

Curriculum Meets Clayanimation

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Multiple Intelligences

- Linguistic Intelligence
 - ◆ brainstorm
 - ◆ communicate ideas with partners
 - ◆ create a storyboard
 - ◆ write a script
 - ◆ create music
- Logical-mathematical Intelligence
 - ◆ keep track of the number of pictures
 - ◆ calculate the number of frames per second
 - ◆ calculate the ratio of storyboard cells to photos

Multiple Intelligences

- Spatial Intelligence
 - ◆ create scene with a background and foreground
 - ◆ focus on proportion
- Bodily-Kinesthetic Intelligence
 - ◆ create clay figures
 - ◆ create backgrounds
 - ◆ take pictures
 - ◆ set up the tripod
 - ◆ move the clay objects

Multiple Intelligences

- **Musical Intelligence**
 - ◆ create background music for project
- **Interpersonal Intelligence**
 - ◆ work cooperatively in all aspects of the project
- **Intrapersonal Intelligence**
 - ◆ research their topic
- **Naturalist Intelligence**
 - ◆ focus of our project
 - ◆ students learned about an Earth science concept to teach to their classmates

Differentiation

- Topic given to a specific group
- Student groupings
- Time frame allowed for some groups to complete the project
- Number of pictures taken
- Length of the finished movie
- Garage Band can be an essential or optional component.

Integration of Clay animation into your Curriculum

- Excellent chance for teachers to collaborate:
 - ◆ Classroom
 - ◆ Art
 - ◆ Technology

Science

- Earth Science - volcanoes, plate tectonics, pangea, earthquake triangulation
- Life Science - plants, life cycles, body systems
- Physical Science - Newton's 3 Laws of Motion, Chemistry

Language Arts

- poetry, writing stories, retelling stories
- script writing
- research

Social Studies

- reenact historical moments

Art

- becomes part of curriculum integrated into other curriculum areas
- creation of a painting or sculpture
- a piece of art comes to life

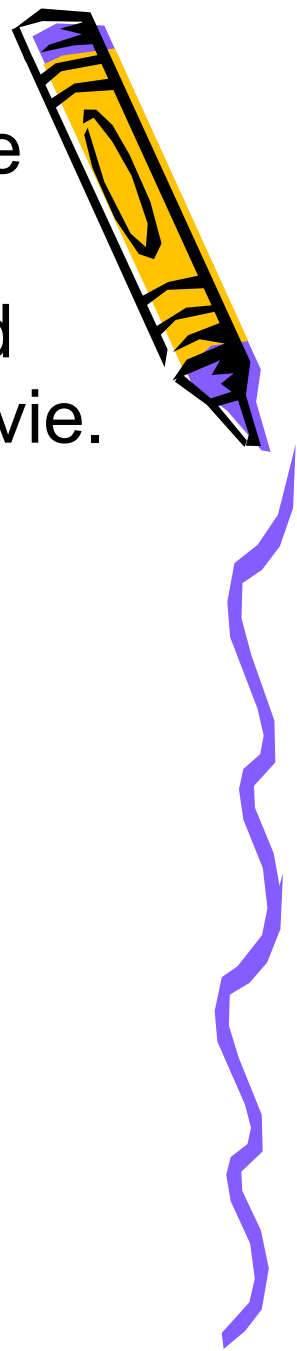
Clayanimation Steps

- 1. Brainstorm ideas in your topic area**
- 2. Research topic**
- 3. Create storyboard**
 - ◆ graphic organizer that combines pictures and descriptions that show the sequence and action of a project
 - ◆ can be used for iMovies and Powerpoint/Keynote Presentations
 - ◆ cells show transitions and describe action

- ◇ The storyboard helps students pace the action of the movie.
- ◇ *180 photos set at 3 frames per second would create a one minute finished movie. Therefore a 6 cell storyboard would represent 30 frames of film.

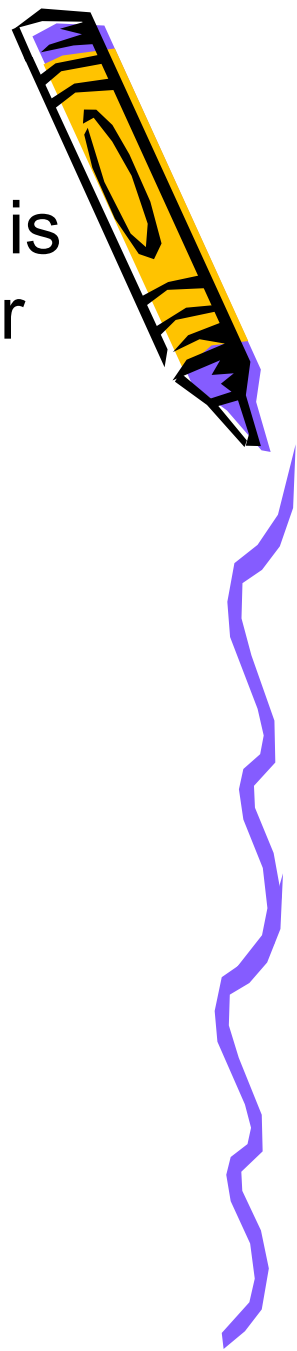
4. Write your script.

- ◇ This is necessary for any narration or voiceovers that you may require.



5. Create backgrounds.

- ◇ large enough so the frame of the picture is within the background (Reduces need for editing later).
- ◇ background layouts - half a presentation board or large pieces of cardboard
- ◇ should be stiff to hold in place
- ◇ Construction paper, photos, magazine cutouts, paint, crayons, markers





- ◇ *scene should have at least a three inch margin within the background to make framing the shot easier
- ◇ foreground props can be used to enhance the scene
- ◇ Real objects - authentic. ie: a rock = a boulder, a branch = a tree, miniature toys.
- ◇ foreground - same scale as the clay objects.





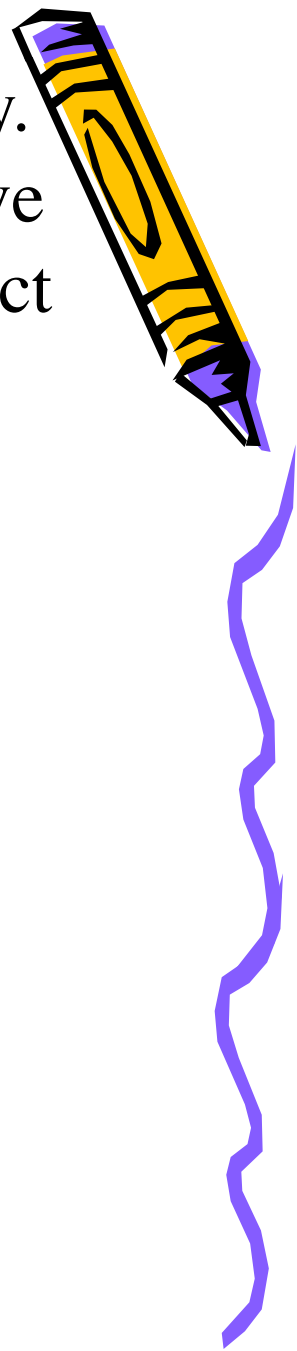
6. Create clay figures/objects.

- ◇ Recommendation: clay pieces should ALL be completed prior to continuing to the next step. (No matter how excited everyone is to continue!)
- ◇ Clay: Non-drying modeling clay. We used a combination of polymer clay and non-drying clay. Colors you choose will be determined by the project. Flesh color for people, plants – greens needed, volcanoes require lots of oranges and reds.

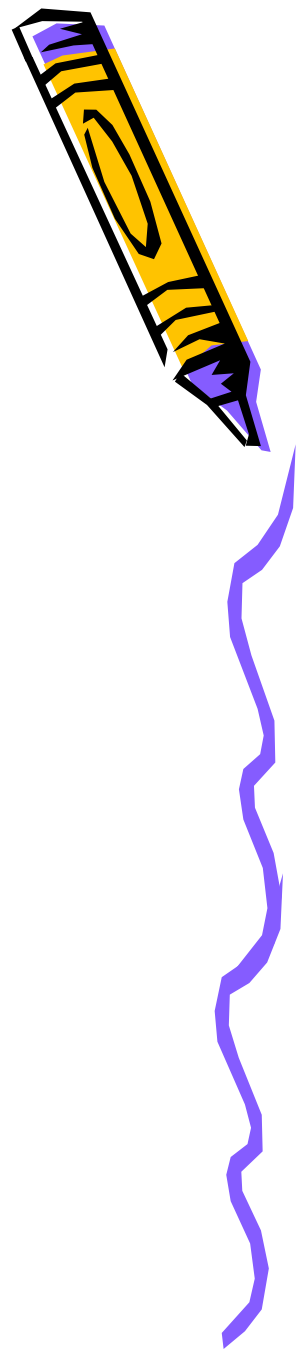


◇ We created 30 projects and used 30 pounds of clay. Consider sources for funding – does your PTO give project grants?? Know you are planning this project and order ahead of time from your school budget. We found cheap clay online for \$1.79 for 1.1 pounds. A good investment of \$59 and the clay is reusable.

◇ Sculpting tools are helpful but not necessary. Inexpensive tools are available at discount department stores. (Unless this is a collaborative project and your art teacher is helping you and has these tools available.)



- Wire armatures can be used to facilitate character movement.
- Fishing line can be used for vertical movements.
- Wire cutters are needed (see your custodian or science teacher)
- A note here: characters may not be necessary for your clay animation topic. For instance, all of our topics focused on Earth science. Wire armatures were used only by students who chose to have a “person” on screen narrating their story.



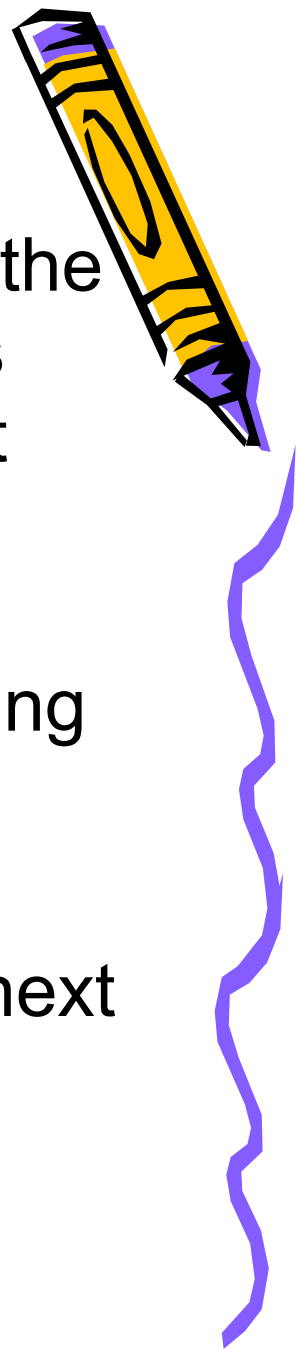
7. Camera and tripod per group (suggested)

- ◇ We used Mavicas and floppy discs, as well as digitals that saved onto cards and downloaded. We borrowed cameras from other schools and some students brought in their own cameras (and tripods as well). The digitals were easy to download, plug in the camera, iPhoto showed up and pictures were downloaded. The Mavicas required many discs - we had students taking all their pictures first and then downloading (with the use of an external floppy disc drive because our iMacs did not have an internal drive).



◇ To set up for pictures

- a. secure the background.
- b. set your camera on a tripod and frame the shot so that only the background scene is showing. This will be the view throughout your movie (unless yours requires a shot change).
- c. position your foreground objects including your clay pieces.
- d. take picture.
- e. slightly move your figures to ready for next shot.



f. take picture.

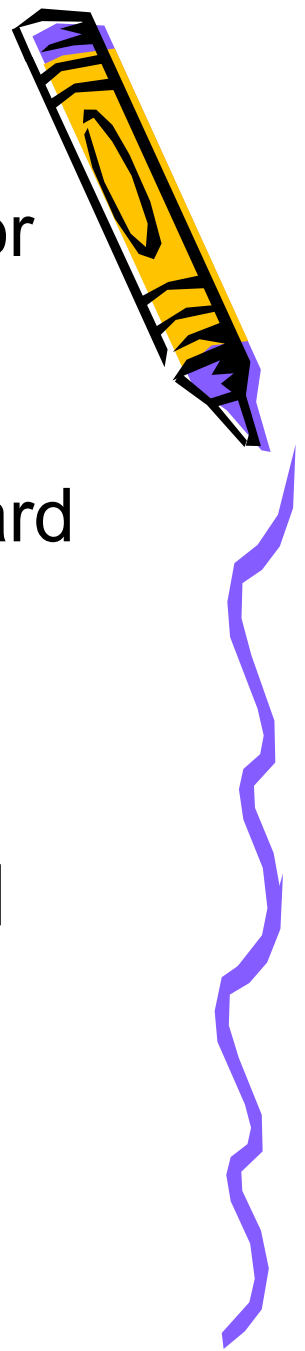
g. slightly move your figures to ready for next shot.

h. take picture.

i. repeat process through your storyboard until all pictures are taken.

**For each minute finished movie 180 pictures for 3 frames per second.

8. Connect camera to computer and download pictures to iMovie

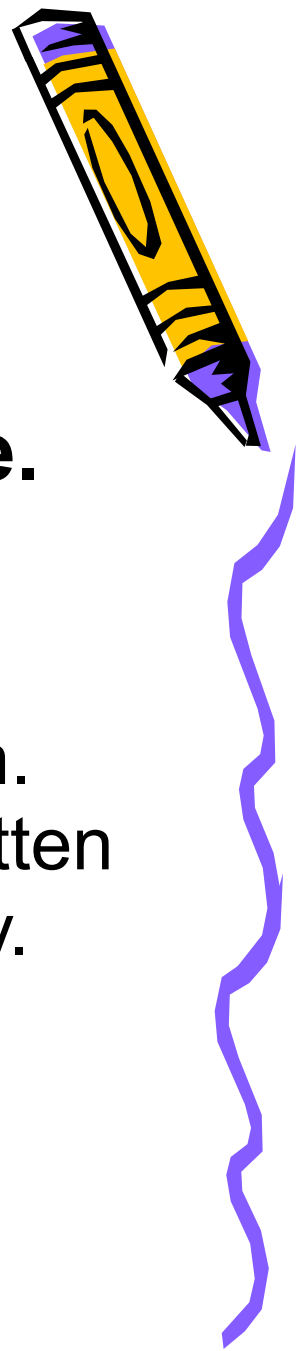


9. Open iMovie and begin moving pictures from clip viewer to the timeline.

10. Click play and watch your movie.

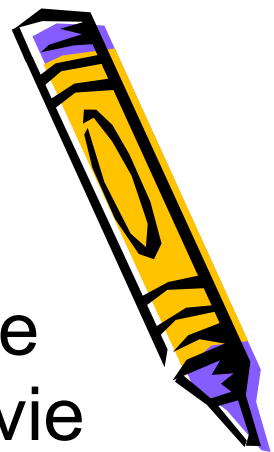
11. To add a voiceover:

- ◇ Go to the Audio tab in iMovie, click the record button and record your narration. Once again make sure this script is written prior to the movie and is timed correctly. (Don't plan on longer narrations if your movie is short).



12. Titles

- ◇ Title Tab
- ◇ Type in the title and name. It may be the movie title, subtitles throughout the movie or ending credits.
- ◇ Choose the title style as well title font, color, size and speed. If you do not want your title to be over a picture, check the Over Black box.
- ◇ Drag the title style from the list to just before the clip you want it to appear.



13. Garage Band

- ◇ Students who had time created an audio file in garage band to accompany their video.
- ◇ Garage Band is part of the iLife pack that came on our iMacs and allows students to create musical pieces
- ◇ The program integrates with iTunes and is easily transferred into iMovie.



TIPS

- 2 mouths for talking
- price of clay
- amount of clay
- cameras good and bad – types including webcam
- discs
- slight movements – not too much or you get JUMPS
- margins of background – why?
- Started with story

Tips

- Timing and group size
- Create Clay Figures
 - ◆ Armature – pipe cleaners or wire, foil, Styrofoam
- Thin skin of oil-based non-hardening clay (Van Aken or Claytoons)
- Stability – big feet, magnets
- Details
 - ◆ Wiggly eyes or beads
 - ◆ Garlic pressed clay hair
 - ◆ Facial features: lips, ears, eyebrows
 - ◆ Pockets, buttons, etc.

Tips

- Lighting – especially if completed over a number of days.
- Constant source of lighting Indirect – bounced Clip on shop lamps
- Beware of shadows – these cause flickering strobe-like effects!
- People walking by, people leaning over, clouds going by-- all change the lighting.

Tips

- The more frames per second you have, the smoother your movement will be.
- photos set at 3 frames per second would create a one minute finished movie180.

Tips

- Hand wipes to clean up hands after working with clay if sink isn't readily available
- Beware of clay - everywhere - watch out for rugged areas
- Ziploc bags to hold clay - keep clay away from heaters

Consideration before project:

- group size, cameras and tripods per group or one for everyone, number of computers, length of finished movie, saving of file (harddrive or server)
- storage of items during creation and messiness of project