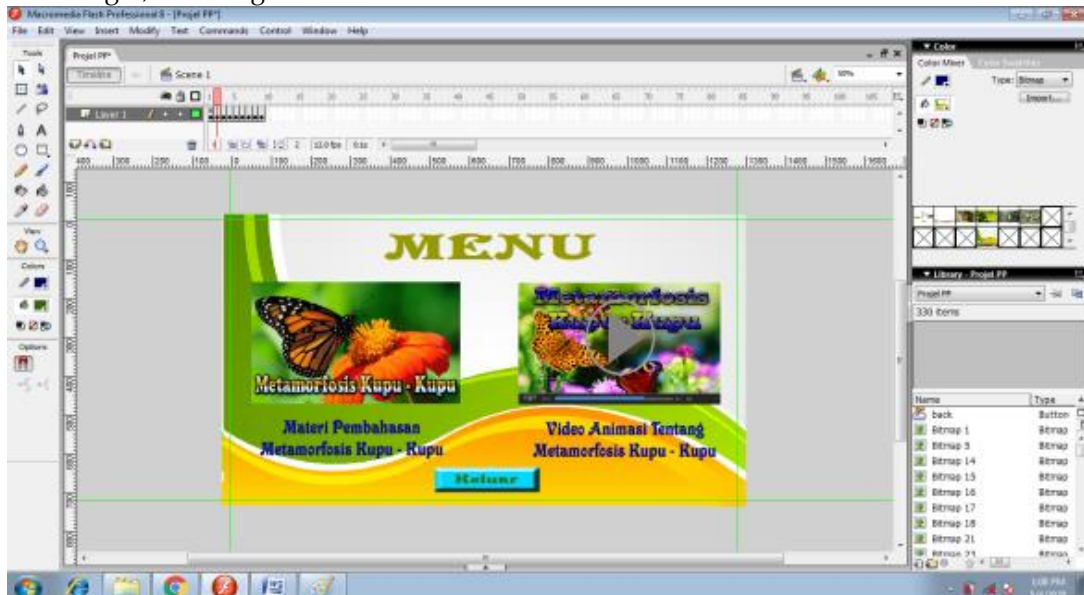
1. Create a new file by clicking File > New
2. Create a design for an interactive media cover like the following image



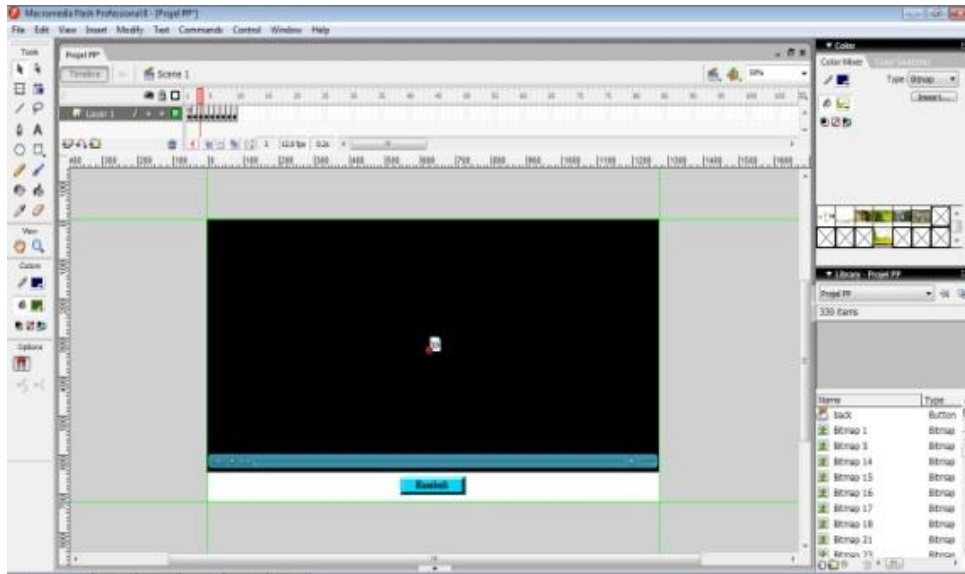
3. Then we will make a button by clicking the rectangle tool, and making a small box as needed. Then add text with the text tool, type "Enter", then change "Enter" to a Button symbol, by right-clicking, selecting convert to symbol, and selecting a button.
4. Then for the button to work, we have to create an action script, right click on the text then select action, and type "on(release) {  
    gotoAndStop(2);  
}"



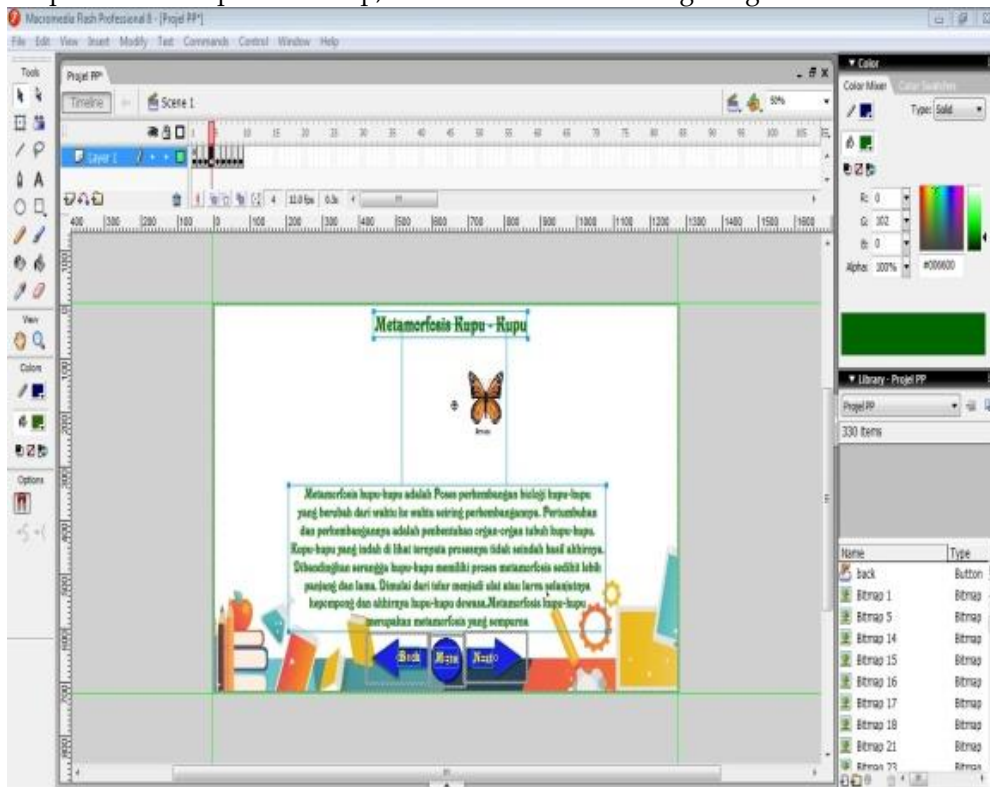
5. Then in frame 2, select insert key frame, and create a menu display like the image below, insert two images, one image for the material menu and one for the animated video menu.



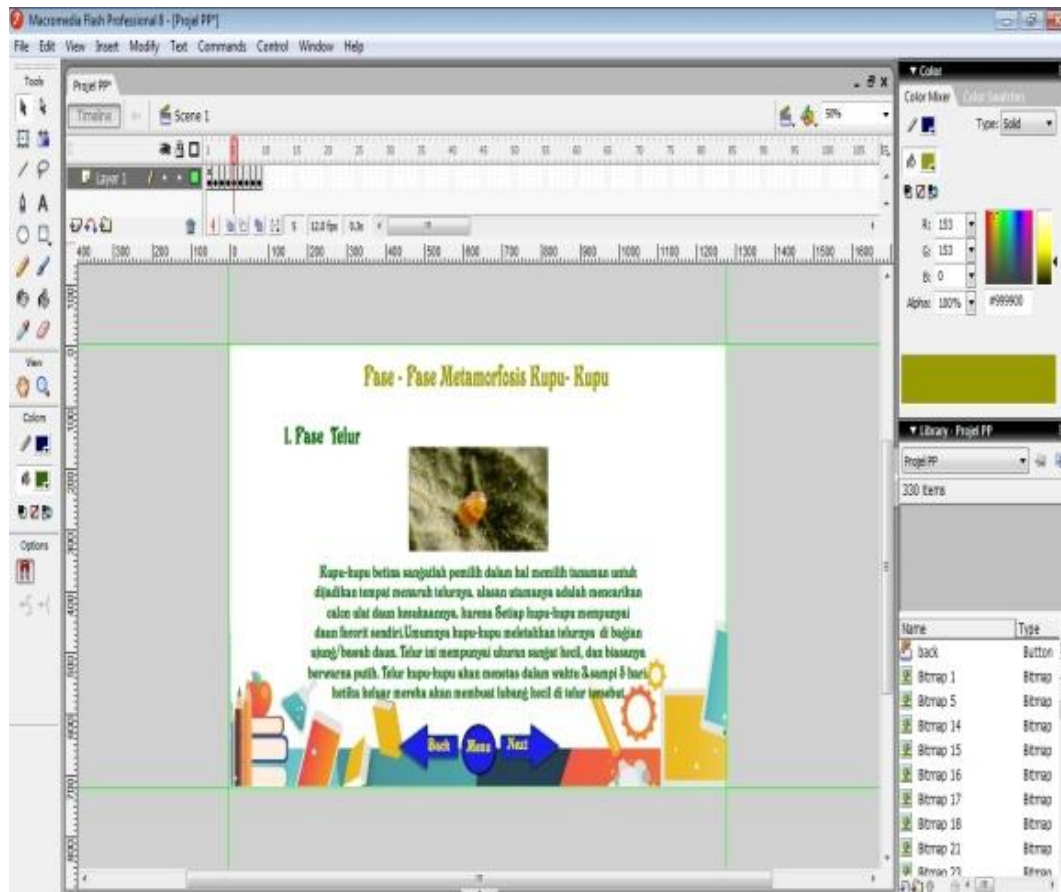
6. In the picture how to right click select convert to symbol, and select button.
7. Then for the button to work, we have to create an action script, right click on the image for the material, then select action, and type "on(release) { gotoAndStop(4); }"
8. And create an action script for the animated video image, right click on the animated video image then select action, and type "on(release) { gotoAndStop(3); }"
9. In frame 3, import the animated video, according to Adobe Flash Player standards



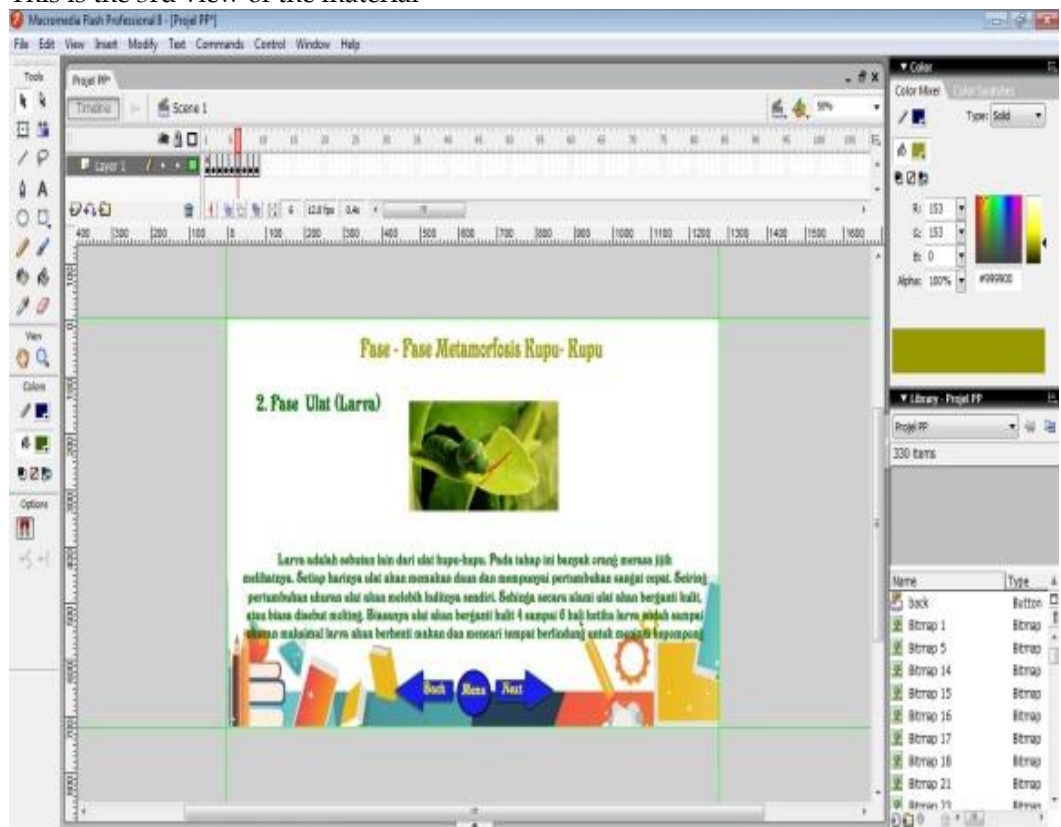
10. And in frame 4, start making material, use the navigation buttons as needed, using the action script used in the previous step, as shown in the following image.



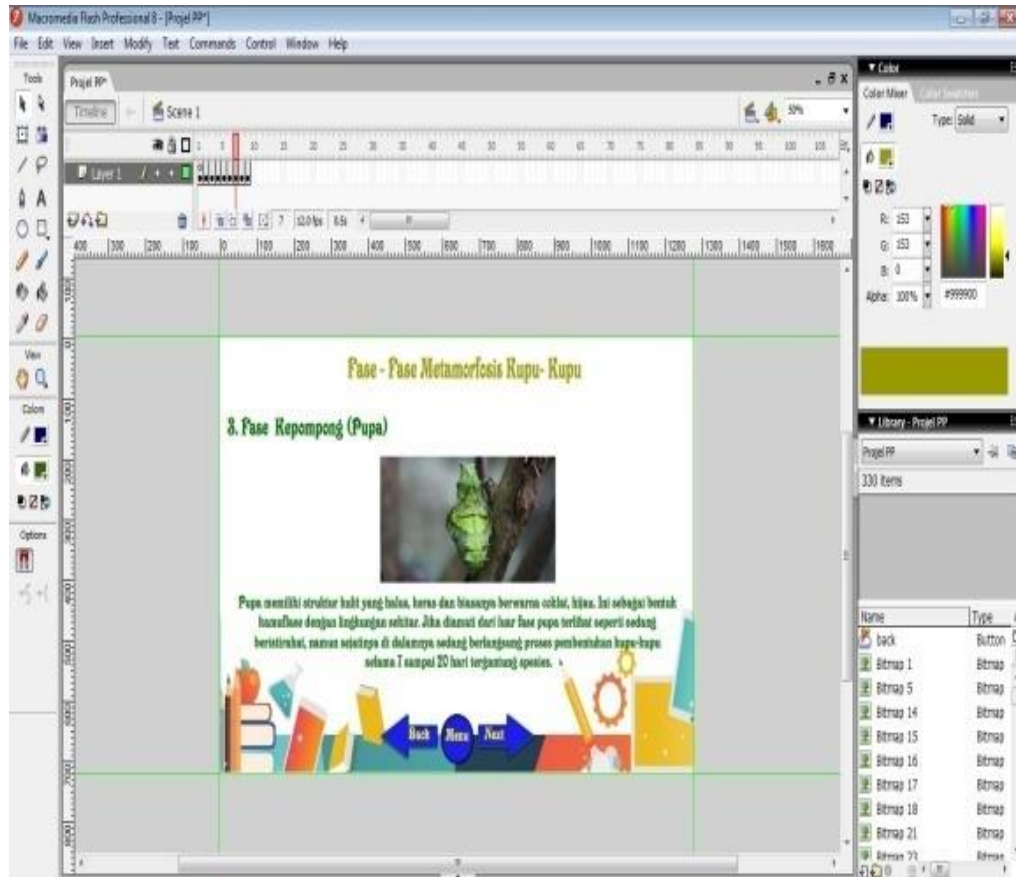
11. This is the 2nd view of the material



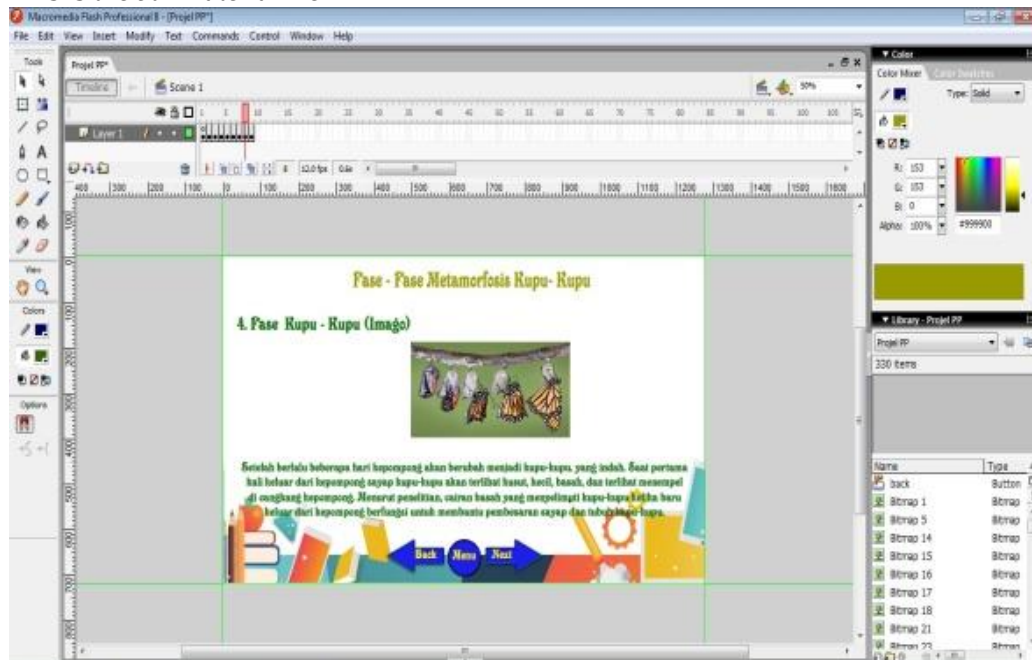
12. This is the 3rd view of the material



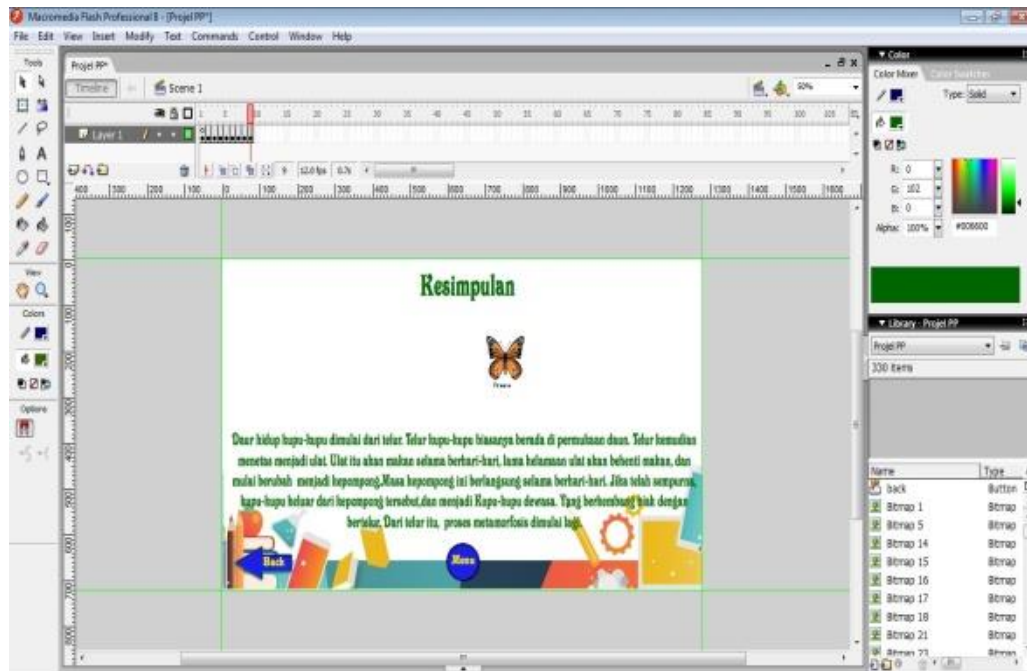
13. This is the 4th material view



14. This is the 5th material view



15. This is the 6th material display



16. Finished

## CONCLUSION

With the advancement of technology and information flows, it brings changes in the development of learning media, both from simple media such as graphic media which are only in the form of pictures or writing, audio, visual, animation, and computer-based media such as Adobe Flash animation media. Adobe Flash is an application that is used to design and build presentation devices, publications, or other applications that require the availability of means of interaction with the use of projects built with Flash, which can consist of text, images, simple animations, videos, or other effects. Of course it will be of great help the learning process in schools, especially biology learning, which stimulates students' brains to do verbal reasoning and logical thinking on various kinds of concepts. The biology learning process is only focused on textbooks, not used to utilizing technology-based learning facilities. Lesson materials that attract students' attention are easier to learn and store in students' memory, thus it is hoped that the use of multimedia will have another effect in the form of retention of information that lasts a long time in students' cognitive structures. Some of the advantages of multimedia include the involvement of organs such as ears, audio, eyes, visual, and hands, kinetic. The involvement of these various organs makes information easier to understand. With the various advantages of multimedia, it is hoped that it can help the effectiveness of the learning process and the delivery of messages and lesson content at that time, besides that it will also provide a realistic understanding of the actual concepts. It is hoped that with this interactive media students can more easily understand the material because this interactive media is equipped with simulations in the form of 2-dimensional animation and can be supplemented with video tutorials or learning videos.

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