TOPIC 4
ICT FOR EXPLORATORY LEARNING

Introduction

- Exploratory learning can be defined as an approach to teaching and learning that **encourages learners to examine and investigate new material** with the purpose of discovering relationships between existing background knowledge and unfamiliar content and concepts.

- As children explore and investigate, they are making cognitive connections and stretching their minds to make sense of what they are observing.

- ICT can support all areas of learning, adding a different approach to learning, it adds animation and sound and allows children to explore all possibilities
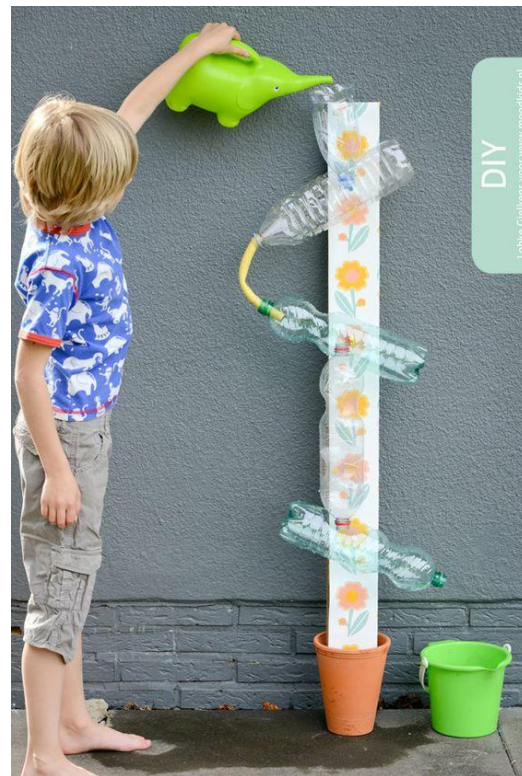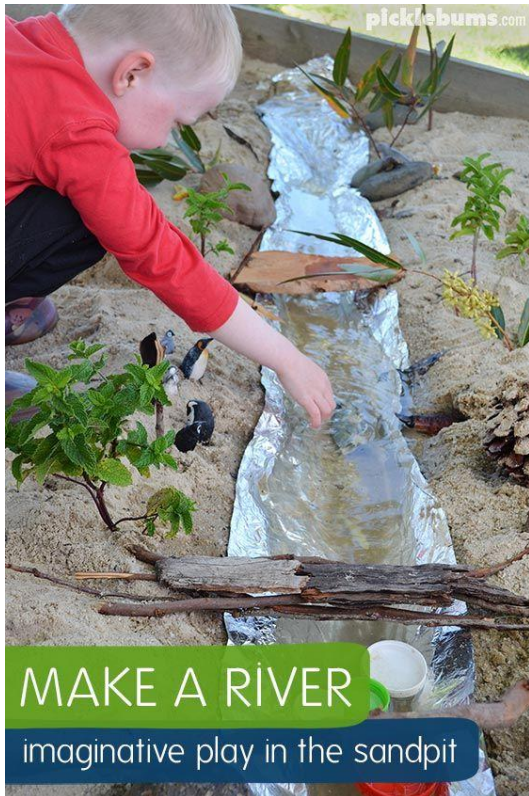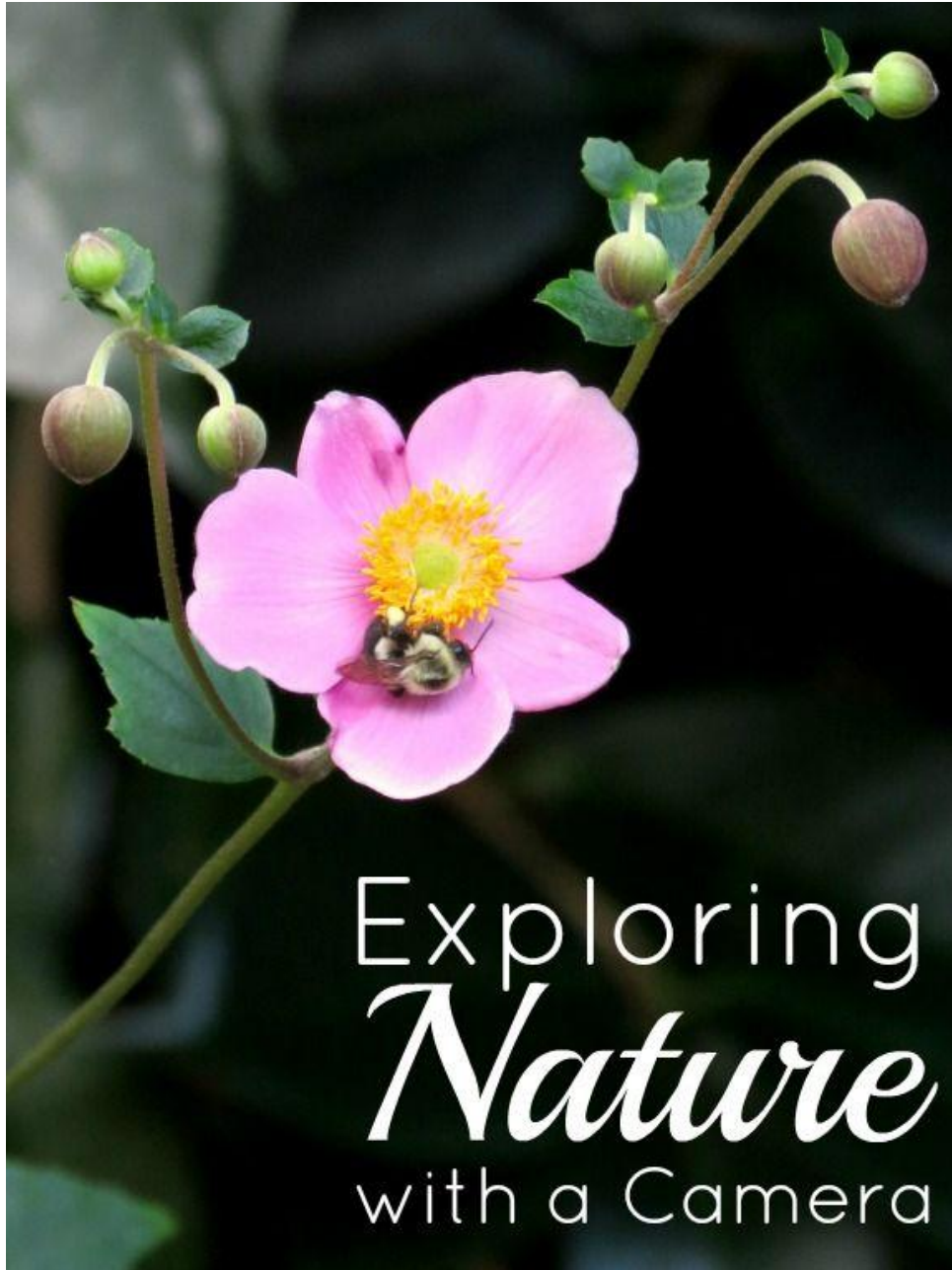
PRINCIPLES of EXPLORATORY LEARNING

- Learners can and should take control of their own learning
- Knowledge is rich and multidimensional
- Learners approach the learning task in very diverse ways
- It is possible for learning to feel natural, it does not have to be forced or contrived.

Play and Exploration

Examples of play and exploration activities

MAKE A RIVER
imaginative play in the sandpit

DIY

BUG FOSSILS
Play Dough Invitation
www.plainvanillamom.com

GARDEN
Sensory Bin

Lets go out and explore the environment

All you need to do is :

Create a group of 5	Decide a theme	Explore the environment
Capture pictures and record videos	Draw a few pictures	Do a presentation

Any question?

Paint Program

- allow children to experiment with line and color
- paint is a great way of intruding basic tools on the computer and can allow children to gain mouse control
- children gain that mouse control first so they are able to fully explore the software and programs available to them.
- paint program enables children to understand that computers are not just for accessing information it is also a tool for creativity and investigation.

Nature's Child: Apps and Sites to Help Kids Explore the **Natural World**

- Kids aren't getting out into nature as much as they used to.
- There are many reasons for this, from increased traffic and concerns about strangers through to the growing range of indoor activities that today's digital media provides.
- Playing in and exploring the natural world is essential to a child's development.
- Furthermore, kids need to understand and appreciate nature in order to care for it when they become adults.

Apps and nature websites for children:

1. MarcoPolo Ocean

- is a gorgeous little app that helps younger kids **learn about the ocean**.
- You're given a patch of ocean filled with animals and plants to play with.
- You can also build a coral reef, a fish, an orca, a boat and a submersible.
- A voiceover teaches lots of ocean facts as you go.
- There is no text to read so it's great for younger learners.
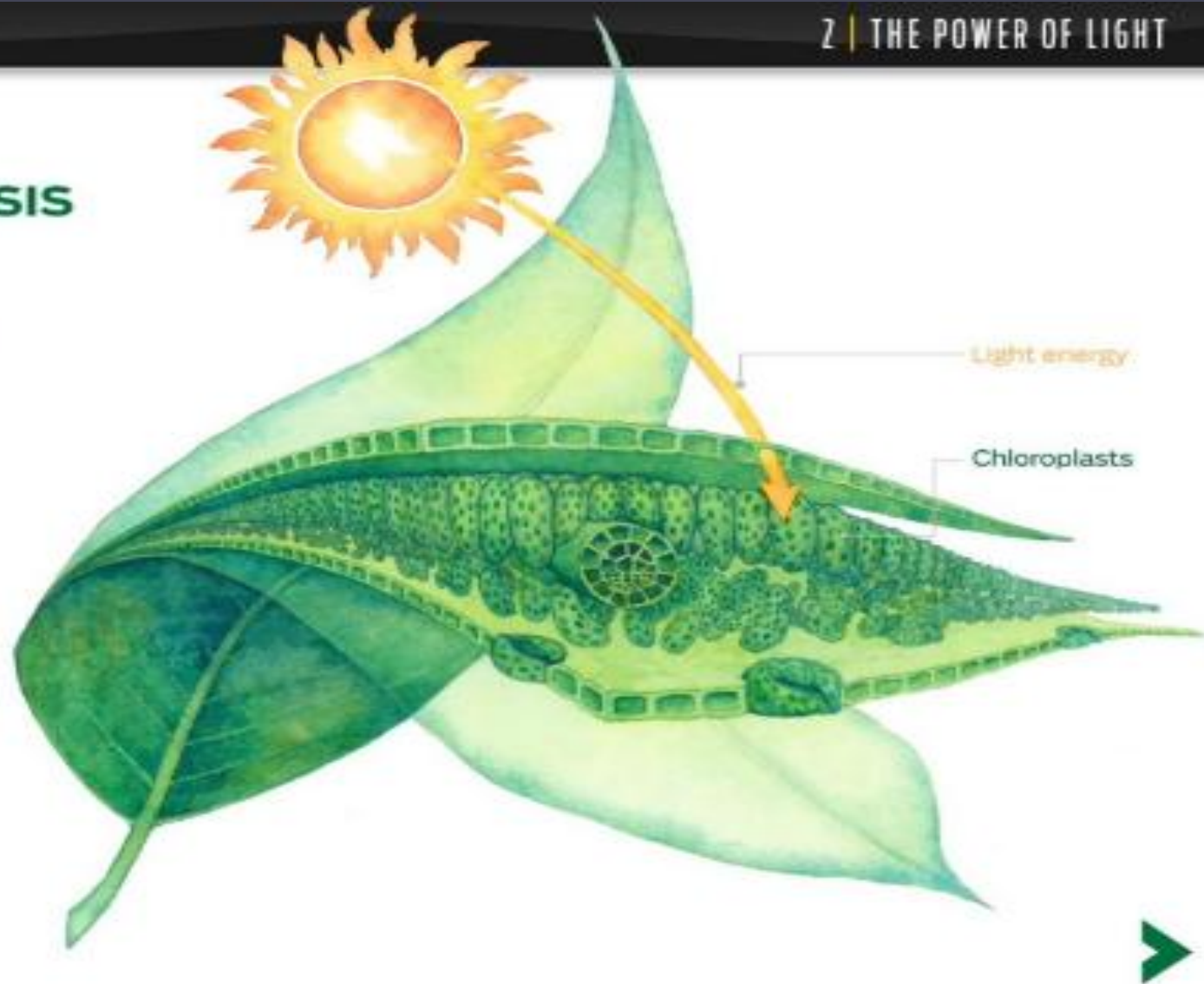
2.Plants for iPad,

- from popular nonfiction publisher Kids Discover, is an informative, fun-to-use book app that lets kids **explore the fascinating world of plants**.
- Topics covered include photosynthesis, the uses of plants, plants as art, and lots more.
- The app contains plenty of easy-to-read text, exciting animations, interactive elements and activities to keep kid busy for hours.

HOW PHOTOSYNTHESIS WORKS

1 **2** **3**

Cells in the leaves of green plants contain tiny structures called **chloroplasts.** Inside each chloroplast is usually a green pigment called chlorophyll. Chlorophyll and other pigments trap the **light energy** that plants need to carry on photosynthesis.

Light energy

Chloroplasts

KIDS DISCOVER PLANTS

Kids Discover's Plants for iPad is an interactive eBook packed with lots of great educational content.

Young children and technology

Babies and ICT

- Babies will begin to experience ICT as they see technology being used around them.
- Toy phones, TVs and music centres imitate the real things that babies see their special adults using in their everyday life.
- Simple electronic toys show babies how their actions can have an effect, for example by pressing buttons music will play or lights will flash

- Babies will also be keen to explore technology around the home.
- It is important that children are safe while they explore and experiment, so use electronic toys that are intended specially for them and, if giving children a household object, make sure there are no sharp edges or parts that could be removed.

Toddlers and ICT

- ICT is everywhere.
- At home, toddlers can program the washing machine, television and microwave.
- These actions have a purpose in everyday life which makes sense to children while also encouraging them to see how timers, words, numbers and colours are used in everyday situations.

- Parents sometimes like to encourage pretend play with toys such as colourful food mixers, vacuum cleaners or drills which need batteries so that they move and look real.
- Having some of these toys alongside their pots, pans, teddies and dolls can be exciting for young children

- When giving a battery-operated toy to young children, ask yourself if they might first be happy to play with it as a toy without the batteries inside.
- Once a child is used to a toy being battery operated, try to keep a spare set of batteries to hand as the toy will be useless if they run out.

ICT for young children

- technology can provide a rich learning tool for children to use.
- Children love its 'magic' qualities, where things can happen at the touch of a button.
- It also gives them a sense of control, something that is very powerful when you're a small person in a big world.

Computers

- Playing with a computer can provide many learning opportunities for children and is just one of the many ways for them to learn about the world around them.
- There are lots of exciting websites to explore and good software which children love.

- The best computer-based learning experiences come from a truly worthwhile activity which allows children to be in control.
- For example, using a paint program to 'draw' a picture or to explore using colours and shapes in different ways.
- Some software also allows children to experiment and try things out, for example an interactive story which encourages children to make choices and decisions.

- When you have found a good website, help children to load it themselves.
- Sit with them when looking at a new screen and help them to explore the possibilities.
- Don't spend too long at a computer and don't leave your child too long alone at the computer.
- About 20–30 minutes is long enough.

Other technology

Digital camera

- A four year old is perfectly capable of taking digital photos and printing the results – though do remember to put the camera strap around the child's neck first.

- **Scanners** can be used to take copies of children's paintings, drawings, writing, weaving or needlework.
- It is quite easy to scan 3D objects and artwork, and you can use any of these to make books or posters.