Unit 2 work with Young Children
Key Stage 1 plan

Aim

I am to provide some fun activities for a group of children to extend their all round development. But in particle to develop their understanding of science.

Setting

The primary school in which I am working, is situated on a campus with a sports centre, a community school and a 6th form college. It has 6 junior classes and 3 infant classes. There is a class room assistant and a teacher for each class. On Thursday and Friday there are 2 students working in the infants. There are a various number of parent helpers visiting on different days of the week.
During the course of the day there are 3 sessions

09:00-10:30	Session 1
10:45-11:30	Session 2
12:45-02:00	Session 3
02:15-03:15	

Session 1 is usually literacy, session 2 math and session 3 is class time used for science, humanities and other subjects.
This is an afternoon break halfway though session 3. Sometimes the sessions are swapped around to give the children extra time to work if they need it. For example they sometimes swap math to session 3 to help with S.A.T.S.
They are 15 yr.1 girls 14 yr.l boys 16 yr.2 girls and 15 yr.2 boys in class 1 / 2 K. The children change into appropriate classes for maths and literacy. It will be interesting to see how the children cope with my activities, Will they be confused and give up, or will they understand and be interested to lean more?

Rationale for the key stage 1 plan

Based around the topic of science I will do a key stage 1 plan to further the children's knowledge and understanding of science, the World around them and how it works. This plan will be implemented at my placement and used with the whole class. The age of the children I am working with is 5-7 yr. Olds. Though the first activity involves only 7 pupils. Good planning is important in an “Early years” setting because it helps provide a wide and differential curriculum. This helps to support the children's learning and needs and to ensure that activities are age and stage appropriate. I understand that I feel the children will learn a great deal from this key stage one plan because they have not yet completed the science curricula so they don't have much knowledge on science and understanding of the world around them. These activities will promote the children's learning and development in the curriculum. The curriculum includes:

“The curriculum also includes:
English: reading, writing, language and communication.
Math
Science: Biology, Chemistry and Physics.
Technology: Design technology and Information technology.
Geography
History
Art
Music
Physical education”
(Pg.Tassioni Etal 1999)

All these areas are important for a child, as they need a good all round education. They need to learn about each of the subjects so they can develop all the cognitive skills that they need to further their knowledge, to gain quality and good understanding of the world around them. It will help them to solve the problems they may come up against in the future. My key stage 1 plan is based on science but it is linked in with other areas of the curriculum.

In a school all the children are entitled to a clean, safe, pleasant and caring environment. I can do this by knowing and being alert to hazards and giving them some input on the setting i.e. asking them for ideas on displays etc. To give all of the children the opportunity to develop effectively their knowledge and understanding of the world, teacher, LSA and helpers should give particular attention to activities that are based on first-hand that will encourage exploration, observation, problem solving, prediction, critical thinking and decision making. You should also plan a wide range of activities that are both indoors and outdoors that can stimulate the children's interest and curiosity, as well as working on the curriculum criteria. The adult should always support the child and help them to complete tasks when needed. You should have opportunities that will help the children to explore and question issues of:

- different genders
- ethnicity
- language
- religion
- culture

they should also be taught about the special education that is needed to inform the pupil's of disability issues that may occur in the school.
(P.Tassioni Etal 1999)

Overall learning for the children

I will implement my activities and hopefully the children will learn about conductivity and science. This activity is quite challenging but I feel the children will complete it. Some of the children will need extra support, such as Ben and Jake, and others will go

on to the extension. It is a great learning activity for the children to be involved in and it will help them to expand their knowledge. This key stage 1 plan is based on science but they can develop in the other areas of the curriculum too; they can gain knowledge and understanding in:
Math: counting items and sorting them into groups
Technology: using Information Communication Technology to write up work
Art: they can draw diagrams of the circuit, or create pictures of experiments and equipment involved in the activities
P.E: developing motor skills and hand eye co-ordination.

Overall learning for me

By implementing this key stage one plan I will learn how to plan and implement activities for the correct age and stage of the children I work with. I will learn how to interact with the children though out the activity and how to evaluate their learning. During the implementation I will learn how to create resources, set up activties and difffrent types of support for the children who need it.

Activity 1 - conductivity

Aim

To provide an activity which will help the children to experience working with circuits and electricity. This activity will further the children's knowledge and understanding of science, in particular, physics. (Conductivity.)

Rationale

In this activity I worked with 7 children from class 1 / 2 K. They are:
Hannah who is in yr. 2 (7yrs old)
Jake who is in yr. 1 (7yrs old)
Ben who is in yr. 1 (7yrs old, and is Jake's best friend.)
Louise who is in yr. 2 (7yrs old)
Olivia who is in yr. 1 (6 yrs old)
Lewis who is in yr. 2 (7yrs old)
Ellen who is in yr. 2 (7yrs old and is best friends with Hannah.)
The children and I work in the corridor/study area between the infants and junior schools.

I planned this activity so that the children participating can gain a good understanding of how circuitry and conductivity works. They have done some work with circuits with Mrs K and the activity I have planned is an extenstion of what they have already learned. They know that electricty needs to complete a circuit to work and that if there is a break the power will not work, for this activty the children will choose class room items and experiment to see which of them will conduct electricity, complete the circuit and light the bulb.

“Children should be taught that it is important to collect evidence by making observations and measurements when trying to answer a question.”

This is quote form the national curriculum guidelines for science. It is important to teach children how to explore, it will help them to solve problems and to find their own answers, and solutions. It help them to resolve things they may come up against in the future.

Learning for the children

The children will learn that mostly metal items will conduct electricity, they will explore different materials and the properties, which make an item conductive. They will also learn that electrical conductivity is not related to any of the following

1. Colour
2. Size
3. Weight
4. Texture
5. Flexibility

The children will learn how to sort things into subject groups by using their observations. They will learn how to use scientific inquiry. This includes:

- Ask questions [for example, 'How?', 'Why?', 'What will happen if ... ?'] and decide how they might find answers to them

- Use first-hand experience and simple information sources to answer questions

- Think about what might happen before deciding what to do

- Recognising when a test or comparison is unfair

- Obtaining and presenting evidence

- Follow simple instructions to control the risks to themselves and to others

- Explore, using the senses of sight, hearing, smell, touch and taste as appropriate, and make and record observations and measurements

- Communicate what happened in a variety of ways, including using ITC [for example, in speech and writing, by drawings, tables, block graphs and pictograms]

- Considering evidence and evaluating

- Make simple comparisons [for example, hand span, shoe size] and identify simple patterns or associations

- Compare what happened with what they expected would happen, and try to explain it, drawing on their knowledge and understanding

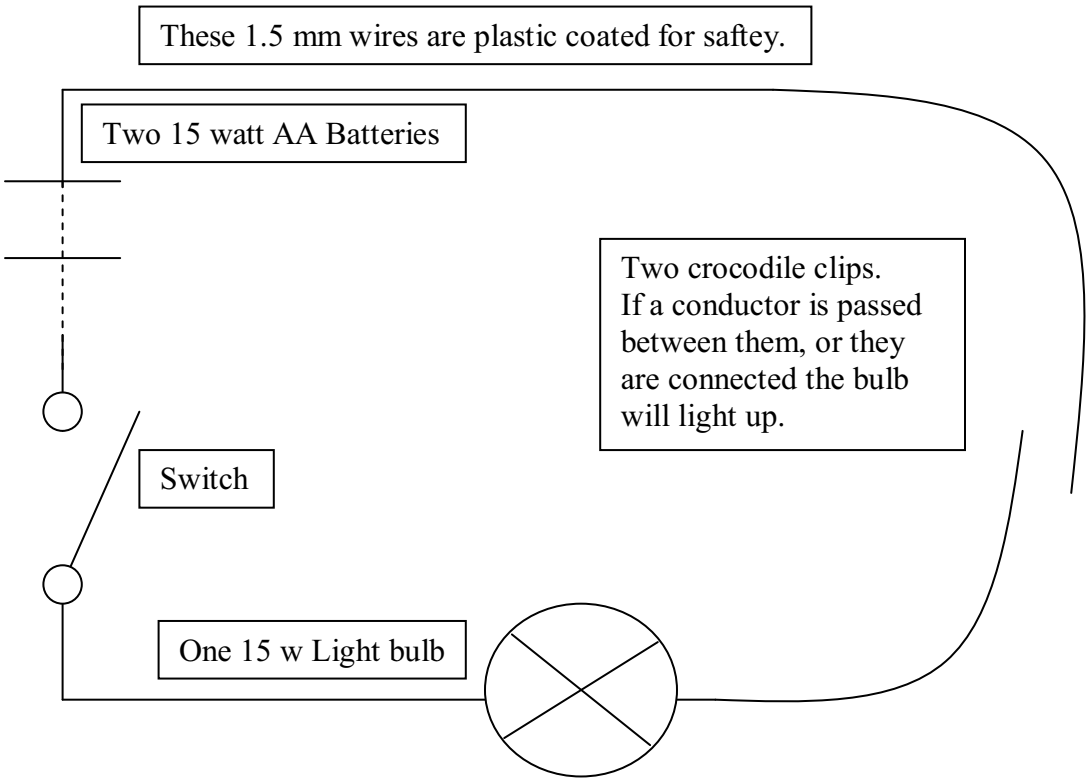
- Review their work and explain what they did to others.

Learning for me

I will learn how to implement practical science activities to extend the children's scientific inquiry and to extend their thinking. In all the activities I plan I will show an understanding of anti discriminatory and anti-bias practice, it is important to portray equal opportunities as well as identifying the needs of the individual child.

Planning

For this activity I used a basic circuit with 1 break in it. The break was between to crocodile clips, and there are 2 AA batteries, one switch (to stop the current when the children are attaching items) and one 15w light bulb in a series circuit.



I will set up this circuit in the junior/infant corridor, on a table with 8 chairs, 8 sheets of lined paper and 8 pencils. I will collect the pencil's form the pencil pot and the paper from the draw by the window.

Implementation

I will set up a basic circuit with a break in (see diagram). When there is a break the bulb does not light, when a conductive item completes the circuit the bulb will light. There is a switch in the circuit so that when the children are swapping items over for saftey. The children will choose and test items from around the classroom to see if they conduct electricity. They can tell weather it is a conductor if it completes the circuit and the bulb lights up. They will do some predictions onto what will conduct once they have collected all the items to be tested. They will make a table of all the items they test and the results they receive. They will then write a conclusion of what happened in the experiment.

During the activity the children picked 2 items each, and put them into groups. the groups consisted of items which were different materials. They determined what groups the items using colours, size, weight texture and flexibility as a guide to what they were made of.

The children then tested these items using crocodile clips attached at each end of the item, if the bulb lights up the circuit is completed and the item is can conduct electricity. This is record and the children write up all their findings at the end of the experiment.

An example of what the children wrote is included with this key stage one plan.
I found that the children figured out, them selves though the process of elimination that most metals conduct electricity. They also found out that that the lead in pencil can conduct electricity but the wood does not.

Evaluation

I feel that I have completed my aim as the children learned a great deal about conductivity and electricity and circuits as well as enjoying themselves. They developed their fine motor skills and their basic knowledge and understanding of the world. They learned which materials conduct electricity and how metals are classified. The children were able to carry out methodical testing and sorting based on a new selection process demonstrated to them by me. They have shown that they will accept the idea of electrical conductivity even though it is something that is invisible to them. They accept that it is real and exists even though they can only see the effect of conductivity on the light bulb and not the property of conductivity in the item itself. This shows signs of Piaget's concrete operational stage

Activity 2 -

Aim

To extend the children' scientific vocabulary, to teach them a good knowledge and understanding of circuitry, and science.

Rationale

During this activity the children will learn different vocabulary and ways to express their feelings, how to describe things that are going on around them. They will learn to use different adjective words such as 'loud' or 'quiet', 'hard' or 'soft' and 'faster' or 'slower'. This will help them to describe what they can see or how they are feeling, this is important because the children need to learn independent thinking.

Children need to develop these cognitive skills to conduct further learning, they will learn how think things out for themselves.

Learning for the children

The second activity is a joint subject activity. It includes English and science. The English will extend the children's scientific vocabulary. They will extend their language and communication skills by discussing what to do and how to go about it. The children will learn how to extend their way of describing feelings, emotions and experiences.
Children will learn investigative skills. Some of these include:

- Use first-hand experience and simple information sources (books) to answer questions
- Think about what might happen before deciding what to do
- Communicate what happened in a variety of ways, including using ITC [for example, in speech and writing, by drawings, tables, block graphs and pictograms]
- Compare what happened with what they expected would happen, and try to explain it, drawing on their knowledge and understanding

Learning for me

During the implementation of this activity I will learn how to improve the children's confidence and how to encourage their learning. I will learn that children need to be given time and support to complete tasks,

> "If a child is un-comfterable with the situation you should not force it appon them. i.e. if a child does not want to talk in front of a group of children then they should not feel forced into doing something they do not want to do."
>
> (P.Tassoni et al 1999)

I will learn how to encourage a good knowledge and understanding of science though play as well as in the set activities.

Planning

For this activity I had to prepare the resources and equipment before hand. I collected all the equipment needed (5 board games, a book "wassaword" and a box of wires, batteries and bulbs.) form the store cupboard. I went to library and took 6 or 7 non-fiction books. I collect the pencils from their pot on the side and paper from the draw by the window. I placed on each table: 6 pencils, 6 sheets of plain paper 1 board game and a non-fiction book. The other books I presented on a small table by the window, I stood them up right so the children could see the cover, and if they wanted too when they had finished the assigned task they could sit and do some further reading.
I placed the book called "wasssaword" by the chair in the corner, where the children sit for register, story time and any discussions the class might have. This is so that I know where to find it when I need it.
This book consists of short stories based around each area of the curriculum. It aims to extend children's subject vocabulary.

Implementation

I read the whole class a story called 'wassaword?' it consists of short stories based around each area of the curriculum. It aims to extend children's subject vocabulary. I read the part for science. Then they completed a board game.

During the board game they used counters and dice to collect different piece of circuitry to complete a circuit on the centre of the board, the first person the reach 100, complete the circuit and flick the switch is the winner.

While the children played they used good fine motor skills and they took turns. There was, at one point when 2 children were fighting over a piece of the game, after a few moments the dispute was settled when another child suggested that the first child could start with the first pieces and the other could do the next piece.

The children did enjoy the game, but they could be lots of improvements, I felt the game was too long and took too long to complete, the children grew bored and many gave up before finishing.

Evaluation

I found that the children that played the game grew quite bored with the different things they had to complete, the game took too long and the children lost concentration.

The children show signs of different levels of fine motor skills, and this is evidence of basic skills being further developed by the children.

According to Piaget's age and stage theory most the children I worked with are in the concrete operational stage, except for Ben. Ben although 7 has not yet reached the concrete operational stage and is still on the pre-operational stage. He is present in the world around him and often uses mental imaging and thought processes. He uses symbols and no longer thinks out loud.

Children in the sensorimotor stage only experience things from a 'seeing is believing' point of view, they don't question things or query the concepts that are presented to them. None of the children did this. The other children are in the concrete operational stage. They show elements of this stage, by showing they have a better understanding of time and space. They asks questions that have been thought though and constructed in thier heads, and they don't say the first thing that comes to mind. Children at this stage have limits to their abstract thinking, according to Piaget.

Overall evaluation

Every child has a natural curiosity about the way the world works: science lessons show how they can get answers to questions such as how plants grow or why it's dark at night.

Around age 7, most children are able to have a good knowledge and understanding in:

Scientific enquiry

suggest how they can find out about a scientific question look for information they need (this might be by looking carefully at the world around them, or by reading something in a book) think about what they have found out and decide whether this is what they thought would happen look at and compare objects and living things, and classify them using words such as 'loud' or 'quiet', 'hard' or 'soft', and 'faster' or 'slower'.

Life processes and living things

describe what an animal or plant needs in order to live, and compare it with others by talking about simple features (for example, 'it has six legs, not four') understand that every living thing eats, grows and reproduces recognise that different plants and animals are found in different places (for example, ponds and woodland).

Materials and their properties

Sort materials into groups, using words to describe their properties such as 'shiny', 'hard' or 'smooth' describe how some materials change when, for example, they are heated, cooled, stretched or twisted.

Physical processes

Make a bulb light up using a simple circuit with a battery and a switch. The ee how this is similar to the lights and switches in their home compare the brightness or colour of lights, and the loudness or pitch of sounds describe moving objects by talking about speed and direction.

Children look at and explore:

> *"life processes and living things,* such as familiar animals and plants
> *materials and their properties,* such as wood, paper and rock
> *physical processes:* simple ideas in physics, taught through experiences with electricity, forces, light and sounds."
>
> (pg 8, learning journey, key stage 1)

Through work in these three areas children are taught about scientific enquiry. The teacher or children ask questions, then the children work together to try to answer the questions by finding things out and recording their work. They think about the tests and comparisons they have done and whether or not these are a fair way to help answer the questions. They find out more about scientific ideas from books and computer sources. And they write and draw (sometimes on computers), communicating their work and their results in scientific language, drawings, charts and tables.

Contemporary theorists suggest that a better description of how children develop cognitively can be provided by approaches that do not employ concrete fixed stages. Research also has proven that children are not always consistent in their performance of tasks at each stage. Furthermore, developmental psychologists imply that cognitive development proceeds in a continuous fashion; they propose that such development is primarily quantitative, rather than qualitative. This is identified by Katherine Dilasion.

Most developmental theorists have agreed that Piaget has provided us with an accurate account of age-related changes in cognitive development. Piaget's suggestion, that cognitive performance cannot be attained unless cognitive readiness is brought about by maturation and environmental stimulation, and has been instrumental in determining the structure of educational curriculum.

Bibliography

Piaget, J. (1929). The Child's Conception of the World. NY: Harcourt, Brace Jovanovich
www.learningjourney.net/keystage1/english
Tassoni, P (2000). Diploma in Child Care and Education. Oxford, Heinemann's.
Dilasion, K (2001) The ages and stages of children. Cambridge, lion books ltd.

Also the guide to the national curriculum, science:

Knowledge, skills and understanding

Ideas and evidence in science

Pupils should be taught that it is important to collect evidence by making observations and measurements when trying to answer a question.

Investigative skills

These guidelines are produced by the government.